

**GLOBAL BUSINESS AND TECHNOLOGY  
ASSOCIATION**

**FULFILLING THE WORLDWIDE SUSTAINABILITY  
CHALLENGE: STRATEGIES, INNOVATIONS, AND  
PERSPECTIVES FOR FORWARD MOMENTUM IN  
TURBULENT TIMES**

**ISBN: 1-932917-07-1**



**Editors:**

**Nejdet Delener, Ph.D  
Leonora Fuxman, Ph.D.  
F. Victor Lu, Ph.D.  
Luis Eduardo Rivera-Solis, Ph.D.**

**GLOBAL BUSINESS AND TECHNOLOGY  
ASSOCIATION**

**THIRTEENTH ANNUAL  
INTERNATIONAL CONFERENCE**

**READINGS BOOK**

**FULFILLING THE WORLDWIDE  
SUSTAINABILITY CHALLENGE: STRATEGIES,  
INNOVATIONS, AND PERSPECTIVES FOR  
FORWARD MOMENTUM IN TURBULENT  
TIMES**

**Editors:**

**Nejdet Delener, Ph.D  
Leonora Fuxman, Ph.D.  
F. Victor Lu, Ph.D.  
Luis Eduardo Rivera-Solis, Ph.D.**

**Istanbul, Turkey  
July 12 – 16, 2011**

# **PUBLISHED BY THE GLOBAL BUSINESS AND TECHNOLOGY ASSOCIATION**

**ISBN: 1-932917-07-1**

The materials published in this Readings Book may be reproduced for instructional and noncommercial use. Any use for commercial purposes must have the prior approval of the president of the Global Business and Technology Association.

All full papers submitted to the Global Business and Technology Association Conferences are subject to a peer reviewing process, using subject specialists selected because of their expert knowledge in the areas.

Global Business and Technology Association (GBATA) is publishing partner with EBSCO Publishing. This allows researchers from throughout the world to access articles from the Readings Book.

Printed in the United States of America, 2011.



## **Centre for Rapid and Sustainable Product Development**

*GBATA 2011 Readings Book is sponsored by the Management Research  
Centre for Rapid and Sustainable Product Development (CDRSP) at  
Polytechnic Institute of Leiria, Portugal.*

# FORWARD

The purpose of the conference is to provide a unique international forum to facilitate the exchange of cutting-edge information through multidisciplinary presentations of new challenges in global business and technology: strategies, policies and issues.

*All full papers submitted to the Global Business and Technology Association Conferences are subject to a peer reviewing process, using subject specialists selected because of their expert knowledge in the areas.*

Academicians, practitioners, and public policy makers at all levels throughout the world submitted original papers for conference presentation and for publication in this Readings Book. All competitive papers were refereed (subject to a peer review). The result of these efforts produced 368 empirical, conceptual and methodological papers involving all functional areas of business education with a special focus on international aspects. Of the 261 papers accepted for presentation at the conference, 131 papers are published in this Readings Book.

# ACKNOWLEDGEMENT

Many people and organizations are responsible for the successful outcome of the Thirteenth Annual International Conference of the Global Business and Technology Association (GBATA). The GBATA extends its many thanks to the financial sponsors of this conference: Management Research Centre for Rapid and Sustainable Product Development (CDRSP); Faculty of Creative Industries and Business UNITEC Institute of Technology, New Zealand; Istanbul Bilgi University, Turkey; Polytechnic Institute of Leiria, Portugal; Curtin University of Technology, Australia; Brno University of Technology, Czech Republic; and State University of New York - Old Westbury, USA.

A successful conference could not be possible without the special cooperation and care of the program committee members. Furthermore, many thanks go to the reviewers for reviewing the many papers that were submitted to this conference.

The last but not the least important acknowledgement goes to all these who submitted their work to be considered for presentation at the conference. Also, special thanks to the session chairs and discussants for taking the extra time to make this conference a success.

Nejdet Delener, Ph.D.  
President, Global Business and Technology Association

# REVIEWERS

- Dr. A. Zafer Acar, Okan University, Turkey  
Dr. Kshamanidhi Adabar, Nirma University, India  
Dr. Fathi Akrouf, University of Sfax, Tunisia  
Dr. Skaukat Ali, University of Wolverhampton, United Kingdom  
Dr. Irina Alyoshina, State University of Management, Russia  
Dr. David Amponsah, Huntingdon College, U.S.A.  
Dr. Erhan Aslanoglu, Marmara University, Turkey  
Dr. Ashwini Awathi, Nirma University, India  
Dr. James Barrese, St. John's University, U.S.A.  
Dr. Unal Battal, Anadolu University, Turkey  
Dr. Nityesh Bhatt, Nirma University, India  
Dr. Jeff Bohler, Huntingdon College, U.S.A.  
Dr. Homer T. Bonitsis, New Jersey Institute of Technology, U.S.A.  
Dr. Neji Bouslama, University Al Manar, Libya  
Dr. Luiz Felipe J. Brandao, Pontifical Catholic University of Rio de Janeiro, Brazil  
Dr. Guy Callender Curtin, University of Technology, Australia  
Dr. Pedro Carreira, Polytechnic Institute of Leiria, Portugal  
Dr. Mustafa Cavcar, Anadolu University, Turkey  
Dr. Catia Cebola, Polytechnic Institute of Leiria, Portugal  
Dr. Zoran Cekic, Union University, Serbia  
Dr. Charles Chiemekwe, American University of Kuwait, Kuwait  
Dr. Jeong-Gil Choi, Kyung-Hee University, South Korea  
Dr. Pawan Chugan, Nirma University, India  
Dr. Willem Coetzee, Tshwane University of Technology, South Africa  
Dr. Marcos Cohen, Pontifical Catholic University of Rio de Janeiro, Brazil  
Dr. Luiz Felipe J. da Motta, Pontifical Catholic University of Rio de Janeiro, Brazil  
Dr. Gerard Leo Danford, Haaga-Helia University of Applied Sci., Finland  
Dr. Adres De La Nuez, University of Witwatersrand, South Africa  
Dr. Maria Angela C. de Melo, Pontifical Catholic University of Rio de Janeiro, Brazil  
Dr. Gideon de Wet, Fort Hare University, South Africa

Dr. Nejdet Delener, State University of New York at Old Westbury, U.S.A.  
Dr. Vitor Hugo Ferreira, Polytechnic Institute of Leiria, Portugal  
Dr. Nikolay Filinov, National Research University, Russia  
Dr. Andrea Garnett, North-West University, South Africa  
Dr. Anske Grobler, University of Pretoria, South Africa  
Dr. John Gwin, Huntingdon College, U.S.A.  
Dr. Celal Hakan Kagnicioglu, Anadolu University, Turkey  
Dr. Abdel Halabi, University of Witwatersrand, South Africa  
Mr. Al Halborg, Coventry University, United Kingdom  
Dr. Ali Emre Halici, Baskent University, Turkey  
Dr. Scott Hoenig, University of Witwatersrand, South Africa  
Dr. Lida Holthausen, North-West University, South Africa  
Heidi Hulsey Fowler, Georgia Southern University, U.S.A.  
Dr. Branislav Ivkovic, University of Belgrade, Serbia  
Mr. Paul Jackson, Coventry University, United Kingdom  
Dr. Frederic Jallat, European School of Management, France  
Dr. Rim Jallouli, University of Mannouba, Tunisia  
Dr. J. Andrew Joubert, University of Witwatersrand, South Africa  
Dr. Deniz Kagnicioglu, Anadolu University, Turkey  
Dr. John N. Kallianiotis, University of Scranton, U.S.A.  
Dr. Murat Kasimoglu, Canakkale University, Turkey  
Dr. Hande Kimiloglu, Bogazici University, Turkey  
Dr. Stephen Ko, Polytechnic University, Hong Kong  
Dr. Samad Kolahi, Unitec Institute of Technology, New Zealand  
Dr. Yamen Koubaa, The Brittany School of Management, France  
Dr. Valdir Lameira, Pontifical Catholic University of Rio de Janeiro, Brazil  
Dr. Dana Lascu, University of Richmond, U.S.A.  
Dr. Violet Lazarevic, Monash University, Australia  
Dr. Gerald Ledlow, Georgia Southern University, U.S.A.  
Dr. Auke Leen, Leeden University, The Netherlands  
Dr. Frank P. LeVeness, St. John's University, U.S.A.  
Dr. Grace T.R. Lin, National Chiao Tung University, Taiwan  
Dr. Ana Lisboa, Polytechnic Institute of Leiria, Portugal

Dr. Ana Lopes, Polytechnic Institute of Leiria, Portugal  
Dr. F. Victor Lu, St. John's University, U.S.A.  
Dr. Antanas Makstutis, Mykolas Romeris University, Lithuania  
Dr. John Malindretos, Yeshiva University, U.S.A.  
Dr. Michel Marchesnay, University of Montpellier, France  
Dr. Warren Maroun, University of Witwatersrand, South Africa  
Dr. Jose Martins, Polytechnic Institute of Leiria, Portugal  
Dr. Miguel Martins, Grenoble Graduate School of Business, France  
Dr. Bruno Mascitelli, Swinburne University of Technology, Australia  
Dr. Margaret Matanda, Monash University, Australia  
Dr. Herman Merwe, North-West University, South Africa  
Dr. Samir Moussalli, Huntingdon College, U.S.A.  
Dr. Juergen Muehlbacher, WU Vienna University of Eco. & Bus., Austria  
Dr. Beyza Oba, Istanbul Bilgi University, Turkey  
Dr. Pat Obi, Purdue University Calumet, U.S.A.  
Dr. Elmarie Papageorgiou, University of Witwatersrand, South Africa  
Dr. Nicolette Papastefanou, Tshwane University of Technology, South Africa  
Dr. Zivojin Prascevic, University of Belgrade, Serbia  
Dr. Gustav Puth, University of Pretoria, South Africa  
Dr. Luis Rivera, Dowling College, U.S.A.  
Dr. Susana Rodrigues, Polytechnic Institute of Leiria, Portugal  
Dr. Archie Rowe, Huntingdon College, U.S.A.  
Dr. Hani Samawi, Georgia Southern University, U.S.A.  
Dr. Ali Emre Sarilgan, Anadolu University, Turkey  
Dr. Kurt Satorius, University of Witwatersrand, South Africa  
Dr. Christina Schweikert, Fordham University, U.S.A.  
Dr. Nicos Scordis, St. John's University, U.S.A.  
Dr. Guven Sevil, Anadolu University, Turkey  
Dr. Melville Simon, North-West University, South Africa  
Dr. Satyendra Singh, University of Winnipeg, Canada  
Dr. Elmarie Slabbert, North-West University, South Africa  
Dr. Elena Smirnova, State University of New York at Old Westbury, U.S.A.  
Dr. Klaus Soldberg Soilen, Blekinge Institute of Technology, Sweden

Dr. Vladimir Soloviev, State University of Management, Russia  
Dr. James Stephens, Georgia Southern University, U.S.A.  
Dr. Blanche Steyn, Monash University, Australia  
Dr. Hsing-Ning Su, National Applied Research Laboratories, Taiwan  
Dr. Arda Surmeli, Anadolu University, Turkey  
Dr. Richard Torz, St. Joseph's College, U.S.A.  
Dr. Abdelfattah Triki, High Institute of Management, Tunisia  
Dr. Harismita Trivedi, Nirma University, India  
Dr. Magda Turner, University of Witwatersrand, South Africa  
Dr. Gerry Urwin, Coventry University, United Kingdom  
Dr. Peet van der Merwe, North-West University, South Africa  
Dr. Charles van der Vyver, North-West University, South Africa  
Dr. De La Rey Van der Waldt, Tshwane University of Technology, South Africa  
Dr. Ruan van der Walt, University of Pretoria, South Africa  
Dr. Mathilda VanNiekerk, Mbombela Local Municipality, South Africa  
Dr. Jennifer Westaway, Curtin University of Technology, Australia  
Dr. Selim Yazici, Istanbul University, Turkey  
Dr. Ari Yezegel, Bentley University, U.S.A.  
Dr. Oleg Zhilkin, State University of Management, Russia  
Dr. Anna Zhilkina, State University of Management, Russia  
Dr. Jason Zhu, State University of New York at Old Westbury, U.S.A

# Table of Contents

---

Valentin Afanasiev and M.M. Kuznetsov	Financing of Innovations In Oil and Gas Business	1
Kofi Afriyie, Gladys Torres Baumgarten and Veysel Yucetepe	Internationalization and Value-Creation Performance of Latin American Multinationals: The Case of Outward FDI	5
Dane Ally	The Legal Nature of Documentary Letters of Credit In International Trade: A South African Law Perspective	13
Maria Fatima Ludovico de Almeida and Carlos Augusto Caldas de Moraes	Industries of The Future and Emerging Technologies: A Vision For A Sustainable Future	20
Marcio Alves Amaral- Baptista, Maria Angela Campelo de Melo and T. Diana L. v. A, de Macedo Soares	Board Effectiveness In Strategy Implementation: A Preliminary Analytical Framework	28
Mohammad Hossein Askariazad and Nazila Babakhani	Drivers of Customer Loyalty In Business To Business (B2B) Context	37
Özlem Atalık,	Analysis of The Factors Affecting The Consumers' Preferences As For E-Travel Service Quality: Case of Turkish Airlines	45
Sriram Balasubramanian and Guy Callender	The Role and Implications of Knowledge Sharing In Complex Resource Organizations	53
Unal Battal	Privatization of Airports: Success Factors At The Privatisation of Airports In Turkey	63
Elvina R. Bayburina and Elena G. Kusaya	The Impact of Information Disclosure On The Value of BRICS Companies: Intellectual Capital Empirical Research	70
Elvina R. Bayburina and Tatyana V. Petrunina	Long-Term M&A Efficiency and Intellectual Capital Impact: Empirical Evidence of Emerging Markets	79

Andréa Belfort-Santos and Maria Angela Campelo de Melo	An Integrative Model For Multiple Strategies Formulation: The Contribution of Strategic Foresight	88
João Renato de Souza Coelho Benazzi	Real Estate Market In Rio De Janeiro, Brazil: An Investigation On The Main Factors That Influence Consumer´s Buying Behavior	96
Etienne Barnard, Wynand Grobler and Andrea Garnett	Information and Communication Technology Adoption Patterns of Individuals Living In A Low Income Neighborhood	104
Donald L. Brady, Mark Trocinski and Lucia Miree	What Bulgarian Undergraduate Students Believe About Academic Dishonesty	111
Ekaterina Buzulukova	Role of Networking For Multinational Corporations	125
Guy Callender, Catherine Meunier and Itziar Rebolgar-Lazaro	Achieving Patient Satisfaction In A High Stress Health Environment	131
Hanni Candelin-Palmqvist and Mari Ketolainen	Counterfeiting As A Means of Technological Capability Development	141
Suwichit (Sean) Chaidaroon and Prapai Jantrasakul	Addressing Dialectical Tensions For Stakeholder Dialogue In Csr Decision Making: A Case of Sugar Processing Conglomerate and Sugar Cane Farmers In Thailand	149
Chiang-nan Chao, Leonora Fuxman and Ibrahim Elifoglu	Managerial Issues For Adopting Digital Books--A Preliminary Study	153
Wen-Jan Chang and Dah-Hsian Seeto	Why Do Firms Manage Second-Tier Suppliers?	160
Jue Chen, Antonio Lobo and Bruno Mascitelli	Investigating The Buyer Behaviour of Organic Food In Urban China	166
Marina Chernova and Oleg Klepikov	The Multidisciplinary Paradigm In The Field of Innovative Marketing – Prerequisites For Becoming	173
Jeong-Gil Choi	A Study of Managers' Perceived Environmental Uncertainty In Asia	181
RL Coetzee and M Wiese	Does Money Really Motivate Sales Representatives?	189
JD Coetzer	Sustainable Food Production In South Africa, Access To Land, The Means of Production, Commitment and Cutting-Edge Technology	197

Gerard L. Danford	Strategy Implementation: The Role of Cognition, Communication and Trust	205
Zhang Dawei, Abu Bakar Abdul Hamid, Huam Hon Tat and Thoo Ai Chin	Purchasing and Supply Chain Management Practices In Chinese Manufacturing	215
Ora Dippenaar	Is Global Protection of Intellectual Property Rights Really Necessary?	226
Adri Drotskie and Rica Viljoen	Organisational Climate and Culture Sustainability Through Employee Engagement and Customer Experience Causality	231
Erdal Dursun and Vildan Durmaz	An Explanatory Study: Problems Faced With Maintenance of Airport Navigation Aids In Turkey	241
Mehmet Ekmekçioğlu and Ahmet Can Kutlu	Job Evaluation Under Fuzziness	246
Ebru Enginkaya	The Factors Affecting The Attitude of Consumers' Purchasing Private Labels	254
Ibrahim Kicova, Ebru Enginkaya and Hakan Yılmaz	Evaluating The Service Quality Perceptions of Customers Towards Private Shopping Web Sites	261
Miguel Artur Feldens, Emerson Antonio Maccari and Marcos Paixão Garcez	Barriers For Product Innovation In Small and Medium Technology-Based Firms In Brazil	269
Leon de W Fourie and Peter Mellalieu	An Orchestrated Conspiracy of Ignorance? The Rise and Fall of Education For Sustainability In New Zealand's Tertiary Education Strategies	285
Gbolahan Gbadamosi and Ayotunde Adebayo	Employability In Higher Education In A Non-Western Context: The Impact of Gender, Age and Job Status	298
Ebru Genc, Eric Eisenstein and James Hunt	The Role of Values On The Preference of Food Attributes	307
Susan Glanz	Sustainable Development and The Role of Small Business	315
Sadik Gokturk and F. Masarani	Quality and Price In Monopoly	323
Conceição Gomes, Nuno Arroiteia and Luís Lima Santos	Management Accounting In Portuguese Hotel Enterprises: The Influence of Organizational and Cultural Facto	331
Biljana Grgurović , Slavica Štrbac and Dejan Marković	The Procedure of Choosing A Market Segment In The Area of Postal Services offer	339

Wynand Grobler, Andrea Garnett and Joseph Sekhampu	Participation In Physical Activity: Perceptions of Individuals Living In A Low Income Neighborhood.	348
Wafa BelKahla Hakimi and Abdelfattah Triki	Sustaining Competitive Advantage Through Customer Knowledge Management and Innovation	355
Yuan-Hong Ho and Chiung-Ju Huang	The Corruption-Economic Growth Nexus: Evidence From Four Bric Countries Based On The Panel Data Approach	363
Natasja Holtzhausen	Breaking The Silence-Considerations and Policy Guidelines For The Management of The Whistle Blowing Process In An Organization	371
Chiung-Ju Huang and Yuan-Hong Ho	Income Inequality and Economic Growth In Asia	379
Hélio Arthur Reis Irigaray and Vanessa Janni Epelbaum	What'S Fair In Fair Trade? A Case Study of A Brazilian Cooperative	387
Aleksandar Ivanović, Petar Bojović and Slobodan Spasić	Financial and Monetary Analysis of Endogeneity and Exogeneity of Money Supply In A Transitional Economy: Case of The Republic of Serbia	392
Aleksandar Ivanović, Petar Bojović and Slobodan Spasić	Financial Analysis of Monetary–Credit Multiplication In A Transitional Econom: Case of The Republic of Serbia	401
Aleksandar Ivanović and Leonora Fuxman	Foreign Direct Investments and Incentives For Them: The Case of Serbia	409
Burmaa Jamiyuansuren and Dana-Nicoleta Lascu	Information Sources and Decisions For Housing Products and Services: An Examination In The Emerging Market of Mongolia	418
Martin Kaggwa	The Role of Technology Policy In Leveraging Africa Growth Act Benefits To The Common Market of Eastern and Southern African Market	424
Chao-Chung Kang and Cheng-Min Feng	Analysis of Alternative Royalty Strategies For A Bot Project From A Negotiation Perspective	430
Myung Soo Kang, Il Im and Seongtae Hong	An Invariance Analysis of The UTAUT Model	438
Helmut Kasper, Jürgen Mühlbacher, Georg Kodydek and Stefan Schilcher	Leading Multicultural Work Groups Followers' Attributions and Perceptions In An Intercultural Setting	446

Tumo Kele and Phumzile Mlambo-Ngcuka	An Evaluation of Mobile Phone Usage For Educational Purposes and Its Impact In South African Primary Schools: Perspectives From The Users	453
Nasser Mohammed Al Khalifa	Western Human Resource Management Systems Into Islamic Public Services: Are They Appropriate?	460
Carina Kleynhans	Corporate Social Responsibility Reporting In The South African Hospitality Industry	468
Yamen Koubaa , Gaëlle Ulvoas and Patricia Chew	The Impact of Traditional and National Values On Attitudes and Willingness To Buy Cosmetics In Singapore	476
Ahmet Can Kutlu and Seçkin Polat	A Real Options Model For Energy Service Contracting Integrated With Transaction Cost Economics	484
Keith Lambert	Obtaining A Competitive Advantage By Utilising An Integrated Logistics Support System To Enhance The Maintenance Performance of Capital Assets	492
Stewart Lawrence and Vida Botes	Accounting and Organizational Change: An Autopoietic View	500
Frank P. Le Veness and Jaime M. Beran	The Arab Maghreb Union: A Current Perspective	508
Auke R. Leen	An Eu Corporate Income Tax As A New Own Resource To Finance The Eu Budget	517
Weng Si Lei and Weibing Zhao	Participation of Local Residents In Arts Festival: The Case of Macau	524
Yaonan Lin, Chih-Chung Chu, Pei-Ling Lin and Yu-Shan Tsao	The Impacts of Humorous Advertising and Fear Appeals On The Advertising Attitudes - The Moderating Effects of Regulatory Focus	534
Yaonan Lin , Yun-Chieh Liu and Chih-Chung Chu	The Relationships Among Gelotophobia, Humor, Self-Esteem, Playfulness, and Innovative Behavior	542
Martti Lindman	The Role of Sacrifices In Complaint Handling	550
Renato R. Lyra and T. Diana L. van Aduard de Macedo-Soares	Strategic Alliance Governance	558
Antanas Makštutis and Juozas Vijeikis	Small and Medium-Sized Business Development In Lithuania	568

Nkhangweni Jerry Malange	The Validity of The Emulment Attachment Orders Obtained By Credit Providers Against Consumers When Applying For A Loan	576
A Marais, SK Mokoena, MS Mukhola, A Mji, I Mokgobu and CN Phiri	Learner Pregnancy: The Legal Implications	583
Michael J. Maran,	Are Gene Sequences Patentable Subject Matter?	591
Bruno Mascitelli and Mona Chung	Australia-China and Stern Hu: Cold War, Corruption Or Cooling of Relations	600
Polly Mashigo	Group Lending: A Mechanism For Delivering Financial Services To The Poor Households: Lessons For South Africa	605
Florinda Matos , Susana Rodrigues, Albino Lopes and Nuno Matos	Intellectual Capital Tool	615
David Mello and Edward Rankhumise	Internationalization of Labour and Its Challenges: Views From South Africa	622
Mehdi Mohaghegh	Islam and Economic Justice	627
Mokoena, S.K., Mji, A., Mukhola, M. S., Mokgobu, I., Marais, A, and Phiri, C	Teanage Pregnancy: Coping With Pregnancy and Schooling	637
Mojtaba Mohammadnejadi Moodi	Investigation of Human Development In Kerman Province In Iran	641
Tonderai Muchenje and Progress Kariga	Analysis of A Converged Wireless Security Platform In Rural Community: Dwesa/Cwebe In South Africa	649
Althea Mvula and Richard Shambare	Students' Perceptions of Facebook and Their Implications As An Instructional Medium	660
Moza T. Al Nahyan, Amrik S. Sohal , Brian Fildes and Yaser E. Hawas	Transportation Infrastructure Project Management In The United Abab Emirates: Current Practice and Improvement Opportunities	669
Kęstutis Navickas, Antanas Makštutis and Renata Navickienė	Determination of External Organizational Sustainability	678
Tshepiso I Ngwenya and Pascal Buregeya	The Contribution of Internal Auditing To Enhance Organizational Performance In The Rwanda Revenue Authority (RRA)	686

Tshepiso I Ngwenya and Ntombi Skosana	Microfinance Organizations In South Africa: Are They Sustainable and Self-Sufficient In Rural South African Business Environment?	690
Emmanuel Obinali Obioha and Heinz Eckart Klingelhöfer	Integrated Framework For Measuring Corporate Sustainability, Social, Environmental Impacts, Customer Attraction and Business Success	699
Maud Oortwijn	Firms Perceive The Same Host Country Different, Depending On Firm Experience	709
Dhouka Oueldoubey and Imed Zaiem	Web Sites and The Choice of Touristic Destinations Health Tourism In Tunisia	720
Supachai Pathumnakul, Phalakorn Prakhomthong and Kullapapruk Piewthongngam	Using Analytical Network Process To Quantify Factors Affecting Farmer Decision Making	729
Kullapapruk Piewthongngam , Phumsit Mahasuweerachai and Arunwadee Kannula	Application of Conjoint Analysis In Studying How Cane Growers Decide For Their Market Channel	735
David Pitcher	Contributory Competencies To The Successful Global Executive	742
Thérèse du Plooy , Johan de Jager and Dion van Zyl	An Exploratory Study On Perceived Service Quality In Informal Convenience Stores In South Africa	749
Thérèse du Plooy and Giselle du Plessis	Exploring The Effectiveness of Minibus Taxis As An Advertising Medium In An Emerging Market	757
Kawpong Polyorat and Upsorn Pliansinchai	Decision To Grow Sugar Canes Versus Competitive Crops: A Case Study of Thailand	765
Marius Potgieter and Fei Yang	The Resident Chinese Tourism Market In South Africa Can Be A Sustainable Market	772
Louise du Preez and Antoinette Marais	A Legal Approach To Human Trafficking In South Africa	780
M A W Prinsloo	The Contribution of Inrapreneurial Training Towards The Improvement of Service Delivery By Putlic Institutions In South Africa	788
George Priovolos, Vincent Maher and Joseph Ford	How Concerned Is The Social Networking Generation Regarding Internet Security and Safety Protection?	796
Michal Putna	Industrial Policy Revival?	803
Anna Putnová	Socio-Economic Innovations - A Challenge For Management	809

S. Janse van Rensburg and R. van der Walt	Creating Sustainable Employment: Workplace Accommodation Decisions For Employees With Hearing Disabilities	815
Mornay Roberts-Lombard and Leon du Plessis	Influence of CRM On Customer Loyalty – An Application To The Life Insurance Industry In South Africa	828
Mornay Roberts-Lombard, Ray Holl and Anar Mensikotora	On-Line Design and Emotional Branding: Arguing A Case For Spiritual Travel Agents	836
Antoinette Roeloffze and Ilse Swarts	Developing A Questionnaire To Profile A Hospitality Supervisor	844
E. J. van Rooyen	Preparing South Africa’s Future Public Sector Leaders: Innovation In Teaching and Learning At Universities of Technology	852
E. J. van Rooyen and M.A.W. Prinsloo	Promoting Urban Food Security In South African Local Government	860
Ksenia O. Safronova	The Hypothesis of A New Approach To Lean Production Into The Context of Lean Thinking	868
Eduardo Campos de São Thiago and Maria Fatima Ludovico de Almeida	International Standardization On Social Responsibility: Understanding Learning Dynamics Through Social Complexity Perspective	874
Martin Schmits and Shaukat Ali	Web-Based Customer Reviews For A Caribbean Four Star All-Inclusive Resort - Identify Drivers For Excellent Rating	883
Nico Schutte and Titos Khalo	Strategic Leadership Competence: A New Service Delivery Paradigm	891
Richard Shambare, Robert Rugimbana and Takesure Zhowa	Mobile Phones: The 21st Century Addiction?	903
Harshika Sharma and Ann Ozuem	Talent Management and Employee Engagement In The Information Infused World: A Theoretical Orientation	910
Elaine Sherman, Leon G. Schiffman and Yong Zhang	A Cross-Cultural Investigation of Consumer Frugality: The Case of The United States and China	921
Cláudio Vicente di Gioia F. Silva, Walter Gassenferth, Luiz Alberto Nascimento Filho and Maria Augusta Soares Machado	Comparing The Competitiveness Between Brazilian and European Football (Soccer) (G-5) – Interpretations and Suggestions	928

Alla N. Sterligova and Nina M. Vladimirova	Interorganizational Co-Operation In Company Management	939
Vicki R. TenHaken, Katelyn Rumsey , Alison Meshkin Sale	Enduring Success: What Effect Does Business Firm Size, Industry Or Type of Ownership Have On Longevity?	945
David Tenjo and Wilson Ozuem	Making Sense of Risk and Risk Prevention In Online Environments: A Theoretical Perspective	952
Christian L van Tonder, Johann P Groenewald	of Mining Accidents and Sense-Making: Traversing Well-Trodden Ground.	963
Viet Dung Trinh , Ian Phau	A Research Agenda For The Impact of Material Values and Life Satisfaction In Non-Deceptive Counterfeit Luxury Brands Consumption	979
Roger Tsai, Christina Schweikert, Samantha Yu and D. Frank Hsu	Combining Multiple Forecasting Experts For Corporate Revenue Using Combinatorial Fusion Analysis	986
A. Vasilopoulos	Estimating The Probability of Winning A Major Competition	996
Peet Venter, Mari Jansen van Rensburg ,Johan Strydom	The Link Between Marketing Information, Strategic Marketing and Organizational Success: South African Perspectives	1004
Conceição Maria Sande Vieira	Technical Engineering Document Management: Managing Critical Documents Within An Oil Pipeline and Terminals Company	1011
Anandasothy Vignarajah	Strategy For Forward Momentum: Social Networking	1020
Nada Djordjevic Vignjević	Economic Results and Marketing Incentives On Insurance Market	1028
Nina Vladimirova	Construction Companies and Business Networks In Russia	1034
Sibel Yamak , Ali Ergur and Artun Ünsal	Corporate Elites and Context	1041
Mehmet Akif Yildiz and Emanuel Gomes	Entry Modes and Business Strategies In Global Construction Markets:Turkish Contractors In Libya	1049
Anna N. Zhilkina	Services Financial Management Analysis	1058

# **FINANCING OF INNOVATIONS IN OIL AND GAS BUSINESS**

**Valentin Afanasiev, State University of Management, Russia**  
**M.M. Kuznetsov, Renewable Energy Systems, UK**

## **ABSTRACT**

*In this paper we investigate the conditions and characteristics of financial innovations in the production and refining of oil and gas. Analysis of current conditions shows significant differences in the approaches to these innovations, especially in justifying the strategic investment. One of the assumptions that have found confirmation in the findings of the comparison is the conclusion that the effectiveness of investment in innovation in the oil and gas sector, most evident in comparing the contrasting indicators of research and development (R & D), quoted on the Euronext market securities. The differences found in terms of investment in oil and gas sector indicate that the innovation projects in enterprises of this sector should be analyzed and evaluated differently. Positive experience in financing innovation based on the indicators R & D, also allows you to understand the strategy of individual enterprises, energy companies, operating environment, the importance of evaluating the institutional and political differences, approaches to financing and its availability in different countries.*

## **INTRODUCTION**

Research of tendencies, conditions and characteristics of innovation's financing for flow and reprocessing of oil and gas are usually under great interest in both specialized and in economic sphere where relations of financiers towards these products are sustainable positioned as indicators, defining perspectives of development. Interest in the analysis of current trends, factors and features depends on the need of identification of common and differences in orientation, approach and implementation of funding for such innovation, which, in particular, will be on demand in the process of developing and making strategic investment decisions. Special attention in this case should be given to research and assess of the validity and effectiveness of investment in innovation in the oil and gas sector. It is important to identify and compare specific indicators of the effectiveness of funding for research and development (R&D), including those based on change trends in quotation of securities on the regional stock market Euronext.

## **FINANCING OF INNOVATIONS IN OIL AND GAS BUSINESS**

Investing in high-tech innovation has traditionally been a major factor of economic growth, assessing the conditions of funding of projects in research and development, reflecting their priority in the development of any economy. Ratio analysis of financial indicators for R&D shows that the development of research activity has a positive effect on the investment image of the company, which ultimately provides the most important conditions for making decisions on strategic foreign participation. The main result of the development and implementation of R&D investment projects is to obtain knowledge about new products and services which are becoming sooner or later the property market. The analysis shows that they are implemented with the extraction of very substantial benefits from research, not only in attracting additional investors, but in creation of new formats of collaboration with other industrial and commercial companies.

It should be noted that such interaction as shows analysis of the evolving practice of relations, can serve as a specific impediment to growth in private funding for research and innovation, as investment in the energy

sector requires significant levels of state subsidies. Obviously under these circumstances, developing and implementing R&D projects in the oil and gas sectors, investors meet some uncertainty in strategic decision-making. The results of research confirm the fact that innovation and modernization of energy technologies in the oil and gas sectors are becoming increasingly important in the foreseeable future, to ensure the unconditional growing demand for energy. Such estimates are formed in a professional environment and are increasingly formulated amid concerns for the stability and security of energy supply, in conditions of growing relevance of setting and achieving targets for environmental protection.

An essential feature of the processes is that the real knowledge of project design and implementation of financing innovation in the sector of the energy industry remains quite limited and not always reliable in a highly competitive struggle for participation in its implementation. Appearing in these publication results of research studies and development arising from these findings is an attempt to compensate for a deficiency actual awareness of the interested audience on this issue. The results of these studies and presented here findings provide, in our view, adequate analyze and choose of the most productive approaches to evaluate the effectiveness of funding of general corporate investment and innovation in the European energy sector.

Without overloading of this publication with direct materials of implemented research it is possible to claim that a higher degree of intensity of R&D financing is characterized by increasing of its productivity. However, we have to be aware that, since R & D investments create intangible assets, they require special methods of analysis and conclusions, because they could not be used as a tangible asset, or traditional forms of evaluation. It is important to note that as shown by the research, the level of investment is one of the key indicators of R&D, which rightly confirms the strategic importance of prospectively-oriented innovation in sustainable development. It is advisable to take into account that some authors rightly characterize R&D investment with a high degree of specificity, which is manifested in particular that they are less specific as to whether and on efficiency, than other, more obvious attachment. In the analysis and evaluation is important to be clear about the inverse relationship, manifested in particular, that vague, deferred guaranteed and low-end incentives may not be sufficient priority to investors who are competing in the field of venture innovation. Obviously, the ultimate effectiveness of such decisions is provided by long, continuous investment in R&D funds required, for example, to launch new products, which casts further doubts on the potential investors.

According to made research an essential or even the major part of financial investment in R&D are concentrated in the gas and oil business nowadays. The analysis made it possible to define essential differences on how these two groups of investment differ in R&D financing. Differences among major, most important projects of reach companies are also noticed in this context, in comparison with less profitable participation of firms with scarce resources, which are usually devoid of such opportunities. This defined the amount of impact of the investor's firm, profitability and its business' funds available on appropriateness and efficiency of innovations' financing.

The independent task of the study was devoted to analysis of the relationship of trends and effectiveness of financing R & D with the legal status of the implementing companies. This made it possible to estimate a significant effect of stability of the investor on terms and conditions for the development and implementation of specific investment programs. In this regard the role of mobilization and availability of various provisions of the stock market for the implementation strategic projects for financing innovation in the oil and gas sectors was defined and explored. This analysis allowed us to make fairly reasonable conclusion that the stock market may in fact sufficiently accurate information about the investment performance of permanent participants of the stock market in innovation through the prices of assets available to finance R&D.

The main source of displayed in this publication studies and their results, respectively, was a system OSIRIS, which represents a database that consists of a detailed balance sheets, profits, losses and cash flows data for virtually all energy companies in the industry from 24 European countries. In addition, research base complementary materials OSIRIS firm-level data and economic parameters by country, available in the materials of the World Bank and industry publications of professional analysts. As one of the most effective resource has been selected and is widely used in studies renowned R&D proxy index, defined as the ratio of intangible assets to total assets, and often called in a professional environment R&D intangible assets. This choice allowed constructively analyze sufficiently different firms in different countries at the level of factors that might somehow influence the trends, conditions and programs to implement the financing R&D activities of companies.

OSIRIS data were analyzed at 270 firms for a number of European countries over the period 1984 - 2008. During the analysis some changes in the composition of actors and a competitive environment were taken into account, such as: the emergence of new states of the European Union, as well as good and substantial regulatory changes in the European sector of the oil and gas industry, the capital structure of R&D relationship was especially analyzed for it. With regard to these circumstances was the subject of a special analysis for the period 1995-2007, which had been received, evaluated and taken into account the maximum available number of observations. Studies of the total sample consisting of 274 firms and includes 3'562 observations appear to be sufficiently representative.

In order to study the impact on corporate financing of innovation in energy area, there were analyzed classification of companies in relevant sectors of European countries. They showed that the applied, rather various classifications of industries, such as: NAIC 2007; GICS code; Industry Classification Benchmark; Financial Times industry class; 2007 NAICS Code and the NACE 2, derived from SIC codes can reasonably assess the characteristics of the investor's R&D. For the analysis of the study perspective were used industrial Classification Benchmark (ICB), allowing on the basis of ICB, isolate and evaluate the 11 subsectors in the energy market, including oil and gas. The analysis, conducted on this basis, showed the heterogeneity of conditions for financing innovation in these sectors and, hence, the need for differentiated approaches to assessing the feasibility and effectiveness of specific projects of innovation. Study of a comprehensive database on firms level did not allow to provide detailed analysis, based only on the immediate data of the company, because the jurisdiction of the residents of different countries under current law distorts the data specificities of the tax regime, accounting standards, etc.

Research has generally allowed the authors of the publication to come to the following agreed conclusions on their results:

Revitalization of investment in R&D is crucial for energy companies in the sector of oil and gas industry, but restricted information about the structure of innovative activity and the conditions of its financing remains quite significant obstacle for their effective development;

There are significant differences highlighted in the financing of innovations, emerging from changes in the institutional (including financial institutions) environment, political climate and other conditions of innovative investment in various countries;

Results of target analysis, conducted at the aggregate level, show that the state support in increasing of funding for innovative programs of energy companies operating in the sectors of oil and gas may create a preferred or substantial economic conditions of the competitive advantages of national business, including the stock market;

Active, relatively new in the oil and gas sector investors in innovation are usually a higher level of R & D activities in comparison, even with traditionally strong, but more traditional companies;

Along with this the continuing influence of the largest, financial surplus of potential investors is maintained, consistently controlling the most profitable segment of innovative projects of oil and gas industry, based on the image, a solid legal status and stability of the distribution of the stock market;

The main task of ensuring the effectiveness of innovative development of the company becomes a permanent analysis, evaluation and accounting of trends, conditions and characteristics of financial innovations in R & D, as in the segment and in the national sections, taking into account the specific impact on the corporate level;

In justifying and making decisions in investing R&D activities of small innovative programs it must be taken into account the value of the company size of the investor, the profitability of innovation financing, sales and distribution of cash, their impact on financial opportunities;

The level of profitability of enterprises usually refers to the possibilities of innovative development, so that the positive relationship between profitability and R&D could mean relief of external borrowing for the development of intangible assets;

Flexible and responsive to market conditions, private corporations, tend to have higher growth rates of innovative programs of investment in R&D, especially compared with the long-running public companies;

It is necessary to increase constantly further study of this issue from the perspective of a more detailed analysis of individual countries, energy companies, operating environment, the value and impact of institutional political differences, changes in approaches to R&D funding and its availability. This will facilitate obtaining a qualitatively significant, meaningful substantive conclusions and explanations of trends, conditions and factors of innovation financing in the oil and gas sectors.

As provided by these results in the research were also analyzed trends, conditions and characteristics of financial innovations in the production and refining of oil and gas. The analysis of the actual conditions of their implementation has shown significant differences in the approaches to the organization and implementation of such innovative projects, especially in the justification and implementation of finance strategic investments. One of the assumptions that have found confirmation in the findings of the comparison is the conclusion that the effectiveness of investment in innovation in the oil and gas sector, most evident in comparing the contrasting indicators of research and development, quoted on the Euronext market securities.

The differences found in terms of investment in oil and gas sector indicate that the development and implementation of innovation projects in enterprises of this sector should be analyzed and evaluated differently, taking into account not only the product specifics, but the functioning and development of specific enterprises, which goes beyond the framework for analysis. The positive experience of finance for innovation based on indicators of R&D, given in research, also allows to understand the strategy of individual enterprises, energy companies, operating environment, the importance of evaluating the institutional and political differences, approaches to financing and its availability in various European countries.

## REFERENCES

Alexander D., Varonesi P., 2009. *"Option prices with uncertain fundamentals theory and evidence on the dynamics of implied volatilities,"* Finance and Economics Discussion Series 1999-47, Board of Governors of the Federal Reserve System (U.S.).

Allen F., Gale D., *Corporate Governance and Competition, Corporate Governance: Theoretical and Empirical Perspectives*, Cambirdge University Press, 23-94, 2009

Atanassov J., Nanada V., Seru A., *Finance and Innovation: The Case of Piblicly Traded Firms*, 2007

Audretsch D.B., *New-firm Survival and the Technological Regime, The Review of Economics and Statistics*, Vol. 73, No, 3 (Aug., 2010), pp. 441-450

Ayyagari M., Demirguc-Kunt A., Maksimovic V., *Firm Innovation in emerging Markets*, World Bank Policy Research Working Paper 4157, March 2007

Baum C.F., *An Introduction to Modern Econometrics Using Stata*, Stata Press; 1 edition (15 Aug 2006), pp.219-245

# **INTERNATIONALIZATION AND VALUE-CREATION PERFORMANCE OF LATIN AMERICAN MULTINATIONALS: THE CASE OF OUTWARD FDI**

**Kofi Afriyie, New York University, USA  
Gladys Torres Baumgarten, Ramapo College of New Jersey, USA  
Veysel Yucetepe, Kean University, USA**

## **ABSTRACT**

*Outward foreign direct investment (O-FDI) undertaken by Latin American multinationals (LAMNEs) has increased in recent years. This paper investigates value creation in the LAMNEs and suggests that operational efficiency and strategic decisions have propelled these firms to higher levels of performance. This study suggests that internal use of corporate resources, combined with external industrial opportunities appear to enhance value creation among the largest LAMNEs.*

## **INTRODUCTION**

The number of Latin American firms that operate in cross-border production has increased steadily over the past decade. Analysis of foreign direct investment (FDI, hereafter) data shows that out-bound investments by these firms exist in a variety of industries at all levels of scale production (UNCTAD, 2006; Forbes, 2007). Prominent Latin American multinational enterprises (“LAMNEs”, hereafter) include CEMEX of Mexico, EMBRAER of Brazil and Banco de Chile, which operate in the cement, aircraft manufacturing and financial services industries respectively. These companies have joined the ranks of Forbes Global 2000 firms as the largest multinationals in the world (Forbes, 2008). This trend is in marked contrast to previous years when Latin American firms lagged behind their counterparts from other regions, including the emerging markets of Asia (UNCTAD, 1995).

Once established as global firms, how do these firms perform, in terms of creating market value for their stakeholders? What are the sources of this value creation? The basic thesis of this paper is that a set of managerial skills and corporate strategies that leverage internal resources and capabilities coupled with strategic decisions to enter specific industries appear to be driving the creation of market values among LAMNEs.

The goal of this paper is to present a conceptual framework and empirical evidence on internal management capabilities in deploying resources that help explain variations in market values generated by the largest Latin American firms. Understanding the internal sources of acquiring market strength has both implications for corporate strategic decisions and competitive behavior as firms expand their cross-border business activities in their home region and around the world.

## **Research Questions**

To achieve this goal, the paper addresses three research questions as follows:

- What are the likely internal operational capabilities embedded in firm resources that enhance value creation in LAMNEs?
- What are the sources of these internal efficiencies in Latin America's largest firms?
- What are the strategic implications of these value creation activities among large LAMNEs engaged in cross-border investments?

Answers to these questions may throw light on whether or not LAMNEs are more or less like their older, traditional counterparts from North America, Western Europe and Japan upon whom most international business research has been based. Thus, can the FDI activities of LAMNEs be explained by the internationalization processes and motives of outbound FDI, as current theories such as the O-L-I model of the Eclectic Paradigm proposed by Dunning (1995, 1988), or the transaction cost models (e. g. Hill & Kim, 1988) would suggest?

## **RELATED LITERATURE AND CONCEPTUAL FRAMEWORK**

There are compelling reasons for investigating the forces that drive performance of Latin American multinational enterprises (LAMNEs). First, as newcomers in the global marketplace of foreign direct investment (FDI), there is a natural intellectual curiosity about these firms that marks them as targets for research investigation. Second, knowledge about these new firms from Latin America has the potential to advance our understanding of how firms of varying geographic and unique cultural backgrounds manage and perform in juxtaposition to more entrenched, traditional multinational firms from Western Europe, the United States, Canada and Japan. Do these newcomers from Latin America confirm or reject the range of prevailing and competing conceptual frameworks and theoretical formulations that seek to explain internationalization and performance of firms and industry? The question is intriguing because existing theories of FDI and allied explanations of global business expansion are based on the motives and behavior of traditional MNEs.

Finally, because global economic, political, technological and other dimensions of the environments in which all MNEs operate is perennially in a state of flux, firms are constantly evolving and adapting to changes in these environments. Hence, the need to examine systematically performance of newcomers in the global FDI landscape cannot be overemphasized. Understanding these new entrants in the global marketplace can only contribute to new insights into how firms adapt, survive and thrive in a hyper-dynamic environment.

### **Studies on Market-Value Creation among Global Firms**

This study focuses on factors that affect market values of LAMNEs, because these firms have been catapulted into the ranks of the largest global firms as a result of their rapid increases in market values that compare favorably with those of older and traditional MNEs (Forbes, 2008).

Several studies have investigated the value created by MNEs and other firms operating in the global marketplace during the past decade. Yet, the topic of value creation still remains an under-researched one, especially with regard to global newcomers such as Latin American firms engaged in outbound foreign direct investment. Three strands of research on value creation can be found in the literature of global business expansion: First, creation of market value driven by corporate market data and information, as processed by financial markets. Second, the literature reports studies on market value creation as a result of diversification strategies of firms in both the financial and real goods sectors. Third, some studies have examined market value in the context of global trade liberalization and macroeconomic reforms in host economies.

### **Financial Markets and Firm Valuation**

Many of the studies on value creation as a performance metric focus on the financial market and its influence on creating firm or stockholders' value, with some studies addressing bond holders' value as well. (Pierre-Xavier, 2005). Evidence is mixed on whether or not global diversification, which by definition accompanies most global investments in both the financial sector and the real goods sector. Denis et al (2002) reported in their study that diversification results in the loss of shareholder value. On the other hand, Bodnar et.

al. (1999) found, to the contrary, that global diversification actually leads to increases in shareholder value, even though both studies used the same valuation methodology. When Doukas and Kan (2006) make a distinction between bondholder and share holder values, bondholders win out in value gains as a result of diversification while shareholders see their share of value declines.

One of the most recent studies on value creation comes from a study by Gande, Schenzler and Senbet (2009) in which the authors show that global diversification enhances firm value. This mixed and contradictory evidence indicates that the jury is still out, in terms of the extent of value creation by firms as they expand across global markets, even when studies use the same methods of evaluation. Hence, a compelling case can be made for further study to investigate the determinants of market value in international business research.

## **Industrial Diversification Strategies and Value Creation**

At the industrial levels within real goods markets (in contrast to the financial sector), Barry and Kearney (2006), using portfolio theory, concluded that a more diversified manufacturing sector in Ireland, for example, leads to overall growth, thereby affirming the traditional view that large firms operating in diverse markets often contribute to growth in those markets. It can be argued, at least tangentially, that the presence of LAMNEs in a wide range of industries reported in the Forbes 2000 largest firms of which the current study is based, may be an indication of the potential contribution of these firms to growth in specific countries and economies in which Latin firms expand abroad.

## **Trade and Macroeconomic Factors:**

The literature also reports on studies that focus on the effects of external macroeconomic factors on value creation among firms expanding into global markets. For instance, Wooster (2006) found that value creation is most significantly associated with expansion by firms into emerging markets that are undergoing economic reforms through market liberalization. The study focuses on entry modes into host emerging markets that are at an advanced stage of reform and market openness. Incidentally, the profile of economies targeted in that study fits many emerging Latin American countries such as Brazil, Argentina and Mexico which also attract as well as export capital in the form of FDI. Wooster's study (2006) demonstrates the effect of external, extra-corporate influences, in the form of host- market liberalization and economic reforms, on value creation.

An equally significant external influence on firm performance, albeit with an indirect effect on value creation, has been investigated by Baggs and Brander (2006). Using Canadian-US cross-border data, the authors demonstrate that tariff reduction in foreign markets correlate with increasing profits for export-oriented firms, while domestic tariff reductions are associated with declining profits in import-competing firms. This finding would suggest that purveyors of outbound FDI may have benefited or lost from declining tariff barriers since the early 1990s—depending on the nature of a firm's global activities, with the creation of the World Trade Organization and the acceleration of globalization in general.

Examining the literature, one can conclude, even in the face of some of the contradictory results (see Denis et al, 2002), that the weight of evidence favors enhanced value creation as determined in financial markets and some diversification strategies of firms (Barry and Kearney, 2006, Gande, Schenzler and Senbet, 2009). Hence, by becoming global, the evidence suggests that LAMNEs may be contributing to overall global growth, at least to the extent that individual Latin firms form part of a portfolio of investments in specific markets (Wooster, 2006).

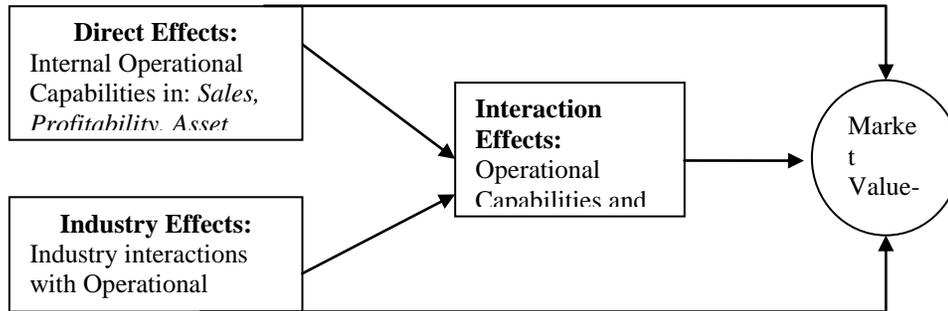
## **Gap in the Literature on Value Creation**

What appears to be missing in the literature on Latin American firms as new players on the global FDI landscape centers on identifying and evaluating the role played by internal operations of firms, indicators of firm efficiency as well as industry of choice in creating market values for firms engaged in global cross-border production and investment activities.

This paper attempts to bridge the gap between market value driven by external influences such as a) market data and financial information and b) trade liberalization, versus value creation from internal capabilities such as sales generation, asset acquisition and strategic choice to enter specific industries.

Our basic thesis is that internal managerial operational capabilities and strategic decision to enter specific industries decisions can have significant influences on market values of firms. We focus on sales generation, levels of profitability, acquired physical assets that are deployed in production as well as presence in an industry are key drivers of success in the marketplace that would translate into increases in a firm's value. We present this argument in a conceptual framework as depicted in Figure 1.

Figure 1: Operational and Industry Effects on Market-Value Creation in Latin American Multinational Enterprises



## METHODOLOGY AND HYPOTHESES

### Data and Sources

Data for this study was collected from Forbes Global 2000 annual ranking (2007) of the top 2000 publicly-held companies in the world. Sixty-three companies originating from Latin American countries were selected for the study based on worldwide sales, profits, assets and market values. Nearly 50% of the companies originated from Brazil; followed by Mexico with a large number of MNEs; then Chile, and finally Peru, Venezuela, Argentina and Colombia with one to two firms each.

### Model Formulation

The methodology utilized seeks to examine the effects of sales, profits, asset utilization and industry presence on the market value of the firms in this study. The following equation is used to estimate the direct and interaction effects of operations and industry presence on value creation:

$$MKTVL = \alpha + \beta_1 SALES + \beta_2 PROFITS + \beta_3 ASSETS + \beta_4 PMARG + \beta_5 ASSETUTL + \sum \delta_i IND_{ik} + \sum \lambda_i (IND * X)_{ik} + \epsilon_i$$

where, MKTVL = market values estimated by the product of the mean stock price and number of outstanding shares. The *independent variables* are represented as follows: SALES = firm world-wide sales; PROFITS = firm world-wide profits; ASSETS = firm world-wide assets; PMRGN = firm gross profit margin; ASSETUTL1 = firm asset utilization in generating sales; ASSETUTL2 = firm asset utilization in generating profits; IND = industry dummy variable: IND1 = Energy, IND2 = Financial Services, IND3 = Materials; IND 4: Other industries, including assorted retail and telecommunication services

(IND\*X) represents the interaction variables of industry and the above regressors. The interaction variables are specified in the form (IND\*X)<sub>ik</sub>, i=1...k, number of industries, i=n, number of firms.

$\alpha$  = intercept reflecting other non-specified effects on market value

$\beta_i$  = direct effects of the independent variables on market value

$\delta_i$  = industry effects on market value.

$\lambda_i$  = interaction effects of industry and the above regressors of firm capabilities in operations and generating efficiencies on market value

$\varepsilon_i$  = error term

Ordinary Least Squares (OLS) stepwise regression was used to estimate subsets of the above full-model equation and their direct and indirect effects of the independent variables on market value. To explore a wide range of effects that explain variations on market values, we estimate and examine several models of equation (1) as presented in Tables 1-3.

## Hypotheses

**H1:** As LAMNEs increase their outward FDI, their overall financial performance, as measured by market value of the firms will increase. This will be so, in part, because of a natural increase in volume of activity such as sales that accompany regional and/or global market expansion.

**H2:** Increased efficiency in generating sales and profits through deployment of organizational assets will have a positive and direct effect on market values of LAMNEs that are actively engaged in outbound FDI in regional and global markets. This hypothesis is based, in part, on the general trend of increased acquisition of advanced managerial skills and enhanced technologies among emerging market firms in recent years. The sample of firms in this study all originate from emerging markets of Latin America.

**H3:** We expect that increases in operational efficiency in generating sales and profits and deployment of assets will be linked directly to specific advantages uniquely embedded in industries in which LAMNEs specialize. These industry advantages will explain, in part, variations in values of LAMNEs that engage in cross-border direct investments.

## EMPIRICAL RESULTS AND DISCUSSIONS

### Direct Effects of Operations and Industry Presence

Table 1 shows that firm operations in terms of sales generation (SALES), profitability (PROFITS) and asset acquisition (ASSETS) explain variations in market value (MKTVL) creation within LAMNEs. The results show positive and statistically significant effects of these operations on market value ( $p < 0.001$ ), in the estimated four models (Model 1 through Model 4), with Model 4 accounting for the highest explanatory power (adjusted  $R^2 = 0.957$ ). As a result, H1 is supported.

Likewise, the direct effects of industry presence show a strong, positive and statistically significant association between market values and the energy industry (Model 2,  $p < 0.08$ ) and an even stronger and positive association in Model 4 ( $p < 0.05$ ) and a somewhat positive relationship in the materials industry (Model 1,  $p < 0.10$ ). These results suggest that LAMNEs have acquired enough capability and experience in these industries to generate market value. Such a finding may also signal the acquisition of industry competitive advantages accumulated over time by firms surveyed in the respective industries.

Table 1: Direct Effects of Operations and Industry on Market Value in LAMNEs

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
SALES	0.888*** (0.000)			0.366*** (0.000)
PROFITS		0.963***		0.760*** (0.000)
ASSETS			0.622*** (0.000)	-0.199*** (0.000)
IND1Energy	0.098 (0.271)	0.085* (0.088)	0.169 (0.292)	0.082** (0.198)
IND3Materials	0.166* (0.093)	0.021 (0.699)	0.142 (0.424)	0.060 (0.198)
IND4Other	0.066 (0.517)	0.040 (0.479)	0.034 (0.854)	0.050 (0.292)

F-test	51.284***	191.460***	7.502***	202.265***
	(0.000)	(0.000)	(0.000)	(0.000)
Adj. R 2	0.8	0.938	0.340	0.957
	*** $p < 0.001$ ; ** $p < 0.05$ ; * $p < 0.10$			

## Direct Effects of Efficiency Proxies and Industry Presence

While the influence of sales, profits, assets and industrial presence are important, exploring insight into how efficiently LAMNEs utilize their assets to generate value may also shed more light on value creation strategies. Table 2 shows the potential effects of efficiency proxies on market values. As indicated above, three efficiency measures are employed in this study to investigate the role they play in creating market value in LAMNEs. These efficiency measures are presented here anew as follows: Profit/Sales (Profit margin = PMRGN); Sales/Assets (One measure of asset utilization = ASSETUTL1); Profit/Assets (Alternative measure of asset utilization = ASSETUTL2).

Table 2 indicates that none of these efficiency measures explains variations in market value. This lack of association between profit margins and asset utilization may be due to chance or failure of these measures to fully capture true efficiency levels in LAMNEs. This may be so, since true efficiency may be derived and properly captured at local, plant-level operations. In the latter case, discreet local or national operations are unable to influence investors' evaluation of overall, worldwide market values. By contrast, stockholders and other investors usually have access to information on worldwide sales, profits and assets, information that help to influence market evaluation of firms. Based on the statistical results, efficiency indicators, as measured in this study do not explain variations in market values. H2 is rejected.

Table 2. Direct Effects of Profitability, Asset Efficiency and Industry on Market Value in LAMNEs

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
PMRGN	0.042		
(profit/sales)	(0.311)		
ASSETUTL1		-0.062	
(sales/asset)		(0.705)	
ASSETUTL2			0.099
(profit/asset)			(0.481)
IND1Energy	0.244	0.237	0.255
	(0.223)	(0.239)	(0.201)
IND2Financials	0.05	0.024	0.096
	(0.833)	(0.924)	(0.687)
IND3Materials	0.158	0.159	0.155
	(0.483)	(0.476)	(0.485)
IND4Other	0.013	0.021	0.015
	(0.954)	(0.929)	(0.947)
F-test	0.709	0.720	0.795
	(0.619)	(0.611)	(0.557)

## Interaction Effects between Industry and Operations and between Industry and Efficiency Proxies

The empirical results presented in Table 3 show statistically significant and positive interaction effects between industry and operations--SALES, PROFITS and ASSETS—and their impact on market values ( $p < 0.000$  for all estimates of Model 1 through Model 3). Specifically, the results strongly suggest that industry presence appears to have a moderating effect on operations, amplifying the influence of these operations on market values.

However, interaction effects between industry and the efficiency proxies—PMRGN, ASSETUTL1 and ASSETUTL2—were positive but not statistically significant. Reasons for this lack of association between the efficiency measures and industry presence may be similar to ones suggested above: from a statistical artifact of chance, to inappropriate measures of efficiency, to the local nature of efficiency gains that have little or no impact on market valuation of firms. The results are mixed regarding H3: Industry has positive and moderating effects that amplify variations in market values as a result of presence in the energy and materials industries. However, no statistically significant association appears to exist between the efficiency proxies and industry presence, not surprisingly because of the general lack of any association between efficiency and market values as indicated above.

Table 3. Interaction Effects of Industry with Operations, Operational Asset Efficiency on Market Value

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
(SALES*IND)	0.653*** (0.000)					
(PROFITS*IND)		0.732*** (0.000)				
(ASSETS*IND)			0.454*** (0.000)			
(PMRGN*IND) (profit/sales)				0.005 (0.970)		
(ASSETUTL1*IND)(sales/asset)					-0.144 (0.258)	
(ASSETUTL2*IND)						-0.215 (0.278)
F-test	46.110*** (0.000)	71.526*** '(0.000)	16.141*** '(0.000)	0.001 (9.70)	1.305 (0.258)	1.473 (0.377)
Adj. R 2	0.417	0.536	0.340	0.000	0.005	(0.008)

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.05$ ; \*  $p < 0.10$

## IMPLICATIONS AND CONCLUSIONS OF THIS STUDY

The primary goal of this study has been to investigate empirically factors that help explain variations in market value among Latin America's largest firms operating worldwide. Statistical analyses and their results suggest strongly that the source of LAMNE's value creation is embedded in the ability to generate sales, profits and acquire stocks of physical assets as well as the strategic choice to invest in specific industries such as energy and materials. In particular, the results suggest that industry presence appears to have a positive and moderating effect on operations in sales generation, profits and acquisition of assets in creating market values. However, there appears to be no evidence to link efficiency, as measured in terms of profit margins and asset utilization, to market valuation.

Positive effects of operations and industry presence on market values suggest enhanced managerial and technical skills and increased competitiveness of LAMNEs that have made it possible for these firms to be ranked among the largest in the world.

As LAMNEs continue to expand, they will increasingly counter competition from traditional MNEs and other newcomers, particularly from emerging markets of Asia. How the competing groups of MNEs—both traditional versus emerging—adapt to each other’s competitive maneuvers as well as respond to new global FDI opportunities and challenges in a dynamic environment should provide endless research opportunities as well.

For now, based on this study’s narrow investigation and results, opportunities for further research exist on a number of issues. For instance, future studies may focus on collecting and using more firm-level data to investigate and measure specific capabilities among LAMNEs such as workforce efficiency, choice of technologies and managerial techniques deployed in coordinating worldwide operations, among others. New data on the foregoing could shed light on specific internal corporate capabilities that confer competitive advantages on firms through a) growth in market values and b) the accumulation of embedded operational and strategic knowledge.

## REFERENCES

Baggs, J and James A Brander, J.A. (2006). Trade liberalization, profitability, and financial leverage, *Journal of International Business Studies* **37**, 196–211.

Barry, F and C Kearney, C. (2006). MNEs and industrial structure in host countries: a portfolio analysis of Irish manufacturing, *Journal of International Business Studies* **37**, 392–406.

Bodnar, G.M., Tang, C. and Weintrop, J. (1999). Both sides of corporate diversification: the value impacts of geographic and industrial diversification, NBER Working Paper No. 6224.

Denis et al (2002)

Doukas, J. A. and Kan, O. B. (2006). Does global diversification destroy firm value? *Journal of International Business Studies* **37** (3): 352–371.

Dunning, J.H. (1995). Reappraising the eclectic paradigm in an age of alliance capitalism, *Journal of International Business Studies*, 26(3): 461-491.

Dunning, J.H. (1988). The eclectic paradigm of international production: A restatement and some possible extensions, *Journal of International Business Studies* 19:1-31.

Forbes.com. (2008). Forbes Global 2000. Special Edition

Forbes.com. (2007). Forbes .Global 2000. [http://www.forbes.com/lists/2007/18/biz\\_07forbes2000\\_The-Global-2000\\_Rank.html](http://www.forbes.com/lists/2007/18/biz_07forbes2000_The-Global-2000_Rank.html)

Gande, A., Schenzler, C. and Senbet, L.W. (2009) Valuation effects of global diversification. *Journal of International Business Studies*. Washington: Dec 2009. 40, (9): 1515- 1533

Hill, C.W. & C.W. Kim. (1988). Searching for a dynamic theory of the multinational enterprise: A transaction cost model. *Strategic Management Journal* (special issue) 9: 93-104

*Pierre-Xavier, M. (2005). Stock market valuation of joint venture sell-offs, Journal of International Business Studies* 36, 688–700.

United Nations. 2006. World investment report, UNCTAD: Geneva and New York

United Nations. 1995. World investment report, UNCTAD: Geneva and New York

Wooster, R.B. (2006). US companies in transition economies: wealth effects from expansion between 1987 and 1999, *Journal of International Business Studies* **37**, 179–195.

# THE LEGAL NATURE OF DOCUMENTARY LETTERS OF CREDIT IN INTERNATIONAL TRADE: A SOUTH AFRICAN LAW PERSPECTIVE

Dane Ally  
Tshwane University of Technology, South Africa

## ABSTRACT

*The doctrine of “strict compliance” and the fraud exception, which are applicable to documentary letters of credit, are explored. This doctrine entails that banks are obliged to pay a beneficiary if, by exercising due diligence, the bank is satisfied that such documents comply with the terms of the letter of credit. However, some might anxiously ask: Are banks compelled to pay a beneficiary even if he has committed fraud in order to receive payment? This paper answers this issue by considering the provisions of the Uniform Customs and Practice for Documentary Credits, including South African and foreign case law. I conclude that the application of the South African common law principles provide an equitable solution concerning the competing interests of the buyer and the beneficiary, if the buyer can clear the difficult hurdle of having to provide evidence that fraud had indeed been committed.*

## INTRODUCTION

South Africa’s participation in international trade gained significant momentum after it became a constitutional democracy on 27 April 1994.<sup>1</sup> Economic isolation was substituted with access to new markets. This increased exposure to international trade meant that South Africans who were, prior to 27 April 1994, not exposed to international trade, had to acquaint themselves with the legal nature of documentary letters of credit, since it has become a conventional means of payment in international commercial transactions. A letter of credit transaction is an undertaking<sup>2</sup> between the buyer of goods and his bank that the buyer’s bank will pay the seller upon presentation of certain documents specified in the letter of credit.<sup>3</sup>

The *Uniform Customs and Practice for Documentary Credits* (UCP 500)<sup>4</sup> provides that it is applicable to all letters of credit where the terms of the UCP are incorporated into it. In such instances, the terms of the UCP are binding on the parties, unless such terms are expressly excluded in the letter of credit. Although South Africa has not domesticated the terms of the UCP into its national law, it has become a custom or trade usage to incorporate the terms of the UCP expressly in documentary letters of credit.<sup>5</sup> It is important to note that there is one key area where the UCP does not apply – that is, when the issue of fraud as a defence to payment, is at issue. In such instances the dispute must be resolved based on domestic law.<sup>6</sup> It is against this background that this paper explores the doctrine of “strict compliance” which is applicable to documentary letters of credit in international trade, while having regard to the fraud exception as it is applied in South African law.

It is trite law that two fundamental principles are applicable to documentary letters of credit: They are the principle that the letter of credit is autonomous, and the doctrine of “strict compliance”. The former doctrine is not explored in this paper,<sup>7</sup> because our focus is centred on the latter doctrine.

Before I delve into the issues sought to be addressed in this paper, it is appropriate to identify the different parties who are, in general, involved in a letter of credit transaction:

- (a) *The buyer or applicant.* The buyer of the goods is the person that arranges that the issuing bank issues the letter of credit in favour of the seller or exporter.
- (b) *The seller or beneficiary.* The seller or exporter of the goods is the beneficiary of the credit.

- (c) *The issuing bank.* The buyer's bank is the issuing bank. This bank gives an undertaking to another person (usually the seller) that, upon the production of specific documents, it will make payment in terms of the letter of credit.
- (d) *The advising bank.* This bank is usually located in the country where the seller/ beneficiary is domiciled. The issuing bank normally instructs the advising bank to notify the seller of the establishment of the credit. The advising bank has the duty to ensure the authenticity of the credit, "but has no obligation to make payment under the credit".<sup>8</sup>
- (e) *The confirming bank.* This bank is ordinarily also located in the area where the seller/ beneficiary carries on business, and may be a bank where the seller has an account. Unlike the position with the advising bank, the confirming bank gives a separate undertaking to the seller that it will make payment under the letter of credit upon production of specified documents. It follows that the seller would, under these circumstances, have the benefit of undertakings from both the issuing bank and the confirming bank that payment will be made under the terms of the letter of credit.<sup>9</sup>

This contribution is presented in four parts. Part one consists of this introduction, while part two considers the doctrine of "strict compliance" relating to documentary letters of credit; part three explores the fraud exception under the South African common law, followed by the conclusion in part four.

## THE DOCTRINE OF "STRICT COMPLIANCE"

The doctrine of "strict compliance" is contained in article 13(a) of the UCP.<sup>10</sup> Although the principles included in the UCP do not constitute binding law within its conventional meaning, the UCP represents internationally accepted commercial best practices, and parties who incorporate its terms into letters of credit are in this manner bound to those principles.<sup>11</sup>

This doctrine is applied in several jurisdictions, particularly in the United States of America<sup>12</sup> and England.<sup>13</sup> The doctrine of "strict compliance" entails that, in order to receive payment from the relevant bank, the documents presented by the seller or exporter must *on the face of it*<sup>14</sup> "strictly comply" with the terms contained in the letter of credit and accompanying documents.<sup>15</sup> For example, in the case of *Beyene v Irving Trust Co*,<sup>16</sup> the name of the beneficiary was typed inaccurately. The court held that the bank was lawfully entitled to refuse to make payment. In other words, the bank did not – under those circumstances – commit a breach of its obligation to perform in terms of the letter of credit. In similar vein, it was held in *Equitable Trust Co of New York v Dawson Partners Ltd*,<sup>17</sup> that it is "both common ground and common sense" that a confirming bank may "only claim indemnity if the conditions on which it is authorized to accept are in the matter of the accompanying documents strictly observed."

This judgment upholds the important point of view that the issuing bank or confirming bank must effect payment in terms of the letter of credit when the documents presented by the seller or exporter to the issuing or confirming bank conforms to the terms of the letter of credit. It also means that bankers only have to examine letters of credit (and accompanying documents)<sup>18</sup> with reasonable care<sup>19</sup> in order to be indemnified in a dispute where it is alleged that they have breached their undertaking to perform in terms of the letter of credit. The Appellate Division of South Africa (now the Supreme Court of Appeal) embraced this doctrine in the matter of *Delfs v Kuehne & Nagel (Pty) Ltd*.<sup>20</sup> It was common cause that the bank was entitled to refuse payment based on the discrepancy between the letter of credit on the one hand, and the contents of the commercial invoice and the air waybill, on the other hand.<sup>21</sup> It is important to note that insignificant differences – as opposed to discrepancies that go to the essence of the documents – may not be relied upon in order to refuse payment.<sup>22</sup>

However, the doctrine of "strict compliance" may be susceptible to abuse by unscrupulous sellers. An example of such conduct was highlighted as early as 1925 by the dissenting judgment delivered by Cardozo J in *O' Meara v National Park Bank*.<sup>23</sup> The doctrine of "strict compliance" was accordingly relaxed in order to protect honest buyers from such beneficiaries.<sup>24</sup> As indicated earlier, the issue of fraud is not covered by the provisions of the UCP. In the United States, for instance, this issue is governed by the provisions of the *Universal Commercial Code*.<sup>25</sup> The fraud exception – from a South African law perspective – is discussed below.

## THE FRAUD EXCEPTION IN SOUTH AFRICAN LAW

Fraud or forgery, relating to the letters of credit, is committed when a beneficiary falsifies the documents he or she has to submit in order to receive payment, thus knowingly and unlawfully misrepresenting to the bank that he or she has complied with the dictates of the letter of credit – when, in actual fact, he or she did not.<sup>26</sup> At this juncture, two situations must be distinguished, that is, whether fraud had been discovered after payment had been made, and whether fraud had been discovered before payment had been made.

When fraud had been discovered after the bank made payment while exercising reasonable diligence, the bank will be indemnified. It follows that the applicant will have to recover any damages he or she had suffered by initiating criminal or civil proceedings or both, against the beneficiary.<sup>27</sup> It has been said that the applicant must be extremely careful when deciding who it chooses to deal with. This is the case, because in such circumstances, the risk is borne by the applicant or buyer.<sup>28</sup>

Conversely, when fraud is discovered *before* payment had been made; the applicant may prevent the bank from making payment by launching an interdict (also known as an injunction in some jurisdictions) against the bank.<sup>29</sup> This implies that, if the interdict is granted, the seller cannot succeed with a claim of non-performance against the bank on the ground that it failed to make payment. This would be the case, because the court order lawfully prevents the bank from making payment. On the other hand, if the applicant does not succeed with the interdict, and the bank pays despite the allegations of fraud, the applicant faces the onerous task of initiating civil proceedings against the bank and the beneficiary for the recovery of damages.<sup>30</sup> The Appellate Division of the High Court applied the doctrine of “strict compliance” in *Loomcraft Fabrics CC v Nedbank Ltd*<sup>31</sup> when it reasoned that the liability of the bank is based on its undertaking towards the beneficiary to effect payment if the prescribed documents are presented. The court further reasoned that, if the relevant documents are presented, the bank is duty-bound to make payment – unless the applicant produces proof that the beneficiary committed fraud in order to receive payment.

It was alleged in the *Loomcraft* case that fraud had been committed in respect of the date stamped on the transport documents; including the place where the goods were to be shipped (the original details appearing on the document had noticeably been altered). The court authoritatively held that in order to succeed with an interdict, the applicant bears the burdensome duty of having to show, on a balance of probabilities, that the beneficiary committed fraud. However, the court emphasised that this does *not* mean that fraud by the beneficiary – as is the case whenever fraud is alleged in any other case in South African law – may easily be accepted as having been proven. In this regard, Van Niekerk and Schulze note that it has been argued that the court’s point of view that fraud will not easily be inferred, is indicative of the fact that in practise “something substantially more” than proof on a balance of probabilities is required.<sup>32</sup> This point of view is not supported, since section 9 of the South African Constitution guarantees the right to “equal protection and benefit of the law” to everyone.<sup>33</sup> When this section is read contextually<sup>34</sup> with sections 39(2)<sup>35</sup> and 8<sup>36</sup> of the Constitution, it is clear that this common law burden of proof must be applied while having due regard to the provisions of section 9 of the Constitution. In other words, the supreme law of South Africa dictates that every litigant is entitled to equal benefit of the law. Differently put, in order to survive constitutional muster, a compelling reason must exist as to why an honest applicant should be treated differently from any other litigant merely because he seeks assistance from the courts to prevent an unscrupulous beneficiary from unjustifiably gaining from his alleged fraudulent conduct.<sup>37</sup> Furthermore, eminent South African scholars, writing on the subject of the foundations of South African law pertinently describe the unjustifiable inequity occasioned by such unequal treatment of like cases as follows:<sup>38</sup>

*“It is unjust to select arbitrarily different systems of value in considering one case and another. It is unjust to discriminate arbitrarily among equal cases.”*

Viewed in this light, I forcefully submit that it is questionable whether such an unusually burdensome evidentiary rule would survive the rigours of constitutional scrutiny. The firm guidance of the Constitutional Court is awaited on this important issue.

It must be underlined that the *Loomcraft* court was called upon to consider the fraud exception in the narrow sense, given that the applicant relied on fraud based on the face of the document.<sup>39</sup> What if the buyer is,

prior to the application for the letter of credit, fraudulently induced by the beneficiary to open the letter of credit? Would the court consider evidence outside of the letter of credit in order to determine whether fraud had been committed? In striking contrast with the decision of the Supreme Court of Ohio in *Mid-America Tire, Inc v PTZ Trading Ltd*,<sup>40</sup> the South African court in *Union Carriage and Wagon Co Ltd v Nedcor Bank*<sup>41</sup> rendered an *obiter dictum* (an opinion delivered by the court without considering the merits or demerits of the legal issues)<sup>42</sup> to the effect that it would have been prepared to consider evidence outside of the letter of credit so as to determine whether the beneficiary had committed fraud. This generous approach, as opposed to the narrow approach adopted by the Ohio Supreme Court, should be embraced by the courts of South Africa.

## CONCLUSION

The doctrine of “strict compliance” primarily serves to enhance three important purposes in international trade: First, it serves as a vehicle that promotes the commercial effectiveness of the letter of credit; secondly, it makes the task of banks less problematical when acting as facilitators for both the buyer and seller of goods, normally situated in different parts of the world; and, thirdly, it serves the purpose of making letters of credit a trustworthy mode of payment for beneficiaries.

There is no South African authority that clearly supports a fraud exception when the misrepresentation by the seller persuaded the buyer to open a letter of credit. In such circumstances, evidence outside of the documents would be essential in order to prove fraud. Although the *obiter dictum* in the *Union Carriage* case does not constitute binding law, it nevertheless has considerable persuasive value. More importantly, it serves to prevent a dishonest beneficiary from benefiting from his fraudulent conduct. This judgment should be embraced by the courts of South Africa, despite the fact that it implies that the principle that letters of credit deal exclusively with what appears *on the face* of the document – having regard to the principle of reasonableness, and in order to discourage unfair commercial transactions – should be relaxed.

This principle of reasonableness is firmly rooted in the South African common law. This principle entails that the interests of the relevant parties are balanced and weighed against each other, with the aim of reaching a decision that is reasonable, having regard to all the circumstances of the case.<sup>43</sup> For example, this concept is applied in criminal law and in the law of delict to determine whether a person exceeded the bounds of self-defence, or whether a police officer went beyond the limits of justifiable homicide when he or she attempted to affect an arrest. More to the point, the courts of South Africa apply this principle in disputes relating to unfair competition.<sup>44</sup> Against this background, there appears to be no compelling reason why the principle of reasonableness may not effectively be applied to grant an urgent interdict in favour of a buyer when it is evident that the beneficiary will, to the detriment of an honest buyer, unduly benefit from his or her fraudulent conduct.<sup>45</sup>

To be sure, such an application of the principle of reasonableness will make a significant contribution towards the advancement of fair international business transactions, if the buyer can satisfy the weighty burden of having to show that fraud had in fact been committed. Unfortunately, satisfying this threshold burden depends on evidence, the existence of which is, more often than not, within the particular knowledge of the alleged fraudster – not the buyer. Applicants should, for this reason, be extremely prudent when deciding on a seller or beneficiary while relying on the letter of credit as a means of payment. This problem is, however, not unique to the South African legal system. I submit that this drawback of the letter of credit is an unavoidable outcome of the two important principles which govern the legal nature of the letter of credit, that is, the principle that the letter of credit is autonomous, and the doctrine of “strict compliance”. In my view, any attempt to relax the function of these principles even further would unquestionably weaken the economic effectiveness of the letter of credit.

Lastly, I am of the view that the abnormally demanding evidentiary rule, suggested as being applicable to instances when an applicant relies on the fraud exception, should not be adopted by the Constitutional Court of South Africa.

## ENDNOTES

1. Hartzenberg & Cassim (2007) 356.

2. Which is an independent contract from the contract of sale entered into by the seller and the buyer? The contract of sale is usually referred to as the underlying contract.
3. Chow & Schoenbaum (2005) 252.
4. See article 1 of the UCP issued by the International Chamber of Commerce (ICC) in 1994 under Publication Reference Number 500 of the ICC. See also the terms of the *Uniform Commercial Code*, issued by the ICC in 1994.
5. See Van Niekerk & Schulze (2000) 219.
6. Chow & Schoenbaum note 3 above 252.
7. For a general discussion of the doctrine of autonomy, see Chow & Schoenbaum note 3 above 270-275, and Van Niekerk & Schulze note 5 above 245-247.
8. Clasen (1990) 8-13 to 8-15.
9. See Van Niekerk & Schulze (2000) 212-214; also Clasen note 8 above 8.13 to 8.15.
10. Article 13(a) of the UCP, in pertinent form, reads as follows: "Banks must examine all documents stipulated in the Credit with reasonable care, to ascertain whether or not they appear, on their face, to be in compliance with the terms and conditions of the Credit. Compliance of the stipulated documents on their face with the terms and conditions of the Credit shall be determined by international standard banking practice as reflected in these Articles. Documents which appear on their face to be inconsistent with one another will be considered as not appearing on their face to be in compliance with the terms of and conditions of the Credit."
11. Chow & Schoenbaum note 3 above 277.
12. For a general discussion of the position in the USA, see Chow & Schoenbaum note 3 above 270-321.
13. See, for example, the matter of *Equitable Trust Co of New York v Dawson Partners Ltd*, (1927) 2 App Rep 49.
14. In *Rayner and Company Ltd v Hambro's Bank Ltd* [1943] 1 King's Bench 37, the letter of credit described the goods as "coromandel groundnuts" whereas the bill of lading described it as "machine-shelled groundnut kernels". Evidence was led in the court below that both descriptions – in this particular trade – refer to one and the same product. The bank refused to make payment, because it was not conversant with this particular trade usage. The court held that the bank was justified in refusing payment, because, *on the face of it*, there was a discrepancy on the documents. This judgment suggests that buyers and beneficiaries have a duty towards banks to ensure that their intentions are unambiguous when drafting the relevant documentation.
15. Chow & Schoenbaum note 5 above 270.
16. 762 F 2d 4 (2d Circ 1985); see also *Mutual Export Corp v Westpac Banking Corp*. 983 F 2d (420 (2d Circ 1993); and *Hanil Bank v PT Bank Negara Indonesia* US District Court, Southern District of New York, 2000 No 96 Civ 3201, 41 UCC Rep Serv 2d 618, cited in Chow & Schoenbaum note 5 above 275.
17. (1927) 2 App Rep 49 52. However, compare *Voest-Alpine Trading USA Corp v Bank of China* 167 F Supp 2d 940 (SD Tex 2000), where the district court decided that documents describing the beneficiary as "Voest-Alpine USA Trading Corp" instead of "Voest-Alpine Trading USA Corp" did not validate the decision of the bank to refuse payment in terms of the letter of credit. This more flexible approach is preferred above the rigid approach suggested in the *Hanlil Bank* decision.
18. Documents that may accompany the letters of credit are, *inter alia*, marine bills of lading, non-negotiable sea waybills, charterparty bills of lading, multimodal transport documents, air transport documents, courier and post receipts, insurance documents, commercial invoices, etc. See articles 23-38 of the UCP 500.
19. Article 13 of the UCP; see also Van Niekerk & Schulze note 5 above 247.
20. (1990) 1 SA 822 (A).
21. The letter of credit indicated that the exporter would supply 50 gazelle, 100 impala and two cheetah to a buyer in Saudi Arabia. However, the invoice and the air waybill reflected that only 47 gazelle, 104 impala and two cheetah had been transported to Saudi Arabia.
22. Van Niekerk & Schulze note 5 above 248.
23. 239 NY 386, 146 NE 636. In this case the majority judgment held that the bank should not be concerned about the underlying contract between the seller and the buyer. It must fulfil its obligation to pay the seller when the required documents have been presented. Cardozo J was of the opinion that, when a bank pays upon the presentation of a bill of lading which misrepresents the nature of the goods, it should have a remedy.
24. Van Niekerk & Schulze note 5 above 240-241.
25. Chow & Schoenbaum note 3 above 286.
26. Snyman (2008) 531 an eminent South African criminal law scholar, defines fraud in these terms; see also Neethling, Potgieter & Visser (2010) 297.
27. Van Niekerk & Schulze note 5 above 251.

28. *Phillips v Standard Bank of SA Ltd* 1985 3 SA 301 W.
29. The *Phillips* case note 28 above.
30. Chow & Schoenbaum note 3 above 288-289 makes a similar point with regard to the legal position in the USA. See also Van Niekerk & Schulze note 5 above 252.
31. 1996 1 SA 812 (A).
32. Note 5 above 253.
33. See section 9(1) of the Constitution of the Republic of South Africa, 1996, (the “Constitution” or “Bill of Rights”) provides as follows: “Everyone is equal before the law and has the right equal protection and benefit of the law.” Because the fraud exception forms part of our the common law, the common law burden of proof must be developed and adapted in order to give effect to the spirit, purport and goals sought to be advanced by the Bill of Rights – see sections 39(2) and 8 of the Constitution, as well as notes 35 and 36 below.
34. For a discussion of this form of interpretation, see Currie & De Waal ((2005) 156, who explain this concept as follows: “When it comes to the interpretation of particular provisions of the Bill of Rights, the courts use other provisions of the Constitution and the Bill of Rights to provide a further context for the interpretation of individual provisions of the Bill of Rights.”
35. This section provides as follows: “When interpreting any legislation, and when developing the *common law* or customary law, every court, tribunal or forum must promote the spirit, purport and objects of the Bill of Rights.” (Emphasis added).
36. Subsection 3(a) of this section reads as follows: “When applying a provision of the Bill of Rights ... a court in order to give effect to a right in the Bill, must apply, or if necessary *develop*, the *common law* to the extent that legislation does not give effect to that right.” (Emphasis added).
37. See, in this regard, the difficult test adopted by the Constitutional Court in the seminal case of *S v Makwanyane* 1995 3 SA 391 (CC) that must be satisfied by a beneficiary in order to justify such an unusual burden of proof. For a discussion of the justifiability standard adopted in the *Makwanyane* case, see Currie & De Waal note 34 above 178-186.
38. Hahlo & Kahn (1968) 35.
39. Fraud in the narrow sense is limited to fraud in respect of the documents, while fraud in the broad sense is concerned with fraud perpetrated by conduct outside of the documents.
40. 2002, 95 Ohio St 3d 362, 768 N E 2d 619.
41. 1996 CLR 724 (W).
42. Du Plessis (1999) 241 gives an explanation of this concept in the following terms: “Not everything the court decides with respect to the question of law is binding, however; only the *ratio decidendi* (the actual reason for the conclusion of law) is binding. *Obiter dicta*, that is [sic] remarks on legal issues made in passing and which are strictly speaking not necessary to arrive at the particular legal finding which the court eventually makes, are not binding.” However, I must add that, despite the fact that *obiter dicta* are not binding, it is common knowledge that they do have considerable persuasive value, particularly in the absence of contradictory authority.
43. Neethling (2010) 4 TSAR 825.
44. Neethling note 43 above 825.
45. Van Niekerk & Schulze note 5 above 253 express a similar point of view.

## REFERENCES

### Primary sources

#### Case law

*Beyene v Irving Trust Co* 762 F 2d 4 (2d Circ 1985).

*Delfs v Kuehne & Nagel (Pty) Ltd* (1990) 1 SA 822 (A).

*Equitable Trust Co of New York v Dawson Partners Ltd*, (1927) 2 App Rep 49.

*Hanil Bank v PT Bank Negara Indonesia* US District Court, Southern District of New York, 2000 No 96 Civ 3201, 41 UCC Rep Serv 2d 618.

*Loomcraft Fabrics CC v Nedbank Ltd* 1996 1 SA 812 (A).

*Mid-America Tire, Inc v PTZ Trading Ltd* 2002, 95 Ohio St 3d 362, 768 N E 2d 619.

*Mutual Export Corp v Westpac Banking Corp.* 983 F 2d (420 (2d Circ 1993).

*O' Meara v National Park Bank* 239 NY 386, 146 NE 636.

*Phillips v Standard Bank of SA Ltd* 1985 3 SA 301 (W).

*Rayner and Company Ltd v Hambro's Bank Ltd* [1943] 1 King's Bench 37.

*S v Makwanyane* 1995 3 SA 391 (CC)

*Union Carriage and Wagon Co Ltd v Nedcor Bank* 1996 CLR 724 (W).

*Voest-Alpine Trading USA Corp v Bank of China* 167 F Supp 2d 940 (SD Tex 2000).

## **Other primary sources**

Constitution of the Republic of South Africa, 108 of 1996.

*Uniform Customs and Practice for Documentary Credits* ICC Publication Reference Number 500 (1994).

## **Secondary sources**

Chow, D. C. K., & Schoenbaum, T. J., *International Business Transactions*. New York: Aspen Publishers (2005).

Clasen, T. F., *Foreign Trade and Investment: A Legal Guide*. 2<sup>nd</sup> edition, Milwaukee, Wisconsin: Butterworth, (1990).

Currie, I., & De Waal, J., *The Bill of Rights Handbook*. 5<sup>th</sup> edition, Lansdowne, Cape Town: Juta & Co. Ltd, (2005).

Du Plessis, L., *An Introduction to Law*. 3<sup>rd</sup> edition, Wetton, Cape Town: Juta & Co. Ltd, (1999).

Hahlo, H. R., & Kahn, E., *The South African Legal System and its Background*. Wetton, Cape Town: Juta & Co. Ltd, (1968).

Hartzenberg, T., & Cassim, R., *Africa and the World Trading System*. Trenton, New York: Africa World Press, Inc., (2007).

Neethling, J., & Potgieter, J. M., *Law of Delict*. 6<sup>th</sup> edition, Durban: Lexisnexis, (2010).

Neethling, J. "Arrest without a Warrant and Abuse of Right" (2010) 4 *Tydskrif vir die Suid-Afrikaanse Reg (Journal of South African Law)* 821-826.

Snyman, C. R., *Criminal Law*. 5<sup>th</sup> edition, Durban: Lexisnexis, (2008).

Van Niekerk, J. P., & Schulze, W. G., *South African Law of International Trade: Selected Topics*. Pretoria: SAGA Legal Publications CC, (2000).

# **INDUSTRIES OF THE FUTURE AND EMERGING TECHNOLOGIES: A VISION FOR A SUSTAINABLE FUTURE**

**Maria Fatima Ludovico de Almeida**  
**Pontifical Catholic University of Rio de Janeiro, Brazil**  
**Carlos Augusto Caldas de Moraes, Candido Mendes University, Brazil**

## **ABSTRACT**

*Prospective assessments of how the future industries will face technological advances may seem a paradox, given the high degree of uncertainty and complexity inherent to the diffusion of innovations. Conversely, this paper - which is based on a prospective study carried out by the authors in 2010 – emphasizes the importance of understanding and anticipating the global driving forces and the key factors that will directly influence the diffusion of emergent technologies into industrial processes concerning eight sectors, namely: health; agro industries; forest systems; energy; buildings; mobility; telecommunications; and materials. The purpose of this paper is to present the main findings of this prospective study, reinforcing that there are certain sectors and specific patterns of innovation that need to be taken into account in public policies, corporate strategies and academic R&D orientation towards a 2030 vision for a sustainable future.*

## **INTRODUCTION**

Emerging technologies based on biotechnology, nanotechnology, information and communication technologies (ICT), and green chemistry will shape the future of some industries and will transform many others. In many cases, these technologies will determine the development and restructuring of industries as never before. These changes, in turn, will promote debates and revisions of current regulatory frameworks and corporate business models.

Will the new technologies findings be focused on radical innovative solutions that will generate new businesses? Or will technological advances be more incremental, concerning the improvement of existing technologies and businesses? Which new industrial configurations will emerge as a result of the diffusion of innovations related to biotechnology, nanotechnology, green chemistry, and ICT? And at what pace? To what extent the so-called emergent technologies will create or resolve ethical dilemmas?

These are questions for which planning based on prospective studies, particularly prospective scenarios, offers a robust conceptual framework. In fact, prospective scenarios are addressed for complex and highly volatile environments, organizing and revealing uncertainties and trends concerning the analysis of potential impacts of emerging technologies on current and future industrial configurations in long-term horizons (Georgantzis and Acar, 1995; Schoemaker and Van der Heijden, 1992; Van der Heijden, 2005; Schwartz, 1996; 2004).

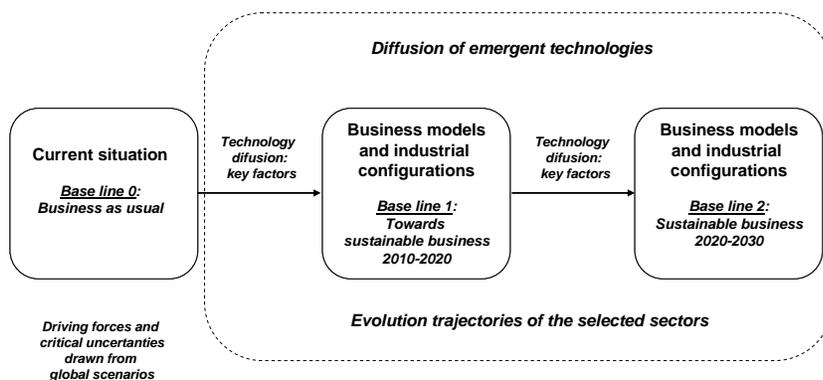
This paper - which is based on a prospective study carried out by the authors in 2010 – emphasizes the importance of understanding and anticipating the global driving forces and the key factors that directly influence the diffusion of emergent technologies into industrial processes concerning eight sectors, namely: health; agro-industries; forest systems; energy; buildings; mobility; telecommunications; and materials. The purpose of this paper is to present the main findings of this prospective study, reinforcing that there are certain sector- and technology-specific patterns of innovation that need to be taken into account in public

policies aligned to a vision for a sustainable future. It was assumed that the evolution of these sectors based on emergent technologies' diffusion and respective public policies would have a great impact on the achievement of a vision for a sustainable future in 2030.

## CONCEPTUAL MODEL

Figure 1 represents the conceptual model developed and adopted in the prospective study. It integrates four basic elements: (i) the current situation as a baseline (*business as usual* scenario); (ii) diffusion of innovations based on emerging technologies in the selected sectors, focusing on the mentioned new technologies; (iii) business models and industrial configurations along the period from 2010 to 2020, and (iv) business models and industrial configurations aligned to a vision for a sustainable future in 2030 (period from 2020 to 2030).

**Figure 1: Basic structure of the conceptual model**



From the current situation analysis, sectorial outlooks were described as a basis for constructing the “business as usual” scenario (*Base line 0*, in Figure 1). The analysis of long-term global scenarios led to the identification of the main driving forces, trends, and critical uncertainties that would influence the business models and industrial configurations concerning each sector along the period of 2010 – 2020.

In the sequence, with the adoption of prospective scenario’s methodologies reviewed in the first phase of the research (Godet, 2001; Schoemaker, 1992; Van der Heijden, 2005; Schot, 1998; Georgantzis and Acar, 1995), it was possible to describe the evolution trajectories concerning the eight sectors for the first ten years. The 2020 future scenes for these sectors were translated into new baseline (*Base line 1*, in Figure 1). From these new baseline and considering the diffusion of the so-called emergent technologies in a time horizon of 10 years, the evolution trajectories of the above-mentioned sectors were designed within the perspective of a sustainable future in 2030 (*Base line 2*).

As already mentioned, the prospective study’s scope encompasses eight sectors, and four groups of emergent technologies. The selected sectors include health; agro industries; forest systems; energy; building; mobility; telecommunications; and materials. For developing a cross-impact analysis focusing on the diffusion of emerging technologies on industrial configurations associated to the selected sectors, the following emerging technologies were considered: biotechnology; nanotechnology; green chemistry; and information and communication technologies (ICT).

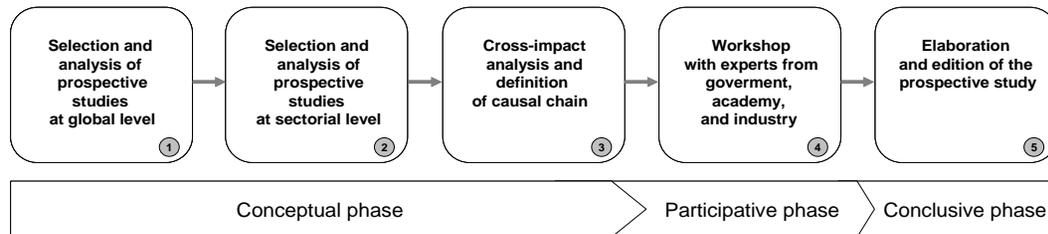
## METHODOLOGY

Aligned with the qualitative model represented in Figure 1, a schematic overview of the prospective study development is showed in Figure 2. It comprised three main phases: (i) conceptual; (ii) participative; and (iii) conclusive.

The conceptual phase encompassed: (i) bibliographic and documentary reviews covering the research central themes and prospective studies; (ii) selection and analysis of systemic prospective studies at global level; and (iii) identification and analysis of prospective studies focusing the technologies and the sectors selected.

Concerning the bibliographic review, the following theoretical frameworks were considered: (i) dynamic approaches to innovation systems (Geels, 2004; 2005; 2008; Breschi and Malerba, 1998; Malerba, 2004; Johnson, 1998; Bergek, 2002; Bergek and Jacobsson, 2003; Carlsson and Jacobsson, 2004; Edquist, 2004); (ii) technology assessment approaches, in particular its constructive perspective (Smits et al. 1995; Sanmartín and Hronszky, 1994; Todt, 2002; Schot, 1992; Sanmartín and Ortí, 1992; Schot and Rip, 1998; Shrader-Frechette, 1985); and (iii) scenarios building (Van der Heijden, 2005; Schoemaker and Van der Heijden, 1992; Schwartz, 1996; 2004), with special attention to cross-impact analysis as proposed by Godet (2001).

**Figure 2: Development of the prospective study: a schematic overview**

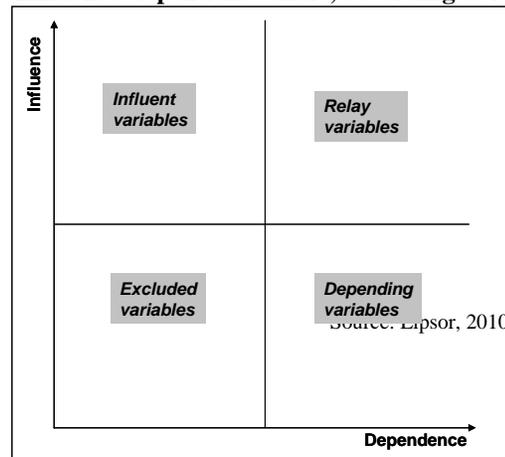


In relation to the analysis of systemic prospective studies at global and sectorial levels, several documents were selected and reviewed with an attempt to: (i) mapping the driving forces that will influence the diffusion of emergent technologies and the evolution of sectorial trajectories; (ii) identifying the main trends and critical uncertainties drawn from multiple scenarios; and (iii) identifying key issues concerning emergent technologies advances, new business models and future industrial configurations.

By way of illustration, three prospective studies at global level were consulted and reviewed: (i) “Mapping the Global Future 2020”, a study prepared by the U.S. National Intelligence Council, in 2002, (ii) “Global Scenarios 2025”, which were prepared by Shell in 2005; and (iii) “Global Scenarios 2065”, proposed by the Global Scenario Group as part of the normative study "Great Transition", published in 2002. At sectorial level, the main reference adopted was a prospective study titled “Vision 2050: the new agenda for business”, which was published in 2010 by the World Business Council for Sustainable Development.

The cross-impact analysis aimed at: (i) identifying the key system variables (internal and external); (ii) mapping the inter-relationships and relevance of these variables for explaining the evolution of the system; and (iii) building the causal chain of the system, comprising the set of eight selected sectors, in this case. Basically, the cross-impact analysis method comprised: (i) identification and description of key variables; (ii) expert judgment about the relationships between variables within a structural matrix; (iii) classification of variables adopting MICMAC method proposed by Godet (Lipsor, 2010); and (iv) design of the influence-dependence chart (Figure 3) and its corresponding influence graphs, which provided all the information needed to build the causal chain of the system.

**Figure 3: Influence-dependence chart, according to MICMAC method**



In the *participative phase*, a workshop was held in Brasilia in September 2010 and was attended by more than 60 experts from Brazilian government, academy, and industry. The objectives of this workshop were: (i) to

validate the partial results from the conceptual phase; (ii) to build a vision for a global sustainable future, concerning the eight selected sectors (time horizon: 2030), (iii) to design the evolution trajectories of the selected sectors in a horizon of 20 years, considering key factors that will influence the diffusion of emergent technologies in two periods of time (2010-2020: and 2020-2030); and (iv) to analyze the implications for Brazilian public policies, corporate strategies and academic R&D orientation towards the 2030 vision for a sustainable future.

Finally, in the conclusive phase, the results of previous phases were consolidated in a final report entitled “*Prospective study on industries of the future and emerging technologies: a vision for a sustainable future*” (CGEE, 2010). The present paper summarizes the main findings presented in that document.

## RESULTS OF THE PROSPECTIVE STUDY

This section presents the results of the prospective study, focusing on its conceptual and participative phases (See Figure 2). Considering the qualitative nature of the model and the methods of analysis that were employed, the research focus was on qualitative results and insights. To accomplish this, the application of the MICMAC method proposed by Michel Godet (Lipsor, 2010) during the conceptual phase was crucial, given its capacity for reconstructing the causes of any result of the participative phase by backtracking the impact flows within a given configuration.

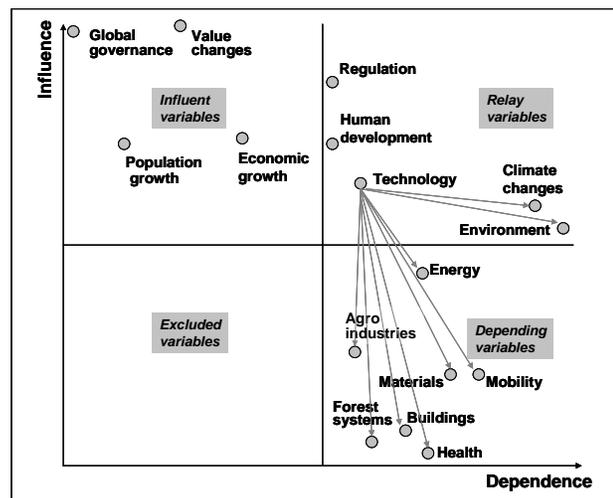
### Main Results of the Conceptual Phase

During the conceptual phase, it was possible to identify a preliminary list of variables based on the analysis of previous global prospective studies conducted by competent institutions in this field. The application of MICMAC method helped to validate this preliminary list, confirming the adequacy of the original selection.

The main results from the conceptual phase can be summarized as follows: (i) a list of key variables or external forces that drive the evolution of the system towards the desired direction – a sustainable future; (ii) a list of relay variables, according to Figure 2; (iii) a list of depending variables; (iv) an influence-dependence chart, showed in Figure 3; and (v) a corresponding influence graph, showing the relationships between variables.

The key variables are the following: values’ change; global governance; economic growth; and population growth. The five relay variables are: human development; regulation; technology diffusion; climate change and environment. Finally, the eight depending variables are directly associated to the selected sectors. Figure 4 represents the influence-dependence chart, which together with its corresponding influence graph, formed the basis for scenarios’ building during the participative phase (See Figure 2).

**Figure 4: Industries of the future and emerging technologies: influence-dependence chart**



## Main Results of the Participative Phase

All the objectives of the participative phase were achieved. The results and discussions of the Brasilia Workshop allowed the validation of the partial results from the conceptual phase; building a vision for a global sustainable future, focusing on eight selected sectors; and the design of future sectorial trajectories in two periods of time (2010-2020, and 2020-2030).

The scenario-building exercises developed during the participative phase have produced important insights concerning challenges of current situation and have showed which new technologies are relevant for governments, companies, and other stakeholders to face them. The scenarios designed for two periods (2010-2020, and 2020-2030) highlighted how the new technologies, considering social, economic, and political forces can support a sustainable future.

Due to space constraints, only the results for the energy sector are shown in this paper (See Table I). The findings concerning the remaining sectors can be found in the final report of the prospective study (CGEE, 2010).

**Table 1: Scenarios and diffusion of emergent technologies: focus on energy sector (Part I)**

Item	Description
Current situation: main challenges	<ul style="list-style-type: none"> <li>• International consensus on the need for an effective global greenhouse gas management system.</li> <li>• Multilateral and international discussions to set a price of carbon at a global level.</li> <li>• Effective policies to reduce the production costs of energy and to increase the efficiency of other forms of energy generation.</li> <li>• Intensive use of incentive mechanisms and guidelines concerning eco-efficiency (globally and locally).</li> <li>• Education on energy consumption habits regarding cost savings and environmental benefits related to eco-efficiency.</li> <li>• Feasibility demonstration and risk assessment for regulatory and public acceptance of promising technologies such as carbon capture and sequestration (CCS), nuclear and biomass.</li> <li>• Regionalization of energy solutions based on emergent technologies.</li> </ul>
Diffusion of key emergent technologies	<ul style="list-style-type: none"> <li>• <b>Biotechnology:</b> biofuels; biorefineries (biomass fractionation and conversion); microorganisms' biotechnology; synthetic biology, enzyme and fermentation technologies.</li> <li>• <b>Nanotechnology:</b> nanomaterials for renewable energy devices, including photovoltaic cells, fuel cells, wind power, among others; nanostructured catalysts for the petroleum industry and ethanol production; nanomaterials for ethanol and bioethanol production and reuse of biomass; new and more efficient lighting systems (both organic and inorganic LEDs); nanotechnology for power generation and storage (nanobatteries and capacitors); hydrogen technologies.</li> <li>• <b>Green chemistry:</b> remediation processes applied to fossil raw materials.</li> <li>• <b>Information and communication technologies:</b> systems for detecting leaks of chemicals (bio-nano-ICT convergence); new algorithms for digital Programmable Logic Controllers (PLC); new algorithms for power line communications; smart grids; new algorithms and artificial intelligence for seismic activities; systems for detecting potentially dangerous gases; and basic sensory mesh networks using Zigbee.</li> </ul>
Scenario 2010-2020	<ul style="list-style-type: none"> <li>• <b>Fossil fuels:</b> (i) the oil and natural gas industry will continue to be dominated by cartels at a global level; rising costs of exploration and production (remote reserves); and search for technological solutions concerning alternative sources of energy; (ii) increasing use of coal as energy source and search for new technological solutions towards cleaner processes regarding this energetic source; (iii) increasing consumption of natural gas, and search for technological alternatives for enhancing its use, especially regarding their chemical transformations; and (iv) potential exploration of shale and bituminous sources as well as oil reserves of very low API</li> </ul>

level, depending on the viability of alternative technological solutions.

**Table 1: Scenarios and diffusion of emergent technologies: focus on energy sector (Part II)**

Item	Description
Scenario 2010-2020 (Cont.)	<ul style="list-style-type: none"> <li>• <u>Energy renewable sources' fuels</u>: (i) moderate growth of hydroelectric generation by 2020, (ii) continued growth of small-scale hydroelectricity plants by using existing, proven technologies; (iii) potential growth of solar thermal energy, by using existing, proven technologies; (iv) large potential growth of solar energy, due to several safe and economic technological innovations; (v) increasing use of some types of microbial biomass as feedstock for biofuels, like micro algae; (vi) rapid growth of ethanol production as fuel, which could be even greater due to new technologies diffusion (especially, lignocellulosic ethanol); (vii) huge growth of bio-jet fuels due to existing proven technologies (biodiesel) and those in development (BTL); (viii) utilization of waste based on densification technologies (pyrolysis) and gasification (BTL), as well as on alternative biotechnology applications, and (ix) strong prospects for profitability and growth of wind power, particularly in specific geographic conditions. Growth is fuelled by rapid technological development enabling large-scale energy production at a competitive cost per produced kWh.</li> <li>• <u>Other energy sources</u>: (i) potential growth of nuclear energy, by using safe and proven technologies; (ii) high growth (immediate and continuous) regarding the use of eco-efficiency technologies; (iii) moderate growth of hydrogen as energy source, mainly observed in specific market niches.</li> </ul>
Scenario 2020-2030	<ul style="list-style-type: none"> <li>• Significant decline of greenhouse gas emissions.</li> <li>• Competitiveness of solar energy.</li> <li>• Increasing use of clean energies in developing countries.</li> <li>• Nuclear power generation will remain crucial for mitigating climate changes in this period.</li> <li>• There will be stagnation concerning the generation of hydroelectric power by 2030.</li> <li>• Particularly, in relation to fossil fuels, it can be mentioned: (i) potential change in the rate of growth of oil supply due to the emergence of new remote reserves, e.g. pre-salt in Brazil; (ii) potential change in the rate of growth of coal use, due to the diffusion of alternative technologies for the application of coal-type coal to liquids (CTL), dimethyl ether (DME) and in situ gasification; (iii) increasing consumption of natural gas, with potential changes in its growth rates, due the emergence of alternative technologies for implementing such dimethyl ether (DME) and GTL offshore, and (iv) exploration of the potential use of shale and bituminous sources, due to the diffusion of disruptive alternative technological solutions.</li> </ul>

## CONCLUSIONS

The aim of this paper was to emphasize the importance of understanding and anticipating the global driving forces and the key factors that directly influence the diffusion of emergent technologies into industrial configurations and processes. The prospective study focused on eight sectors – health; agro industries; forest systems; energy; buildings; mobility; telecommunications; and materials – and demonstrated the usefulness of a variant of cross-impact methodology for building scenarios in uncertain environments. The cross-impact analysis revealed four driving forces, namely *values' change*; *global governance*; *economic growth*; and *population growth*; five relay variables (*human development*; *regulation*; *technology diffusion*; *climate change and environment*), and eight depending variables, which are directly associated to the selected sectors.

The analysis of the diffusion of emergent technologies in these eight sectors showed that this method generated a number of interesting results, which could be validated during a workshop (expert panel) involving more than 60 representatives of Brazilian government, universities, and industrial sectors. The main findings of the prospective study reinforced that there are certain sector- and technology-specific patterns of innovation that need to be taken into account in public policies and corporate strategies aligned to

a vision for a sustainable future. It was assumed that the evolution of these sectors based on the diffusion of emergent technologies would have a great impact on the achievement of the vision for a sustainable future in 2030.

The scenario-building exercises developed during the expert panel have produced several important insights that are useful for developing public policy programs intended to stimulate and support innovations concerning biotechnology, nanotechnology, green chemistry, and ICT prospects. They could help companies to establish their corporate strategies, and also academic institutions to define their R&D orientation. The scenarios highlighted how a sustainable future can be supported by emergent technologies, considering social, economic, and political forces, and providing decision-makers with relevant information to their future strategic choices.

## REFERENCES

Bergek, A. *Shaping and exploiting technological opportunities: the case of renewable energy technology in Sweden*. Department of Industrial Dynamics. Chalmers University of Technology, Göteborg. 2002.

Bergek, A.; Jacobsson, S. The emergence of a growth industry: a comparative analysis of the German, Dutch and Swedish wind turbine industries. Metcalfe, S. & Cantner, U.: Change (eds.) *Transformation and Development*. Heidelberg Physica-Verlag, p. 198-228. 2003.

Breshi, S.; Malerba, F. Sectorial innovation systems: technological regimes, schumpeterian dynamics, and spatial boundaries. In: Edquist, C. (ed.). *Systems of innovation: technologies, institutions, and organizations*. London: Pinter. p. 130-156, 1998.

Carlsson, B.; Jacobsson, S. Dynamics of innovation systems: policy-making in a complex and non-deterministic world. In: *Proceedings of International Workshop of Functions in Innovation Systems*. University of Utrecht. 2004.

Centro de Gestão e Estudos Estratégicos. *Prospective study on industries of the future and emerging technologies: a vision for a sustainable future*. Mimeo. Brasília: CGEE. September 2010.

Edquist, C. Systems of innovation: perspectives and challenges. In: Fagerberg, J. Mowery, D.C.; Nelson, R.R. (Eds.) *The Oxford Handbook of Innovation*, Oxford: Oxford University Press, 2004.

Elzen, B.; Geels, F.W.; Green, K. *System Innovation and the transition to sustainability: theory, evidence and policy*. Cheltenham: Northampton: Edward Elgar, 2004.

Geels, F.W. From sectoral systems of innovation to socio-technical systems: insights about dynamics and change from sociology and institutional theory. *Research Policy*, v. 33, n. 6/8, p.898–920. 2004.

Geels, F.W. *Technological transitions and system innovations: a co-evolutionary and socio-technical analysis*, Cheltenham: Edward Elgar, 2005.

Geels, F.W.; Schot, J.W. Typology of sociotechnical transition pathways. *Research Policy*, v. 36, n. 3, p. 399–418, 2008.

Georgantzias, N. C.; Acar, W. *Scenario-driven planning: learning to manage strategic uncertainty*. Westport, Connecticut: Quorum Books, 1995.

Global Scenario Group. *Great transition: the promise and lure of the times ahead*, GSG, 2002.

Godet, M. *Manuel de prospective stratégique: tome 1 – une indisciplinée intellectuelle*. 2. ed. Paris: Dunod, 2001.

Johnson, A. *Functions in innovation system approaches*. Department of Industrial Dynamics, Chalmers University of Technology, Göteborg. Working paper. 1998.

Lipsor. *MICMAC: se poser les bonnes questions et identifier les variables clés*. Laboratoire d'Investigation en Prospective, Stratégie et Organisation. 2010. Available in: <<http://www.3ie.fr/lipsor/micmac.htm>>. Access: May 2011.

Malerba, F. Sectoral systems of innovation: basic concepts. In: Malerba, F. (ed.) *Sectoral systems of innovation*, Cambridge: Cambridge University Press, p. 9-41. 2004.  
National Intelligence Council. *Mapping the Global Future 2020*. December 2002.

Sanmartín, J.; Hronszky, I. (eds.) *Superando fronteras: estudios europeos de cienciatecnología-sociedad y evaluación de tecnologías*. Barcelona: Anthropos, 1994.

Sanmartín, J.; Ortí, A. Evaluación de tecnologías. In: Sanmartín, J et al (eds). *Estudios sobre sociedad y tecnología*. Barcelona: Anthropos, 1992.

Schoemaker, P. J. H.; Van der Heijden, C. A. J. M. Integrating scenarios into strategic planning at Royal Dutch/ Shell: case study. *Planning Review*, May/June 1992, p. 41- 46, 1992.

Schot, J. W. Constructive technology assessment and technology dynamics: the case of clean technologies. *Science, Technology & Human Values*, v.18, n.1, p. 36-56, 1992.

Schot, J. W.; Rip, A. The past and future of constructive technology assessment. *Technology Forecasting and Social Change*, v.54, p.251-268, 1998.

Schwartz, P. *The art of the long view: planning for the future in an uncertain world*. New York: Doubleday Pub., 1996.

Schwartz, P. *Inevitable surprises*. New York: Gotham Books, 2004.

Shell. *Global Scenarios 2025*. 2005. Available in: <<http://www.shell.com>>. Access: April 2011.

Shrader-Frechette, K. Technology assessment, expert disagreement, and democratic procedures. *Research in Philosophy & Technology*, v.8, 1985.

Smits, R.; Leyten, J.; Den Hertog, P. Technology assessment and technology policy in Europe: new concepts, new goals, new infrastructures, *Policy Sciences*, v. 28, p.281-299, 1995.

Todt, J. O. *Innovación y regulación: la influencia de los actores sociales en el cambio tecnológico: el caso de la ingeniería genética agrícola*. 293 p. Tesis Doctoral. Universitat de Valencia. 2002.

Van der Heijden, K. *Scenarios: The art of strategic conversation*. 2.ed. West Sussex: John Wiley & Sons, 2005.

World Business Council for Sustainable Development. *Vision 2050: the new agenda for business*. 2010.

# **BOARD EFFECTIVENESS IN STRATEGY IMPLEMENTATION: A PRELIMINARY ANALYTICAL FRAMEWORK**

**Marcio Alves Amaral-Baptista, Maria Angela Campelo de Melo  
and T. Diana L. v. A, de Macedo Soares  
Pontifical Catholic University of Rio de Janeiro – IAG Business School**

## **ABSTRACT**

*We present a preliminary analytical framework for non-structural factors affecting boards of directors' effectiveness in managing strategy implementation. Going beyond the recent research on boards, focused on structure and performance, we investigate the role of work processes, dynamics and firm/environment level context. Departing from influential general board performance models, we ground our work on behavioral and contingency theoretical perspectives, attempting to identify the factors which may contribute to boards' effective involvement in strategy implementation. By analyzing the behaviors and work practices required to improve the quality of boards' intervention in that process, we contribute to an emerging research stream that aims to understand the 'black box' of board functioning.*

## **INTRODUCTION**

Why do boards fail in behaving accountably (Huse, 2009)? It is important to understand how boards can ensure that key strategy implementation decisions are consistent with planned strategies with a view to adding value. To cope with their natural distance from the strategy implementation (SI) playfield, effective boards must develop work processes and dynamics to ensure that strategic objectives are met. However, as various episodes of governance failure illustrate, some boards' work practices seem not to anticipate, assess and mitigate SI risks.

The objective of this paper is to present a preliminary analytical framework of non-structural factors which may affect the effectiveness of boards in the management of SI. Until recently, the literature pertinent to board research has focused on board structure and firm performance. We aim to expand this analysis by investigating the potential role of a board in the task of ensuring successful SI. We draw on behavioral and contingency perspectives, intending to specify the nature of the factors which may contribute to a board's effective involvement in that process.

Notwithstanding the growing emphasis on the importance of corporate governance to ensure the attainment of strategic objectives, the proposition of models to help understand how boards can effectively perform this role has received sparse attention (Schmidt & Brauer, 2006). The areas of board effectiveness and SI have been mostly examined independently by scholars on strategy and corporate governance. Although some scholars provided indications of how boards can work towards a sound strategic execution, no studies have analyzed the phenomenon systematically to identify influencing factors. There are few integrated models upon which to develop propositions and base empirical work on the subject. To our knowledge, no studies have proposed similar approaches to this subject.

## **ROLE OF BOARDS IN SI**

There is an increasing notion that value can be created by improving board effectiveness (Huse, 2009), defined as the ability of the board to perform its tasks (Forbes & Milliken, 1999). These tasks, conceptualized by

complementary - and sometimes contrasting - theoretical perspectives (Daily, Dalton, & Cannella, 2003) are, traditionally, categorized in four groups: monitoring, service, strategy and resource provision. Monitoring, consistent with the view that the separation of ownership from control propitiates managerial opportunism, is supported by the agency theory framework (Fama & Jensen, 1983). Grounded on stewardship theory (Donaldson & Davis, 1991), service encompasses advice and support to management (Lorsch & MacIver, 1989). Strategy comprises activities ranging from strategic direction (Phan, 1998) to management of SI (Stiles & Taylor, 2001). Resource provision, founded on resource dependence theory, relates to the ability to provide access to resources such as capital, stakeholders' relationships, experience and legitimacy (Dalton, Daily, Ellstrand, & Johnson, 1998).

In the literature, most attempts to explain boards' effectiveness rely on structural dimensions and characteristics such as board size, separation of CEO and board chair positions and presence of outside directors. In essence, these features stand for maximizing the chance of boards' independent behavior. However, empirical evidence has shown that the relationships among a board's structural characteristics and performance are uncertain (Bhagat & Black, 1999), for non-structural intervening factors restrict direct associations between them (Finkelstein & Hambrick, 1996). By this alternative logic, a board's work processes and dynamics may mediate the relationship between its structure and effectiveness. These factors have been studied in a line of research on corporate governance and boards grounded on strategic management and organizational behavior perspectives (Johnson, Daily, & Ellstrand, 1996). Non-structural factors of a board's effectiveness may relate to cognitive (Forbes & Milliken, 1999), behavioral (Huse, 2005), work process (Huse, Minichilli, & Schøning, 2005), environmental (Daily et al., 2003), information (Siciliano, 2002), knowledge (McGrath, MacMillan, & Venkataraman, 1995) and power (Pettigrew & McNulty, 1995) dimensions.

Literature and management practice display a growing consensus about the importance of boards' role in strategic management (Demb & Neubauer, 1990; Judge & Zeithaml, 1992; Pugliese et al., 2009), built on the perception that they are ultimately responsible for effective organizational functioning (Blair & Stout, 2001; Johnson et al., 1996). However, the multiple ways in which boards may address strategic issues are yet poorly understood. (Hendry, Kiel, & Nicholson, 2009). In the case of SI, the role of boards is not consensual in literature, and scholars' attention to boards' involvement in this mission has been sparse (Amaral-Baptista, Macedo-Soares, & Melo, 2010). Thus, a clear definition of the board's role in ensuring that strategic objectives are met is required.

We follow Brauer and Schmidt's (2008) argument that boards may have a meaningful role in SI. Grounded on an agency perspective and on insights from the strategy process literature, they suggest that this role should be to ensure that intended strategy converts into realized strategy. Boards are not supposed to be directly involved in SI activities lest authority conflicts with management might emerge (Mace, 1971). However, they are expected to intervene if the realized strategy deviates significantly from the intended strategy and management does not take proper corrective action (Jensen & Meckling, 1976). In doing so, boards should expand their monitoring task to address the causes of inconsistencies (Schmidt & Brauer, 2006) and foster strategy realignment. Such role definition illustrates that, in practice, a board's monitoring, service and strategy tasks are not separate or mutually exclusive.

## **PRELIMINARY ANALYTICAL FRAMEWORK**

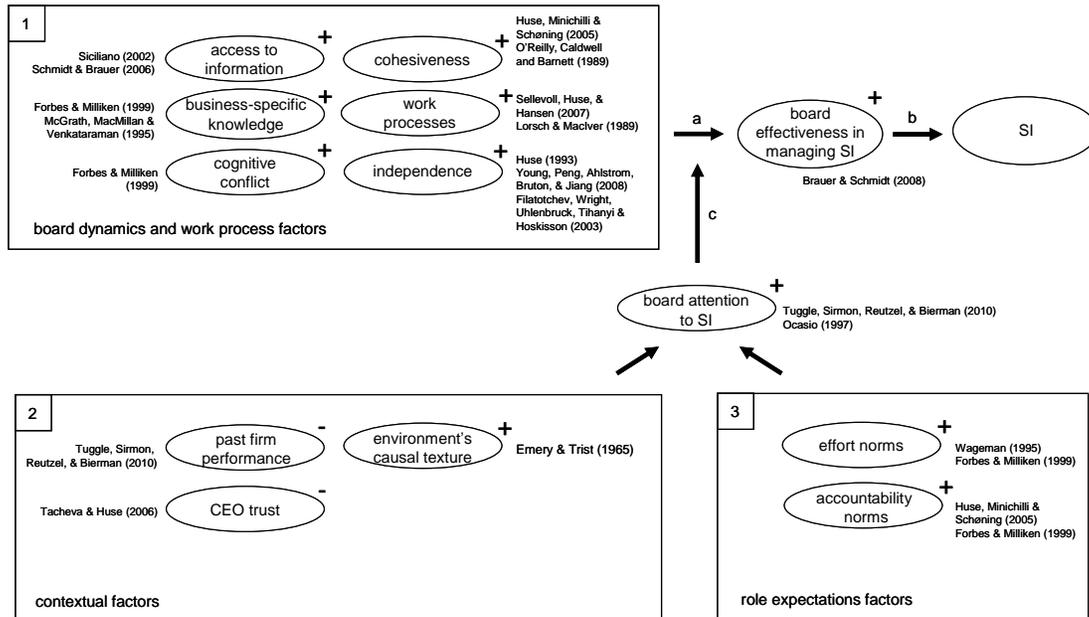
The few existing studies on board effectiveness in SI focus on offering measures and tools to assess a board's performance on this task (Brauer & Schmidt, 2008; Drew & Kaye, 2007). Without excluding assessment tools, we take a different approach, in an attempt to identify which factors may affect boards' effectiveness in that task and how these factors may impact that effectiveness.

We draw upon behavioral and contingency perspectives (Gabrielsson & Huse, 2004) to develop an analytical framework of relationships among non-structural factors which may affect the effectiveness of boards in managing SI (Exhibit 1). The behavioral perspective supports the concept that a set of factors related to a board's work processes and internal dynamics may represent its ability to fulfill that role (Box 1). These factors may influence a board's effectiveness in the SI task (connector 'a'), which may in turn exert influence on a firm's SI performance (connector 'b'). The contingency perspective provides support to the notion that boards of

directors may selectively allocate attention to monitoring tasks (Tuggle, Sirmon, Reutzel, & Bierman, 2010). Beyond that, we posit that a board’s attention to SI will be influenced by contextual factors (Box 2) and role expectations (Box 3) towards SI. The level of attention to SI is then expected to moderate the impact of the board’s work processes and internal dynamics factors on its effectiveness in the SI task (connector ‘c’).

We propose this framework as a basis for explaining the contribution of board dynamics, work process and contextual factors to board performance, with respect to the task of managing SI and, ultimately, also to corporate performance on SI. In what follows, we focus the discussion on defining and characterizing the framework’s constructs.

**Exhibit 1 – Preliminary analytical framework**



As argued in the previous section, the effectiveness of boards in fulfilling their SI management role may be influenced by the way boards actually work. Instead of concentrating attention on structural characteristics, we start by analyzing board-level factors of its dynamics and work processes that may support the task of ensuring SI, depicted in Box 1.

**Access to information.** Boards need to gain timely and comprehensive access to relevant information (Siciliano, 2002). Boards have specific information needs to understand SI key issues, as the scope and methods to gain access information may influence their involvement in such issues. In terms of scope, boards should proactively define their information needs in line with strategic objectives (Drew & Kaye, 2007). Failure to do so may lead to a situation in which boards are entangled with reports and presentations prepared by management. This kind of information may focus on minutiae or non-strategic dimensions, depicting a biased picture which may narrow or divert the board’s span of intervention and analysis. In defining their needs, boards should address several information dimensions in addition to financials (Drew & Kaye, 2007). Although financial statements may give insights as to why a given strategic decision has failed, they may not suffice to reveal what is driving SI deviations. In her case study, Siciliano (2002) identified relevant additional dimensions such as service level (customer satisfaction, customer retention, volume of transactions, processing times), physical activity of products and services, human resources training and development, status of progress of key projects and strategic initiatives. As for methods, boards’ SI reviews should be supported by task-specific assessment tools and metrics (Drew & Kaye, 2007; Siciliano, 2002). The format of the information available to them should be conducive to the discussion of key SI issues. In order to gain a “real-life” perspective of barriers to the success of SI, directors should establish access paths to middle managers and key employees (Drew & Kaye, 2007). Boards may also use management consulting support on SI progress reviews, in order to increase the span and depth of analysis and the quality of decision making.

**Business-specific knowledge.** Drawing on Forbes & Milliken (1999), the construct is defined as the extent to which the business-specific knowledge and skills, both external and internal, that are required for a board to effectively perform its SI management tasks are collectively present in a board. Knowing the external environment is critically important (McGrath et al., 1995). To perform its strategy tasks effectively, boards must have a sound knowledge of the industry, of the competitive scenario and of environmental forces that may interfere on the focal firm's strategy. In order to derive the most relevant implications for the success of SI, boards must possess (and use) sufficient knowledge of external aspects such as changing customer needs, competitive dynamics and sources of business risk (McGrath et al., 1995). The knowledge of firm-specific operations and internal management issues is also fundamental (Forbes & Milliken, 1999) and directors should possess explicit and tacit knowledge of internal operations in order to make consistent strategic decisions (Drew & Kaye, 2007).

**Cognitive conflict.** We draw on Jehn (1995) and Forbes & Milliken (1999) to define cognitive conflict as board-level disagreements about the nature and content of SI tasks, including differences of ideas, perspectives and opinions. Cognitive conflict may be evidenced by different characterizations of problems and by contrasting points of view about possible responses to problems (Dutton & Jackson, 1987). In order to intervene timely and decisively on the key issues of SI, directors should not display a conflict avoidance posture, welcoming the ability of each director to say what he or she thinks with openness to diversity of thought. The presence of cognitive conflict in boards may have a positive or negative impact in the management of SI. Disagreements in boards may propitiate richer and deeper discussions of strategic issues (Forbes & Milliken, 1999). They may lead to an increase of a board's critical investigation abilities, which may induce management to justify, reflect upon and possibly modify its position regarding strategic matters. By discussing several alternative courses of action, boards may benefit from a variety of points of view, potentially improving decision making. However, excessive levels of cognitive conflict may lead to interpersonal animosity and tension among directors, jeopardizing the quality of directors' interactions and commitment to the board (Mace, 1971).

**Cohesiveness.** In order to produce meaningful syntheses and make high-impact decisions in the SI dimension, boards should cooperate for consensus. Because board SI tasks are complex and require high degrees of interaction, communication and deliberation, directors must have sufficient interpersonal cohesiveness to execute them well (Forbes & Milliken, 1999; Huse et al., 2005). O'Reilly, Caldwell and Barnett (1989) suggested that a board's effectiveness in strategy tasks is positively related to social integration of directors and consensus. Excessive degrees of cohesiveness may be detrimental to a board's effectiveness in some circumstances (Forbes & Milliken, 1999). A highly cohesive board may be distracted by a proliferation of interpersonal exchanges and by groupthink (Mullen, Anthony, Salas, & Driskell, 1994). Thus, according to Janis (1982) and Forbes and Milliken (1999), the optimal functioning of a board in decision making tasks may happen at intermediate levels of cohesiveness. In a different line of reasoning, Byrne (1997) argues that groupthink is more prone to arise in highly cohesive groups in which members display low cognitive conflict. Thus, effective boards may be characterized by high cohesiveness and high cognitive conflict.

**Work processes.** In order for boards to act decisively on the issues that may cause SI deviations, robust work processes should be in place to ensure that they are analyzed and acted upon in a timely and thorough manner. Directors should prioritize substantial and enough time for gathering relevant information and preparing in advance for the task (Lorsch & MacIver, 1989). They should also be well prepared for the board meetings in order to contribute substantially. Given the high complexity of SI issues, boards should avoid deciding on the basis of superficial analyses. Instead, they should engage on thorough discussions to have a sufficient understanding of the implications of alternative courses of action (Sellevoll, Huse, & Hansen, 2007). This fact notwithstanding, board decision-making should be prompt enough to prevent that the company becomes stuck on board decision bottlenecks (Sellevoll et al., 2007).

**Independence.** Two dimensions of board independence are relevant to this study: independence from top management (agents) and from shareholders (principals). Agency theory suggests that board members should be independent of top management in order to perform their monitoring tasks. A vast body of research on boards has studied this proposition based on the assumption that independence from management can be validly measured by what Gabrielsson and Huse (2004) called 'usual suspect' proxies such as separation of CEO and board chair positions and presence of outside directors. As previously outlined in the previous section, a concentration of studies on direct relationships between these structural characteristics of boards and firm

performance produced ambiguous results (Daily et al., 2003) because of a lack of behavioral and contingency considerations. Instead of investigating mediating effects between board structure, behavior and task performance, we suggest to directly assess if boards display an independent behavior. Thus, we conceptualize independence from management as a collective board behavior that can be conducive to its effectiveness in the task of managing SI. On the dimension of independence from shareholders, we draw on theoretical insights from the literature on principal-principal conflicts. Principal-principal conflicts between controlling and minority shareholders are more prevalent in emerging economies and result from concentrated ownership, family control and weak legal protection to minority shareholders (Dharwadkar, George, & Brandes, 2000). They influence the corporate governance process and the work of boards (Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). For example, in such a context controlling shareholders can decide on board director nominations. This may affect the board's ability to prevent strategic decisions that ultimately expropriate value from minority shareholders (Young et al., 2008). By influencing sub-optimal strategic choices by political reasons at the expense of performance (Filatotchev, Wright, Uhlenbruck, Tihanyi, & Hoskisson, 2003), boards operating in this context will not be effectively managing SI. Instead, they may be less likely to play a strong strategy monitoring role as they may lack independence from controlling shareholders and institutional support (Young et al., 2008).

As outlined in the previous section, a board's involvement in the task of managing SI may not be uniform. Instead, internal and external contingencies and role expectations may affect the level of attention that boards allocate to this task. In spite of significant time and information limitations, boards must allocate attention to a variety of tasks. Ocasio's (1997) attention-based view of the firm (ABV) grounds the notion that boards should selectively attend to certain issues while foregoing others, with basis on contextual factors and the structure of decision makers' interactions. As Tuggle et al. (2010) observed, "the ABV suggests that board members' attention to monitoring represents an important antecedent to actual monitoring, yet the allocation of attention to monitoring is expected to vary based on contextual and structural factors" (p. 947). In an extension of Tuggle et al.'s argument, we posit that **board attention to SI** (i) may positively moderate the level of influence of board-specific behavioral features on the board's effectiveness in managing SI; and (ii) may vary with basis on contextual and role expectation factors. We will elaborate this argument next, in an attempt to characterize these factors.

The contextual factors affecting board attention to SI identified in the research are shown in Box 2. We construe **past firm performance** as a predictor of a board's attention to SI based on the logic that poor levels of performance will motivate the board to increase scrutiny over potential deviations from the strategic plan in an attempt to accelerate corrective actions. Drawing on insights from prospect theory (Kahneman & Tversky, 1979), Tuggle et al. (2010) showed that a negative deviation from prior performance increased the board's allocation of attention to monitoring tasks. This was grounded on the notion that negative performance deviations relative to a point of reference function as a trigger that affects the board's behavior, as prospect theory suggests. Since boards have a fiduciary responsibility to shareholders to monitor and assess the performance of management, deviations from prior performance may be an especially relevant contingency for boards. Potential reputational effects of poor performance on board directors are also expected to motivate them to allocate more attention to strategy monitoring tasks.

**CEO trust.** CEO trust refers to the board's trust in the CEO's ability to make sound and independent decisions (Tacheva & Huse, 2006). Past research has established that the board's trust in the CEO is essential for board task performance (Huse, 1993). Notwithstanding, we expect this relationship to follow an indirect path. Trustful CEOs will tend to be perceived by boards as diligent agents on behalf of the principals' interests. Because a dysfunctional involvement of boards in SI tasks may give rise to authority conflicts with the CEO, board directors may be motivated to allocate less attention to this monitoring task if the CEO is trusted. Conversely, if the relationship between the board and the CEO is based on distrust, boards should be more diligent in scrutinizing the firm's strategic course.

**Environment's causal texture.** We draw on Emery & Trist's (1965) work on how organizations and their corresponding external environment co-evolve by means of mutual connections to define this construct as the level of environmental turbulence and uncertainty affecting a firm's strategic development. In a context of higher turbulence, it is expected that a firm's strategic response have high repercussions within its social field, potentially co-producing an outcome of more turbulence (Selsky, Goes, & Baburoglu, 2007). In order to cope with such higher levels of environmental uncertainty, we expect a board's attention to SI decisions to increase. Since strategic responses to turbulence may have dysfunctional consequences both at firm and social field levels, boards are expected to scrutinize strategic decisions and milestones with higher emphasis and detail. In line with Emery & Trist's arguments, boards are also expected to assume an active role in identifying and negotiating a

common ground for collective action at environment levels, in an attempt to stabilize the rules of competition and reduce environmental uncertainty.

Boards may display different expectations of their role on managing SI. We identify two dimensions of these expectations: **effort norms** and **accountability norms**. We depart from Wageman (1995) and Forbes & Milliken (1999) and define effort norms as the shared beliefs held about the degree of effort that a board should dedicate to the task of managing SI, including expectations on availability and use of time, and on the quality of a board's contribution to strategy tasks (Huse et al., 2005). Accountability norms encompass expectations about values, ethical norms, independence, extent of authority and accountability to evaluate and make SI decisions. As discussed in the previous section, board role expectations towards strategy implementation are not consensual in literature – and possibly not in management practice either. Forbes & Milliken (1999) and Huse et al. (2005) proposed that these norms may exert direct influence on the effectiveness of a board, by the argument that they lead to higher participation and contribution. We draw on Tuggle et al.'s (2010) attention-based view logic to posit that this influence may not be direct, but mediated by the board's attention to SI. By this argument, higher effort norms and accountability norms towards the task of ensuring SI will drive boards to allocate more attention to the task, which will then influence board effectiveness. In Box 3, role expectations affecting board attention to SI are depicted.

Building on previous board effectiveness research (Huse, 2005; Sellevoll et al., 2007), we construe that **board effectiveness in managing SI** may mediate the effects of board-specific dynamics and work process factors and corporate SI. Drawing on Forbes & Milliken's (1999) definition of task performance, we operationally define this construct as the extent to which boards can perform their SI management tasks effectively. Literature suggests that the level of accountability of a workgroup for a given task can be measured in a variety of ways. In studying the effectiveness of Norwegian boards, Sellevoll et al. (2007) developed performance measures on boards' strategy, monitoring and service tasks. Some of them are applicable to the specific context of the SI management task. For instance, boards that display high involvement and authority in guiding SI are expected to perform better on the task. In order to manage SI, an effective board should systematically control and follow-up on the status of key strategic initiatives and resource allocation decisions. Board involvement in SI should be continuous rather than sporadic (Zahra, 1990). They are also expected to be actively involved on questioning the current strategy and on understanding the reasons why the intended strategy is not being implemented in practice. They should also act as gatekeepers for strategic proposals from management (Stiles, 2001). On these grounds, boards should make sound proposals and decisions to reestablish the strategic course of the company. Finally, boards should ensure that key strategic decisions are properly put in action. Nevertheless, as highlighted by Brauer & Schmidt (2008), board involvement in SI should not be unrestricted but disciplined. Boards should not participate directly in SI in order to avoid role conflicts with management. Such direct involvement might also impair the boards' own critical capacity to continually question the strategy, jeopardizing its effectiveness in managing SI.

Few definitions of **strategy implementation** found in literature simultaneously emphasize the roles of top management and boards (Schaap, 2006), process perspectives (Hrebiniak, 2006), behavioral perspectives and environmental influence (Lehner, 2004). We build on Li et al. (2008) to define SI as a dynamic, interactive and complex process, comprised of several decisions and activities carried out by boards, top management and employees, affected by interrelated internal and external factors, aimed to convert strategic plans into concrete actions so that intended strategy can convert into realized strategy. Drawing on the field of strategy process research, Brauer and Schmidt (2008) suggested that SI may be measured by its consistency, defined by the extent to which resource allocation decisions are consistent with the firm's intended strategy. They also derived potentially useful indicators. For instance, the volatility in implementation consistency and the time lags between inconsistencies and corrective actions may indicate the firm's SI quality.

## CONCLUDING REMARKS

Our intent was to present a preliminary analytical framework of relationships among non-structural factors which may affect the effectiveness of boards of directors in the management of SI. Understanding how boards can have a meaningful role in influencing an organization's strategic success is important because SI mistakes destroy value (Allio, 2005). This study extends research on boards of directors and strategy by incorporating behavioral and contingency perspectives in an attempt to explain how boards can fulfill their role in SI. It also intends to contribute to an emerging research stream that aims to understand the 'black box' of board functioning (Gabrielsson & Huse, 2004).

We expect the proposed framework to be used as a basis for future empirical work on boards and SI. We believe that with the help of this framework, scholars and practitioners can gain additional insights on the behaviors and work practices that need most attention in order to improve the quality of a board's intervention in the SI process. The framework could also help improve board and director performance assessment tools, making a potentially valuable contribution to financial analysts and investors.

## REFERENCES

- Allio, M. 2005. A short, practical guide to implementing strategy. *Journal of Business Strategy*, 26(4): 12-21.
- Amaral-Baptista, M. A., Macedo-Soares, T. D. L. v. A., & Melo, M. A. C. d. 2010. Factors for Board Effectiveness from the Perspective of Strategy Implementation: Proposal of an Instrument. *Corporate Ownership and Control*, 8(1): 709-719.
- Bhagat, S., & Black, B. 1999. The Uncertain Relationship Between Board Composition and Firm Performance. *Business Lawyer*, 54: 921-963.
- Blair, M. M., & Stout, L. A. 2001. Director Accountability and the Mediating Role of the Corporate Board. *Washington University Law Quarterly*, 79(2): 403.
- Brauer, M., & Schmidt, S. 2008. Defining the strategic role of boards and measuring boards' effectiveness in strategy implementation. *Corporate Governance: International Journal of Business in Society*, 8: 649-660.
- Byrne, J. 1997. The best and worst boards: Our report card on corporate governance, *Business Week*: 90-104.
- Daily, C. M., Dalton, D. R., & Cannella, A. A. 2003. Corporate governance: Decades of dialogue and data. *The Academy of Management Review*, 28(3): 371-382.
- Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. 1998. Meta analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, 19(3): 269-290.
- Demb, A., & Neubauer, F. F. 1990. How can the board add value? *European Management Journal*, 8(2): 156-160.
- Dharwadkar, R., George, G., & Brandes, P. 2000. Privatization in Emerging Economies: An Agency Theory Perspective. *The Academy of Management Review*, 25(3): 650-669.
- Donaldson, L., & Davis, J. 1991. Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, 16(1): 49-64.
- Drew, S., & Kaye, R. 2007. Engaging Boards in Corporate Direction-Setting Strategic Scorecards. *European Management Journal*, 25(5): 359-369.
- Dutton, J. E., & Jackson, S. E. 1987. Categorizing Strategic Issues: Links to Organizational Action. *The Academy of Management Review*, 12(1): 76-90.
- Emery, F., & Trist, E. 1965. The Causal Texture of Organizational Environments. *Human Relations*, 18: 21-32.
- Fama, E., & Jensen, M. 1983. Separation of ownership and control. *The Journal of Law and Economics*, 26(2): 301.
- Filatovchev, I., Wright, M., Uhlenbruck, K., Tihanyi, L., & Hoskisson, R. E. 2003. Governance, organizational capabilities, and restructuring in transition economies. *Journal of World Business*, 38(4): 331-347.
- Finkelstein, S., & Hambrick, D. 1996. *Strategic Leadership*. St. Paul: West Publishing Company.

- Forbes, D. P., & Milliken, F. J. 1999. Cognition and Corporate Governance: Understanding Boards of Directors as Strategic Decision-Making Groups. *The Academy of Management Review*, 24(3): 489-505.
- Gabrielsson, J., & Huse, M. 2004. Context, behavior, and evolution: Challenges in research on boards and governance. *International Studies of Management and Organization*, 34(2): 11-36.
- Hendry, K. P., Kiel, G. C., & Nicholson, G. 2009. How Boards Strategise: A Strategy as Practice View. *Long Range Planning*, In Press, Corrected Proof.
- Hrebiniak, L. 2006. Obstacles to effective strategy implementation. *Organizational Dynamics*, 35(1): 12-31.
- Huse, M. 1993. Relational norms as a supplement to neo-classical understanding of directorates: An empirical study of boards of directors. *Journal of Socio-Economics*, 22(3): 219-240.
- Huse, M. 2005. Accountability and creating accountability: A framework for exploring behavioural perspectives of corporate governance. *British Journal of Management*, 16(S1): S65-S79.
- Huse, M. 2009. *The Value Creating Board: Corporate Governance and Organizational Behaviour*. London: Routledge.
- Huse, M., Minichilli, A., & Schøning, M. 2005. Corporate Boards as Assets for Operating in the New Europe: The Value of Process-Oriented Boardroom Dynamics. *Organizational Dynamics*, 34(3): 285-297.
- Janis, I. 1982. *Groupthink: Psychological studies of policy decisions and fiascoes*: Houghton Mifflin Boston, MA.
- Jehn, K. A. 1995. A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict. *Administrative Science Quarterly*, 40(2): 256-282.
- Jensen, M., & Meckling, W. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4): 305-360.
- Johnson, J. L., Daily, C. M., & Ellstrand, A. E. 1996. Boards of Directors: A Review and Research Agenda. *Journal of Management*, 22(3): 409-438.
- Judge, W., & Zeithaml, C. 1992. Institutional and strategic choice perspectives on board involvement in the strategic decision process. *Academy of Management Journal*: 766-794.
- Kahneman, D., & Tversky, A. 1979. Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2): 263-291.
- Lehner, J. 2004. Strategy Implementation Tactics as Response to Organizational, Strategic, and Environmental Imperatives. *Management Review*, 15(4): 460-480.
- Li, Y., Guohui, S., & Eppler, M. 2008. Making Strategy Work: A Literature Review on the Factors influencing Strategy Implementation, ICA Working Paper 2/2008: 1-46: Università della Svizzera Italiana.
- Lorsch, J., & MacIver, E. 1989. *Pawns or Potentates: The Reality of America's Corporate Boards*. Boston, MA: Harvard Business School Press.
- Mace, M. 1971. *Directors: Myth and reality*. Boston: Harvard University Press.
- McGrath, R. G., MacMillan, I. C., & Venkataraman, S. 1995. Defining and Developing Competence: A Strategic Process Paradigm. *Strategic Management Journal*, 16(4): 251-275.

- Mullen, B., Anthony, T., Salas, E., & Driskell, J. 1994. Group cohesiveness and quality of decision making: an integration of tests of the groupthink hypothesis. *Small group research*, 25(2): 189-204.
- O'Reilly, C. A., Caldwell, D. F., & Barnett, W. P. 1989. Work Group Demography, Social Integration, and Turnover. *Administrative Science Quarterly*, 34(1): 21-37.
- Ocasio, W. 1997. Towards an Attention-based View of the Firm. *Strategic Management Journal*, 18(summer special issue): 187-206.
- Pettigrew, A., & McNulty, T. 1995. Power and Influence in and Around the Boardroom. *Human Relations*, 48(8): 845-873.
- Phan, P. 1998. Effective Corporate Governance in Singapore: Another Look. *Singapore Management Review*, 20(2): 43-61.
- Pugliese, A., Bezemer, P., Zattoni, A., Huse, M., Van den Bosch, F., & Volberda, H. 2009. Boards of Directors' Contribution to Strategy: A Literature Review and Research Agenda. *Corporate Governance: An International Review*, 17(3): 292-306.
- Schaap, J. 2006. Toward Strategy Implementation Success: An Empirical Study of the Role of Senior-Level Leaders in the Nevada Gaming Industry. *UNLV Gaming Research & Review Journal*, 10: 13-37.
- Schmidt, S., & Brauer, M. 2006. Strategic Governance: how to assess board effectiveness in guiding strategy execution. *Corporate Governance*, 14(1): 13-22.
- Sellevoll, T., Huse, M., & Hansen, C. 2007. The Value Creating Board: Results from the "Follow-Up Surveys" 2005/2006 in Norwegian firms. Oslo: Norwegian School of Management BI.
- Selsky, J., Goes, J., & Babüroglu, O. 2007. Contrasting perspectives of strategy making: Applications in "hyper" environments. *Organization Studies*, 28(1): 71-94.
- Siciliano, J. 2002. Governance and strategy implementation: expanding the board's involvement. *Business Horizons*, 45(6): 33-38.
- Stiles, P. 2001. The Impact of the Board on Strategy: An Empirical Examination. *Journal of Management Studies*, 38(5): 627-650.
- Stiles, P., & Taylor, B. 2001. *Boards at work: How directors view their roles and responsibilities*. Oxford: Oxford University Press.
- Tacheva, S., & Huse, M. 2006. Women directors and board task performance: Mediating and moderating effects of board working style. Paper presented at the EURAM Meeting.
- Tuggle, C. S., Sirmon, D. G., Reutzell, C. R., & Bierman, L. 2010. Commanding board of director attention: investigating how organizational performance and CEO duality affect board members' attention to monitoring. *Strategic Management Journal*, 31(9): 946-968.
- Wageman, R. 1995. Interdependence and Group Effectiveness. *Administrative Science Quarterly*, 40(1): 145-180.
- Young, M. N., Peng, M. W., Ahlstrom, D., Bruton, G. D., & Jiang, Y. 2008. Corporate Governance in Emerging Economies: A Review of the Principal-Principal Perspective. *Journal of Management Studies*, 45(1): 196-220.
- Zahra, S. 1990. Increasing the board's involvement in strategy. *Long Range Planning*, 23(6): 109-117.

# **DRIVERS OF CUSTOMER LOYALTY IN BUSINESS TO BUSINESS (B2B) CONTEXT**

**Mohammad Hossein Askariazad and Nazila Babakhani**  
**Sharif University of Technology, Iran**

## **ABSTRACT**

*This paper tries to investigate factors affecting customer loyalty in the Business to Business (B2B) context. Related literature in the field of customer loyalty and satisfaction has been critically reviewed to find out the most influential factors in modeling customer loyalty in B2B sectors. Through the extensive review of previous researches the gap in theoretical studies in this regard is highlighted. A holistic approach towards modeling overall customer loyalty leads to developing a conceptual framework for evaluating customer loyalty based on the important factors used in the studied literature.*

## **INTRODUCTION**

The concept of customer loyalty has attracted much attention in recent years and many authors have studied the importance of loyalty in the marketing literature. Loyal customers are expected to exert powerful effects on firms' performance and prosperity. In general, customer loyalty leads to increasing revenue, reducing customer acquisition costs as well as lower costs of serving repeat purchasers, which causes greater profitability for the firms (Lim *et al.*, 2004). Hence, it has been demonstrated experimentally by different researchers that there is a link between customer satisfaction, loyalty and the economic performance, measured in several ways, such as return on investment, stock market value and market value added (Martensen *et al.*, 2000). Customer loyalty in a Business to Business (B2B) context is of great importance due to the fact that business customers spend large amounts of money in their purchase of products and services compared to individual consumers (Rauyruen and Miller, 2007). With the advent of relationship marketing, achieving high sales volume is not the ultimate goal in B2B exchanges anymore. It is more important to build and sustain long term relationships with business customers and to manage and maintain loyal business customers. Suppliers, manufacturers and service providers all need to understand the nature and circumstances of their business customers thoroughly to develop enduring relationship with them and to build up strong customer loyalty (Gounaris, 2005; Rauyruen and Miller, 2007).

Customer loyalty in business-to-consumer (B2C) contexts has been studied by many researchers; however, limited researches concentrate on modeling customer loyalty and investigating its antecedents, particularly in B2B context (Lim *et al.*, 2004). Effective modeling is essential to enable interested parties to evaluate the customer loyalty and its consequences to exploit new business opportunities in improving the customer loyalty. Lack of these studies in B2B sector motivates the authors to conduct an extensive review of the related literature in an effort to identifying the drivers of loyalty and their influential impacts on the overall customer loyalty. The purpose of this study thus, is to critically review the literature on modeling customer loyalty in the B2B context to propose a conceptual framework for evaluating factors affecting customer loyalty. The particular emphasis in this work is to identify the gaps exists in previous theoretical researches in modeling customer loyalty in B2B sectors. The authors have analyzed the existing body of literature in the area of modeling customer loyalty in the B2B context and identified the most influential factors affecting this construct.

This paper is organized in the four following sections. Section 2, defines the concept of customer loyalty and reviews previous modeling techniques used in this context. Section 3, presents the research methodology. Section 4, presents the conceptual framework proposed by authors to be used in evaluating

customer loyalty in the B2B context based on the particular characteristics of this sector. Finally, this paper concludes by highlighting the key findings of this study and recommendations for further research in Section 5.

## **CUSTOMER LOYALTY DEFINITION**

The importance of loyalty has been considerably identified in marketing literature research. Aaker (1991) claims that loyalty plays fundamental role in the brand equity process – specifically noting that brand loyalty reduce marketing costs. It is consistent with Fornell and Wernerfelt (1987) who argue that the costs of customer retention are substantially less than those of customer acquisition. Besides, providing positive word-of-mouth recommendation and greater resistance among loyal consumers to competitive strategies from rival suppliers, is other element of brand loyalty (Caceres and Paparoidamis, 2005). Despite, many important managerial implication of customer loyalty, there exist some empirical gaps in researching this area. Although there are numerous ways of defining and measuring loyalty in a consumer market, in a B2B context loyalty has not been clearly defined. Oliver (1999, p. 34) defines brand loyalty as follows:

“Deeply held commitment to re-buy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior.”

This definition highlights two distinctive aspects of brand loyalty, behavioral and attitudinal loyalty. Chaudhuri and Holbrook's (2001) define behavioral loyalty as “the willingness of average business customers to repurchase the service and the product of the service provider and to maintain a relationship with the service provider/supplier,” they also define attitudinal loyalty as “the level of customer’s psychological attachments and attitudinal advocacy towards the service provider/supplier” (Rauyruen and Miller, 2007). Many authors support the use of composite approach of loyalty which consists of both behavioral and attitudinal aspects. These authors state the disadvantage of solely focusing on behavioral loyalty, as making difficulty to tell which customers are loyal and problem to identify different degrees of customer loyalty (Rauyruen and Miller, 2007). Bloemer and Kasper (1995) study the differences between “true” loyalty and “spurious” and find that true loyalty implies true commitment to the brand in addition to repetitive purchasing. In the other word, they state that considering customer’s commitment to a brand should be accompanied by repeat purchasing behavior for explaining customer loyalty. In consistent with their research, Oliver (1997, 1999) also evoke this concept of commitment in his research on satisfaction and brand-loyalty relationship (Chumpitaz and Paparoidamis, 2004; Caceres and Paparoidamis, 2005).

There are different studies regarding to the antecedents of customer loyalty in the B2B context. Caceres and Paparoidamis (2005) find the significant effect of relationship quality components including relationship satisfaction, trust and commitment on business loyalty. Ricard and Perrien (1999) support a direct impact of relationship practice on customer loyalty as well. In consistent with these investigations, some authors connect several constructs such as relationship quality, trust, involvement, satisfaction, purchase development, organizational change, and switching costs to B2B customer loyalty and retention, while Jarvis and Wilcox, (1977) add some drivers of business-to-business loyalty such as perceived risks and absence of choice (Rauyruen and Miller, 2007). Other authors also study the impact of different variables on customer loyalty. For instance Ball *et al.*, (2003) classify these antecedents into four groups, namely characteristics of the environment, characteristics of the dyadic relationship, characteristics of the consumer, and consumer perceptions of the relationship with the marketing firm. They focus mainly on last group consisting of overall product or service satisfaction, performance trust and benevolence trust, depth or value of communication, firm or brand image, relationship quality and relationship satisfaction. Another example is Lam *et al.*, (2004) who study on potential antecedents of customer loyalty as customer satisfaction, customer value and switching cost.

## **RESEARCH METHODOLOGY**

In this research a literature survey approach has been employed as the research methodology for identifying different factors affecting customer loyalty in B2B contexts. The literature on customer satisfaction and loyalty has been collected primarily from high ranking journals in the field of management science. The central question that the authors pose here is: “what are the influential factors affecting customer loyalty in a B2B context?” The literature search is conducted using a combination of keywords such as: customer loyalty,

satisfaction, modeling, and B2B. There are numerous studies in the field of loyalty in the literature; however, the emphasis in this study is to review the previous works on modeling overall customer loyalty. The researchers try to provide a holistic review of loyalty and its drivers in the B2B context. The majority of the literature in the area of customer loyalty considers loyalty as a consequence of customer satisfaction. The authors, however, are interested in modeling overall loyalty in this study. Thus, satisfaction along with the other factors is considered as the antecedents of customer loyalty. The authors mainly investigate the following journals to collect the literature: *Journal of Total Quality Management*, *Journal of Marketing*, *International Journal of Service Industry Management*, *Journal of Retailing*, *European Journal of Marketing*, *Industrial Marketing Management* and *Journal of Business Research*. 35 papers are found by the researchers considering modeling loyalty in the B2B context. Each of these papers uses a combination of different factors in constructing the model of customer loyalty that in many cases differs greatly from other studies. Table I categorizes previous studies modeling loyalty based on different factors used in the applied models. The number of papers that used each factor in their modeling is highlighted in this table. For example there are 33 papers considering customer satisfaction in modeling loyalty while just 1 paper has been identified that use bonding as a separate construct in this regard. As it is mentioned in the Table I, satisfaction and perceived quality are cited frequently by many researchers, while some factors such as: disconfirmation, switching cost and bonding are mentioned rarely in the studied literature.

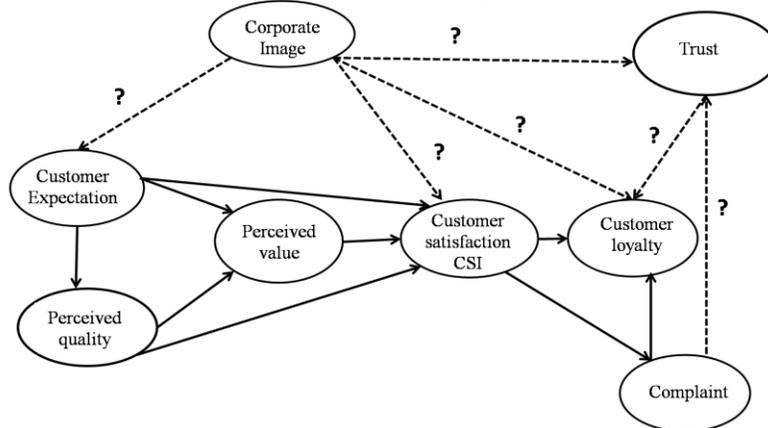
Table I. Summary of papers addressing loyalty for each factor

Factors	Reference	Total
Satisfaction	Taylor and Baker, 1994, Fornell <i>et al.</i> , 1996, Andreassen and Lindestad,1997, Patterson andSpreng,1997, Andreassen and Lindestad, 1998 , Bloemer <i>et al.</i> , 1998, Kristensen <i>et al.</i> , 1999, Bayol <i>et al.</i> ,2000 , Cronin <i>et al.</i> , 2000, Martensen <i>et al.</i> , 2000, Bou-Llusar <i>et al.</i> , 2001, Devaraj <i>et al.</i> , 2001, Zins, 2001, , Johnson <i>et al.</i> , 2001,O'Loughlin and Coenders, 2002, Ball <i>et al.</i> ,2003, Chumpitaz and Paparoidamis, 2004, Lam <i>et al.</i> , 2004, Ulaga and Eggert, 2004, Caceres and Paparoidamis, 2005, Rauyrueen and Miller, 2007, Aydin and Özer,2005, Jayawardhena <i>et al.</i> , 2007, Tu'rkylmaz and Özkan, 2007,Chitty <i>et al.</i> , 2007, Molinari, <i>et al.</i> ,2008, Park <i>et al.</i> , 2008, Spreng <i>et al.</i> ,2009, Gil-Saura <i>et al.</i> , 2009, Jayawardhena, 2010, Santouridis <i>et al.</i> ,2010, Forgas <i>et al.</i> , 2010, Deng <i>et al.</i> , 2010	33
Perceive quality	Taylor and Baker, 1994, , Fornell <i>et al.</i> , 1996, Andreassen and Lindestad,1997, Patterson andSpreng,1997, Bloemer <i>et al.</i> , 1998, Andreassen and Lindestad, 1998, Kristensen <i>et al.</i> , 1999, Bayol <i>et al.</i> ,2000, Cronin <i>et al.</i> , 2000, Martensen <i>et al.</i> , 2000, Bou-Llusar <i>et al.</i> , 2001, Johnson <i>et al.</i> , 2001, Devaraj <i>et al.</i> , 2001, Zins, 2001, O'Loughlin and Coenders, 2002, Ball <i>et al.</i> ,2003, Gounaris, 2005, Chumpitaz and Paparoidamis, 2004, Aydin and Özer,2005, Caceres and Paparoidamis, 2005, Rauyrueen and Miller, 2007, Chitty <i>et al.</i> , 2007, Tu'rkylmaz and Özkan, 2007, Jayawardhena <i>et al.</i> , 2007, Cretu and Brodie, 2007, Molinari, <i>et al.</i> ,2008, Park <i>et al.</i> , 2008, Spreng <i>et al.</i> ,2009, Jayawardhena <i>et al.</i> , 2010, Santouridis <i>et al.</i> ,2010, Deng <i>et al.</i> , 2010	31
Perceived value	Fornell <i>et al.</i> , 1996, Andreassen and Lindestad,1997, Patterson andSpreng,1997, Kristensen <i>et al.</i> , 1999, Bayol <i>et al.</i> ,2000, Cronin <i>et al.</i> , 2000, Martensen <i>et al.</i> , 2000, Zins, 2001, Ball <i>et al.</i> ,2003, Lam <i>et al.</i> , 2004, Ulaga and Eggert, 2004, Chitty <i>et al.</i> , 2007, Tu'rkylmaz and Özkan, 2007, Cretu and Brodie, 2007, Molinari, <i>et al.</i> ,2008, Gil-Saura <i>et al.</i> , 2009, Jayawardhena <i>et al.</i> , 2010, Deng <i>et al.</i> , 2010, Forgas <i>et al.</i> , 2010	19
Corporate image	Andreassen and Lindestad,1997, Bloemer <i>et al.</i> , 1998, Andreassen and Lindestad, 1998, Kristensen <i>et al.</i> , 1999, Bayol <i>et al.</i> ,2000, Martensen <i>et al.</i> , 2000, Johnson <i>et al.</i> , 2001, Zins, 2001, O'Loughlin and Coenders, 2002, Ball <i>et al.</i> ,2003, Aydin and Özer, 2005, Chitty <i>et al.</i> , 2007, Cretu and Brodie, 2007 Tu'rkylmaz and Özkan, 2007	14
Trust	Ball <i>et al.</i> ,2003, Gounaris, 2005, Ulaga and Eggert, 2004, Caceres and Paparoidamis., 2005, Aydin and Özer,2005, Rauyrueen and Miller, 2007, Gil-Saura <i>et al.</i> , 2009, Forgas <i>et al.</i> , 2010, Deng <i>et al.</i> , 2010	9

(Continued)		
Expectation	Fornell <i>et al.</i> , 1996, Patterson <i>et al.</i> , 1997, Kristensen <i>et al.</i> , 1999, Bayol <i>et al.</i> ,2000, Martensen <i>et al.</i> , 2000, Ball <i>et al.</i> ,2003, Aydin and Özer,2005,Tu`rkyılmaz and Özkan, 2007	8
Commitment	Johnson <i>et al.</i> , 2001, Gounaris, 2005, Ulaga and Eggert, 2004, Caceres and Paparoidamis, 2005, Rauyrueen and Miller, 2007, Gil-Saura <i>et al.</i> , 2009	6
Complaint	Fornell <i>et al.</i> , 1996, Hansen <i>et al.</i> , 1996,Johnson <i>et al.</i> , 2001, Ball <i>et al.</i> ,2003, Aydin and Özer,2005, Park <i>et al.</i> , 2008	6
Price	Devaraj <i>et al.</i> , 2001, Johnson <i>et al.</i> , 2001, Chitty <i>et al.</i> , 2007, Cretu and Brodie, 2007	4
Switching cost	Lam <i>et al.</i> , 2004, Aydin and Özer,2005, Deng <i>et al.</i> , 2010	3
Perception of service encounter quality	Jayawardhena <i>et al.</i> , 2007, Jayawardhena, 2010	2
Disconfirmation	Andreassen and Lindestad, 1998, Molinari, <i>et al.</i> ,2008	2
Communication	Ball <i>et al.</i> ,2003,	1
Bonding	Gounaris, 2005	1

## THE CONCEPTUAL MODEL

The conceptual framework proposed by authors in this study (Figure 1), is quite similar to that of American Customer Satisfaction Index (ACSI) model. In the way it incorporates customer expectations, perceived quality, perceived value, customer satisfaction, customer loyalty and customer complaint. In the existing proposed model, the researchers also add two other constructs, i.e., corporate image and trust, to the model aiming a better explanation of customer loyalty in the B2B context. These two constructs have received particular attention within the domain of B2B relationships (Gil-Saura *et al.*, 2009; Gounaris, 2005; Caceres and Paparoidamis, (2005); Rauyrueen and Miller, 2007 Cretu and Brodie, 2007; Brown *et al.*, 2010). Trust is an essential element of relational exchange and is a critical variable for enhancing customer loyalty. On the other hand, corporate image can also have a positive effect on customer satisfaction and maintain a loyal relationship with customers in a B2B exchange. Hence, enhanced corporate image leads to building trust in a long term relationship with business customers. As it is shown in Figure 1, in proposed model some factors affect customer loyalty through customer satisfaction, and others (i.e. trust) affect customer loyalty directly. Although in reality there may exist some more relations between factors, the most important ones are considered.



**Figure1. The conceptual model**

## CONCLUSION AND FUTURE RESEARCH

Maintaining loyalty, especially in a B2B setting, is an important issue in recent years and the benefits of achieving it is proven in different literature, thus developing the drivers of customer loyalty in a business environment can be impressive. This study contributes to propose a framework, modeling the most important

drivers of customer loyalty in B2B context. After examining the existing body of literature in the area of modeling customer loyalty in B2B contexts it is found that the majority of previous works focus on satisfaction, perceived quality, perceived value, corporate image and trust (Table I). It is also identified that in choosing the drivers of customer loyalty great differences exist between previous researches. As summarized in Table II there is only one paper which considers all the drivers that are embedded in the proposed model of this study. This highlights the need for a more holistic view toward modeling customer loyalty, covering all the important drivers, in a B2B context.

**Table II.** Previous studies covering each factor

SAT	PQ	CI	PV	TR	COMP	EX	Number of papers
●	●	●	●	●	●	●	1
●	●	●	●			●	4
●	●	●	●				1
●	●	●	●				2
●	●	●			●		1
●	●	●		●	●	●	1
●	●	●					2
●	●	●					2
●	●	●	●		●	●	1
●	●		●				1
●	●		●	●			1
●	●		●	●			2
●	●			●			1
●	●				●		1
●	●						3
●	●						3
●	●		●				1
●			●	●			1
●			●	●			1
●			●	●			1
●	●		●	●			1
●	●	●	●				1
●	●		●				2

SAT= Satisfaction    CI= Customer Image    TR =Trust    EX=Expectation  
 PQ= Perceived quality    PR=Price    COMP=Complaint

This study put together the main drivers of loyalty in B2B sectors from related literature. However, some situational factors which can affect buyer’s purchase choice are not examined in proposed framework. Thus, embedding some environmental impacts on loyalty such as legal force and method of payment can be investigated in future. Also the proposed model needed to be tested with empirical data for real-life B2B exchanges to reveal the relative importance of different drivers of loyalty and their interrelationship. The weight of the drivers can be calculated using mathematical modeling techniques such as Principal Component Analysis (PCA) and Structured Equation Modeling (SEM). As a result, the present model provides a guideline for further researches to understand the main drivers of loyalty and can be used as a platform to investigate the impact of different factors on customer loyalty in various B2B sectors.

## REFERENCE

Aaker, D.A., (1991), *Managing Brand Equity*, The Free Press, New York, NY.

Andreassen, T. W. and Lindestad, B., (1997), "Customer Loyalty and Complex Services, the Impact of Corporate Image on Quality, Customer Satisfaction and Loyalty for Customers with Varying Degrees of Service Expertise", *International Journal of Service Industry Management* 4, 1-33.

Andreassen, T. W. and Lindestad, B., (1998), "The Effects of Corporate Image in the Formation of Customer Loyalty", *Journal of Service Research*, No.1, 82-92.

Aydin, S. and Özer G., (2005), "National customer satisfaction indices: an implementation in the Turkish mobile telephone market", *Marketing Intelligence & Planning*, Vol. 23 No. 5, 2005, pp. 486-504.

Ball, D., Coelho, P.S. and Macha's, A., (2003), "The role of communication and trust in explaining customer loyalty, an extension to the ECSI model", *European Journal of Marketing*, Vol. 38 No. 9/10, 2004 pp. 1272-1293

Bayol, M.P., Foye, A., Tellier, C and Tenenhaus, M. (2000), "Use of PLS Path Modelling to estimate the European Consumer Satisfaction Index (ECSI) model", *Statistica Applicata*, Vol. 12, No. 3, 361-375.

Bloemer, J.M. and Kasper, H., (1995), "The complex relationship between consumer satisfaction and brand loyalty", *Journal of Economic Psychology*, Vol. 16, pp. 311-29.

Bloemer, J., Ruyter, K. and Peeters, P., (1998), "Investigating drivers of bank loyalty: the complex relationship between image, service quality and satisfaction", (1998), *International Journal of Bank Marketing* 16/7 [1998] 276-286.

Bou-Llugar, J.C., Camison-Zornoza, C. and Escrig-Tena, A.B.,(2001), "Measuring the relationship between firm perceived quality and customer satisfaction and its influence on purchase intentions", *Total Quality Management*, Vol. 12, No. 6, 2001, 719- 734.

Caceres, R.C. and Paparoidamis, N.G., (2005), Service quality, relationship satisfaction, trust, commitment and business-to-business loyalty, *European Journal of Marketing*, Vol. 41 No. 7/8, 2007, pp. 836-867.

Chumpitaz, R. and Paparoidamis, N.G., (2004), "Service quality and marketing performance in business-to-business markets: exploring the mediating role of client satisfaction", *the Journal of Managing Service Quality*, Volume 14, Number 2/3 · 2004, pp. 235-248.

Chitty, B., Ward, S. and Chua, Ch., (2007), "An application of the ECSI model as a predictor satisfaction and loyalty for backpacker hostels", *Marketing Intelligence & Planning*, Vol. 25 No. 6, 2007, pp. 563-580.

Cretu, A.E., Brodie, R.J., (2007), "The influence of brand image and company reputation where manufacturers market to small firms: A customer value perspective", *Industrial Marketing Management* 36 (2007) 230 – 240.

Cronin, J.J., Brady, M.K. and Hult, G. Tomas M., (2000), "Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments", *Journal of Retailing*, Vol. 76, No. 2 pp. 193-218.

Deng, Z., Lu, Y., Wei, K.K. and Zhang, J., (2010), "Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China", *International Journal of Information Management* 30 (2010) 289-300.

Devaraj, S., Matta, K.F. and Conlon, E., (2001), "Product and service quality: the antecedents of customer loyalty in the automotive industry", *Production and operations management*, Vol. 10, No. 4, Winter 2001.

Forgas, S., Moliner, M. A., Sanchez, J. and Palau, R., (2010), "Antecedents of airline passenger loyalty: Low-cost versus traditional airlines", *Journal of Air Transport Management* 16 (2010) 229-233.

- Fornell, C., Johnson, M.D., Anderson, E.W, Cha, J. and Bryant, B.E., (1996), "The American Customer Satisfaction Index: Nature Purpose and Findings", *Journal of Marketing*; Oct 1996; 60, 4; ABI/INFORM Global, pg. 7.
- Fornell, C. and Wernerfelt, B. (1987), "Defensive marketing strategy by customer complaint management: a theoretical analysis", *Journal of Marketing Research*, Vol. 24 No. 4 pp. 337-46.
- Gil-Saura, I., Frasset-Deltoro, M. and Cervera-Taulet, A., (2009), "The value of B2B relationships", *Industrial Management & Data Systems*, Vol. 109 No. 5, 2009 pp. 593-609.
- Gounaris, S.P., (2005), "Trust and commitment influences on customer retention: insights from business-to-business services", *Journal of Business Research* 58 (2005) 126– 140.
- Hansen, S.W., Swan, J.E., and Powers, T.L., (1996), "The perceived effectiveness of marketer responses to industrial buyer complaints: suggestions for improved vendor performance and customer loyalty", *Journal of business & industrial marketing*, vol. 11 no. 1, 1996 pp. 77-89.
- Jayawardhena, Ch., Souchon, A.L., Farrell, A.M. and Glanville, K., (2007), "Outcomes of service encounter quality in a business-to-business context", *Industrial Marketing Management*, 36 (2007) 575–588.
- Jayawardhena, Ch., (2010), "The impact of service encounter quality in service evaluation: evidence from a business-to-business context", *Journal of Business & Industrial Marketing* 25/5 (2010) 338–348.
- Johnson, D., Gustafsson, A., Andreassen, T.W., Lervik, L. and Cha, J., (2001), "The Evolution and Future of National Customer Satisfaction Index Models", *Journal of Economic Psychology* 22, 217-245.
- Kristensen, K Martensen, A & Gronholdt, L., (1999), "Measuring the impact of buying behavior on customer satisfaction", *Total Quality Management*, Vol. 10, pp. S602-14.
- Lam, S.Y. Shankar, V, Erramilli, K.M. and Murthy, B., (2004), "Customer value, satisfaction, loyalty and switching costs: an illustration from a business-to-business service context", *the journal of Academy of Marketing Science*, Volume 32, No. , pp. 293-311.
- Martensen, A., Gronholdt, L. & Kristensen, K., (2000), "The drivers of customer satisfaction and loyalty: cross-industry findings from Denmark", *Total Quality Management*, Vol. 11, pp. S544-53.
- Molinari, L.K., Abratt,R., Dion, P.,(2008), "Satisfaction, quality and value and effects on repurchase and positive word-of-mouth behavioral intentions in a B2B services context", *Journal of Services Marketing* 22/5 (2008) 363–373
- O'Loughlin, C. and Coenders G., (2002), "Application of the European Customer Satisfaction Index to Postal Services. Structural Equation Models versus Partial Least Squares", Working Papers of the Department of Economics, University of Girona 4, Department of Economics, University of Girona.
- Oliver, R.L. (1997), *Satisfaction: A Behavioral Perspective on the Consumer*, McGraw-Hill, Boston, MA.
- Oliver, RL, (1999), "Whence consumer loyalty?", *Journal of Marketing*, Vol. 63, special issue, pp. 33-44.
- Park, Y.J., P.S. and Rim, M.H., (2008), "Measurement of a Customer Satisfaction Index for Improvement of Mobile RFID Services in Korea", *ETRI Journal*, Volume 30, Number 5, October 2008, pp. 634-643.
- Patterson, P.G. and Spreng, R.A. (1997), "Modeling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context: an empirical examination", *International Journal of Service Industry Management*, Vol. 8 No. 5, 1997, pp. 414-434.

Patterson, P.G., Johnson, L.W. and Spreng, R.A., (1997), "Modeling the Determinants of Customer Satisfaction for Business-to-Business Professional Services" *Journal of the Academy of Marketing Science*, Volume 25, No. 1, pages 4-17.

Rauyruen, P. and Miller, K.E., (2007), "Relationship quality as a predictor of B2B customer loyalty". *Journal of Business Research* 60 (2007) 21–31.

Ricard, L, Perrien, J., (1999), "Explaining and evaluating the implementation of organizational relationship marketing in the banking industry: clients' perception". *J Bus Res* 1999; 45:199–209.

Santouridis, I. and Trivellas, P., (2010), "Investigating the impact of service quality and customer satisfaction on customer loyalty in mobile telephony in Greece", *The TQM Journal*, Vol. 22 No. 3, 2010, pp. 330-343.

Spreng, R.A Shi, L.H., Page, T.J., (2009), "Service quality and satisfaction in business-to-business services", *Journal of Business & Industrial Marketing* 24/8 (2009) 537–548

Taylor, S.A., And Baker, T.L., (1994) "An Assessment of the Relationship Between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions", *Journal of Retailing*, Volume 70, Number 2, pp. 163-178.

Tu˘rkylmaz, A. and ˆzkan, C., (2005), "Development of a customer satisfaction index model An application to the Turkish mobile phone sector", *Industrial Management & Data Systems*, Vol. 107 No. 5, 2007, pp. 672-68.

Ulaga, W. and Eggert, A., (2004), "Relationship value and relationship quality: Broadening the nomological network of business-to-business relationships", *European Journal of Marketing*, Vol. 40 No. 3/4, 2006 pp. 311-327.

Zins, A.H., (2001), "Relative attitudes and commitment in customer loyalty models: some experience in the commercial airline industry", *Industrial Journal of Service Industry Management*, Vol. 12, No. 3, 2001, pp. 269-294.

# **ANALYSIS OF THE FACTORS AFFECTING THE CONSUMERS' PREFERENCES AS FOR E-TRAVEL SERVICE QUALITY: THE CASE OF TURKISH AIRLINES**

**Özlem Atalık, Anadolu University, Turkey**

## **ABSTRACT**

*By the advent of World Wide Web, a noteworthy amount of internet application has been used by many firms including airline service providers in supporting their marketing activities. To effectively examine the e-travel service quality, it is crucial to know whether a particular airline's website is giving an added advantage that could trigger online purchase intention. In this study, eight website quality factors; information quality, security, ease of use, availability, customization, community, responsiveness, delivery fulfillment are studied. A guided questionnaire was used and 118 responses were collected at International Istanbul Ataturk Airport. According to the data, a number of results were found statistically meaningful in the survey and the factors affecting customer preferences for e-travel service quality are found as information quality, security, customer relationship and website functionality.*

## **INTRODUCTION**

With the increasing popularity of online shopping, business around the world now try to enhance their competitive advantages by focusing their resources on the virtual business environment. In airline industry, e-ticketing has changed the airline industry and behavior of consumers with reducing cost and providing new channel for communication and support. Airline service providers try to offer services through electronic infrastructures, especially through the web, to decrease their cost, expand revenue, creating reliable database of consumer for future customer relationship management plans (Dehbashi & Nahavandi, 2007). In the academic literature, website quality has generally been recognized as a critical factor to drive business online. As such, numerous studies have been devoted to website quality and evaluations (Bai et al., 2008, Mohd Tahir )

Therefore, this study aims at examining direct relationship between website quality dimensions as antecedents of consumer preferences airline website service. Factor was used to analyze the data. The findings showed that information quality, customer relationship, security and website functionality are direct influential factors in consumer preferences.

## **E-SERVICE QUALITY**

Computer-aided services have grown in number and significance in proportion to the rapid growth of Internet adoption. E-service growth, also known as web-based self-service, has further magnified the importance of service sector roles in modern economies (Calisir & Gumussoy, 2008). As commonly reported in the news media, service sectors in world economies continue to expand while manufacturing sectors are experiencing shrinkage, especially in the U.S. as electronic business environments post a new set of challenges to companies. One such new challenge is the quality of the electronic service (e-service) provided by company web sites and other electronic media (Liao, Palvia & Lin, 2006). The quality of enterprise web sites has become a key indicator of how well a company is likely to satisfy its consumer (King & Liou, 2004). Another new challenge is the rapid increase in the expectations and level of sophistication of the e consumer. In recent years, researches efforts have been directed at understanding how-consumer perceive the quality of e-service as well as how these perceptions

translate into customer satisfaction and behavioral intentions. Adding to the challenges of managing e-consumer, it has become crucial to understand how individual customer differences, in terms of their information technology (IT) skills, influence their online experience, behavior and attitudes. Some studies (Agarwal & Venkatesh, 2002; Chen & Macredie, 2005) have indicated that individual differences can influence IT acceptance and satisfaction with IT use. (Udo, Bagchi Kirs, 2010)

E-service quality, as defined by Santos (2003), is the overall customer perceptions, judgments and evaluations of the quality of service obtained from a virtual marketplace. Both practitioners and researchers use e-service quality and web service quality interchangeably. For instance, Zeithaml (2002) defines e-service quality as the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery of goods and services. Zhang and Prybutok (2005) refer to the same concept as web site service quality. Several authors (Santos, 2003; Zeithaml, 2002) have developed diverse instruments to measure e-service quality. Since these instruments have little in common, exploratory studies are needed to derive a common instrument that can effectively evaluate e-service quality. Rowley (2006) has further asserted that since research endeavors in e-service are still in their infancy more efforts are needed to obtain the correct definition and measure of e-service quality. (Udo, Bagchi, and Kirs, P.J. 2010)

Several studies on service quality in physical encounters have concluded that some factors are responsible for consumer' perceptions of quality which are likely to lead to customer satisfaction and which, in turn, may lead to behavioral intentions to purchase. Some authors (Zeithaml, Berry, & Parasuraman, 1996; Zhang & Prybutok, 2005) have pointed out that behavioral intentions may predict behavior, implying that customer service quality constructs are relevant to behavioral intentions. Given that satisfied consumer are more likely to stay with a company for long periods, behavioral intentions directly impact company profitability. (Udo, Bagchi, and Kirs, 2010)

Moreover, previous studies have indicated that some of the most used key dimensions of online service quality research were navigability, playfulness, information quality, trust, personalization and responsiveness (Nusair & Kandampully, 2008), outcome quality, consumer service, process controllability, ease of use, information quality, website design (Su et al., 2008), technical adequacy, content quality, specific content and appearance (Chang & Chen, 2008), perceived ease of use, perceived usefulness, perceived social presence, trust, enjoyment (Hassanein & Head, 2007) site design, convenience, financial security, product information, product offering website design, reliability, responsiveness, trust, personalization (Lee & Lin, 2005), reliability/prompt responses, access, ease of use, attentiveness, security, credibility (Jun et al., 2004) , usefulness, ease of use, enjoyment, ease of use, information quality, website design, customer service, process controllability and outcome quality (Su et al, 2008), ease of use, security, responsiveness, empathy, customization (Madu & Madu, 2002) and content website and design website (Mohd Sam, M. Nor Hayati Tahir)

Therefore, this study adapted the Ho and Lee (2007) model that focusing on information quality, security, ease of use, availability, customization, community, responsiveness, delivery fulfillment.

## E-TRAVEL SERVICE QUALITY COMPONENTS

Ho and Lee (2007) have proposed the following 8 dimensions of web-based travel service quality based on their literature review: (Ho and Lee, 2007)

**1. Information quality:** The information made available by the websites has been widely accepted as a key component of the perceived service quality ([Kim and Lee, 2004](#)). The travel and tourism industry is an information-oriented business, and the internet can provide companies with an arena to construct a rich and dynamic platform for information supply and exchange. The issue of whether the quality of travel information carried on the websites meets the needs and expectations of users is thus crucial. Based on past research, the common criteria for assessing information content include accuracy, timeliness, its concise nature, relevance, reliability and completeness ([Madu & Madu, 2002](#); [Perdue, 2001](#)).

**2. Security:** This dimension deals with how a website proves to be trustworthy for its consumer. [Madu and Madu \(2002\)](#) suggest that online services are delivered and operated in a highly reliable and dependable manner

in order to build trust and convey confidence to consumer. Due to the lack of a physical entity and interpersonal contact while purchasing online, consumer are especially concerned with the transaction's safety. Security also refers to the attributes of privacy that are imperative for making transactions online ([Zeithaml, 2002](#)). Consumer may worry that their personal and transactional information can be accessed or used over the internet by third parties. Security has been perceived as being a critical dimension in terms of service quality or satisfaction, and is unique to the Internet environment ([Yoo and Donthu, 2001](#)). Lack of the assurance of security has been regarded as the main barrier preventing consumer from shopping online. It is natural to conclude that security is a crucial component of quality when considering online travel services.

**3. Ease of use:** This dimension contains three aspects. Navigation deals with how easily users search for information within the website. It is regarded as the essence of the multidimensional construct of e-travel service quality ([Kaynama and Black, 2000](#)). Without interaction with personnel, online consumer needs to locate information and merchandise by themselves. If they frequently get lost or confused during the search process, they are likely to quit. The design and presentation of a website involving a navigation mechanism affects the relevance and efficiency of the outcome of searching ([Perdue, 2001](#)). It suggests that navigation plays a dominant role in delivering satisfactory e-travel services. The second aspect, website access, refers to the ability of users to access resources (including travel-related information and service features) on the travel website and it is related to the ease of connection and speed of download ([Cox & Dale, 2001](#)). It is likely that online users will quit and click on to other sites because it took too long for them to access a website or download information from it. Thus there is a degree of support for website access as one of the important components related to service performance. The third part of this dimension describes the transactional functionalities which enable consumer to feel that the website is intuitive, simple, and user-friendly for completing transactions ([Kim and Lee, 2004](#)). Several components, including easy ordering, easy payment, and easy cancellation, indicate the degree to which consumer believe that of the use of the website would involve little or no effort.

**4. Availability:** Availability refers to the extent to which the services provided by the website can be obtained and used. This dimension deals with the extent to which online information resources are equipped for providing consumer with the wanted services that are easy to locate. These services also take the difficulty out of linking web pages, and facilitate the making of purchasing decisions ([Madu and Madu, 2002](#)). The variety of information and the comprehensiveness of its coverage are considered to be primary indicators ([Wan, 2002](#)).

**5. Customization:** Customization may be regarded as the extent to which a website can tailor-make services to fit individual customer's needs, for example, the extent to which the customized content of the website can provide a user with the relevant and up-to-date information that will meet his specific needs. This dimension involves individual designs for clients in accordance with their patterns of consumption and preferences resulting in an optimum online service. Customization saves the consumer' time and even increases their perception of service quality ([Madu and Madu, 2002](#)).

**6. Community:** A virtual community which is developed in a website may be regarded as an online social organization to provide users and consumer with the opportunities to share opinions and exchange information among them. Indeed, such an opinion-exchanging platform that comprises both chat rooms and a Bulletin Board System (BBS) is effective in terms of word-of-mouth communication. These service features provided by websites give users the opportunity to interact with website personnel or other users. This two-way communication makes it easier for users to search for information, make purchasing decisions, and give feedback to the website. Close relationships developed through the interaction within online communities prompt users to participate, learn and act more online.

**7. Responsiveness:** Although carrying the same name as the one in SERVQUAL, this dimension has been measured by the promptness with which a website responds to consumer in an online environment ([Kaynama and Black 2000](#); [Madu and Madu 2002](#); [Zeithaml, 2002](#)). For example, how can queries or questions from consumer are answered quickly and efficiently? How can consumer' needs and complaints be responded to via e-mail in a courteous way? How do the employees of a website deal with consumer' concerns in regard to transaction completeness? These issues are conceptualized as components of the responsiveness dimension.

**8. Delivery fulfillment:** This dimension refers to a website's success in delivering product/service and its willingness to correct mistakes that occur during transactions. It overlaps to some extent with the reliability

dimension of [Zeithaml, \(2002\)](#), which has been identified as an important factor in e-service quality. [Wolfenbarger and Gilly \(2003\)](#) especially lay emphasis on the error-free ordering process and on-time delivery of an order for online consumer. A website that makes effort to minimize the dissatisfaction with the services provided will receive a higher level of quality evaluation from its consumer.

## RESEARCH

**Objective of the Research:** The aim of this study is to determine the consumers’ order of e-travel service quality preferences concerning the capabilities, facilities and services of THY web site.

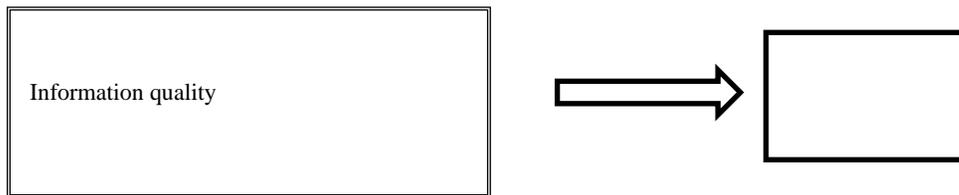
**Methodology:** The research is administered by the questionnaire applied between August 14-18, 2009 by 118 passengers. 100 usable questionnaires were gained in the research. Data were collected from Turkish passengers departing from Istanbul Ataturk Airport. The international terminal of Istanbul Ataturk Airport was chosen as the main data-collection point as it is the largest international airport in Turkey. The passengers were selected randomly among Turkish citizens who bought e-tickets.

**Reliability Analysis of the Research:** For the reliability analysis a number of correlation tests are used and it is possible to say that the research is reliable as a whole, according to the coefficient of reliability  $\alpha = 0.7982$ .

**Collection of the Research Data:** A pilot work has been done with 22 passengers to learn how good the questions in the questionnaire form serve for the objective of the research. According to answers to those questions, some modifications have been done in the questions. Based on the review of the related literature, an initial pool of 21 scale items capturing e-travel service quality was generated. The respondents were requested to select the response that best indicated their expectations on each statement, using a Likert-type five point scale. All of the activities listed by the interviewers fitted well into the previous eight categories of e-travel service quality and confirmed the multidimensional structure of service quality. In addition, the interviewees were asked to describe their experiences and opinions while completing the 21 scale items.

### Research model

The research model has been constructed on the basis of identifying the quality factors which are essential for the consumers in the process of e-travel service taking.



### 1. Demographics

**Table 1. Demographics**

<i>Nationality</i>		<i>Gender</i>		<i>Education</i>			
Turkish	Other	Man	Women	High School	Associate Degree	BA Degree	MA or PhD
100%	0%	72%	28%	38%	9%	51%	2%

<i>Age</i>				<i>Monthly income (TL)</i>			
20-30	31-40	41-50	51- and more	1000 – 3000	3001 – 4000	4001 – 5000	5001 and more
19%	60%	19%	2%	22%	55%	15%	8%

Table 1 presents the profiles of the sample in terms of the principal socio-demographic characteristics. As it can be seen at Table 1, 72% of total respondents are male and 28% of total respondents are female passengers. When the distribution of the participants related to their educational background is examined, it can be seen that 51 %

of the participants are university graduates, 2% of the participants have master or Phd degrees and 38% of them are high school graduates. When the proportion of the members is analyzed in terms of the general sum a high proportion has been seen as university graduates 51%. When the monthly incomes of the participants are examined, it has been seen that 22 % of them have monthly income as 1000-3000, 55 % of them have monthly income as 3001-4000, and 15.0 % of them have monthly income as 4001-5000 and %8 of them have monthly income as 5001 and more. When the distribution of the subjects according to their age range is analyzed it can be seen that 19% of them are aged between 20-30, 60 % of them are aged between 31-40, 19 % of them are aged between 41-50, and 2 % of them are aged between 51 and more.

## 2. Results of factor analysis

In the factor analysis done for the preferences of THY passengers who use e-travel applications, the value of Kaiser – Meyer – Olkin (KMO) has been found as 0.796. Since the calculated KMO value is higher than 0.60, the amount of samples used for the factor analysis has been found to be satisfactory. What is more, the Bartlett Test's result 0,000 has also approved that significant factors have been taken from the samples. As the results of the factor analysis to identify the e-service quality preferences of the passengers, 4 distinctive factors have been highlighted. The results of the factor analysis are shown in Table 2.

**Table: 2 Factor Loadings**

	Factor loadings			
	1	2	3	4
Information accurate	<b>,791</b>	,189	,076	,039
Provides in-depth information for consumer making purchasing decisions	<b>,670</b>	,074	-,199	,189
Information update	<b>,538</b>	,026	,366	,080
Easy to find wanted information	<b>,417</b>	-,353	,136	-,208
Responds to users' inquiries promptly	,044	<b>,772</b>	,014	,150
Easy for users to turn to chat rooms for more information	,038	<b>,688</b>	,026	,192
Company behind the site reputable	,038	<b>,574</b>	,217	,020
Understand specific needs and gives personal attention	,317	<b>,490</b>	,133	-,276
Has adequate secured feature to protect consumer' information	<b>,458</b>	,006	-,150	-,183
Provides FAQ information	,223	<b>,352</b>	,098	245
Makes full confirmation in on-line payment	,066	,017	<b>,767</b>	-,141
Consumer are informed as transaction is completed	-,072	,093	<b>,751</b>	-,163
Security payment system	,037	,194	<b>,602</b>	,039
Has comprehensive information	,001	<b>,421</b>	-,004	,228
Functionality as the site should be linked quickly	-,094	,024	,046	<b>,659</b>
Search functionality helpful	,286	-,002	,245	<b>625</b>
Language	,201	,016	,036	<b>,579</b>
Easy access to the site	-,268	,393	,142	<b>,550</b>
Be linked quickly	,337	-,166	,015	<b>548</b>
Quick and easy to complete a transaction	,054	,096	,076	<b>,523</b>
Easy to maneuver	,416	,119	-,094	<b>,518</b>

As a result, four dimensions of e-travel service quality were identified and 21 scale items were retained. With these four factors, 79.6 % of the variance might have been explained. The four quality dimensions extracted were defined as follows:

Factor 1, Information quality refers to the amount, accuracy and the form of information about the products and services offered on a web site (Nusair et al., 2008) Information quality refers to the measurement items that are mainly related to the service attributes of the provided information provided by websites. This factor refers to information accurate, provides in-depth information for consumer making purchasing decisions, information update, easy to find wanted information.

Factor 2, customer relationships, is related to personalized services a website provides for its consumer and their interactions with other website users through the online community. This factor refers to responds to users' inquiries promptly, easy for users to turn to chat rooms for more information, company behind the site reputable, company behind the site reputable, understand specific needs and gives personal attention, has comprehensive information, provides FAQ information.

Factor 3, Security, consists of such service attributes as the protection of consumer information and confirmation of payment. The dimension of security may be regarded as the degree of the customer's trust and confidence in the website This factor refers to makes full confirmations in on-line payment, consumer are informed as transaction is completed, security payment system, has adequate secured feature to protect consumer' information.

Factor 4, website functionality, refers to service characteristics regarding the functionality and availability of the site. This factor refers to functionality as the site should be linked quickly, search functionality helpful, language, easy access to the site, be linked quickly, quick and easy to complete a transaction, easy to maneuver.

It appears that online consumer e-travel service quality on the basis of website functionality, including the elements such as workable functionality that are quickly linked and can be easily turned off when the site is difficult to access, or cannot be navigated easily, for much time may be unnecessarily used up. The performance pertaining to these key features of a website affects searching for, conveying and browsing travel-related information.

## **CONCLUDING REMARKS**

The Internet has become one of the most important platforms for travel-related service entrepreneurs to provide services and communicate information with their target consumer. The number of travel-related websites has grown rapidly during the past decade, and the competition has become more intensive than ever. To survive, or even succeed, entrepreneurs need to be customer-orientated. An e-service company should see things through consumer' eyes, realize their needs, and design an online service system that can meet consumer' preferences. Therefore, understanding how consumer defines e-service quality is crucially important for a company doing business in the world of the Web. (Ho, Lee, 2006)

Distribution through own websites is generally regarded as the most cost effective for airlines. They are thus attempting to migrate consumers from traditional channels to their own online channels as fast as possible. For airlines to increase migration of travellers to their websites it is necessary to understand traveller preferences towards the Internet as a distribution channel.

According to the research results, online consumer placed emphasis on information quality, customer relationships, security, website functionality were the four most critical factors in evaluating e-travel service quality. Finally, they must know that e-travel service quality factors are crucial because these factors can also affect consumer' decisions to purchase on the websites. E-travel service providers can evaluate the performance of their online services and initiate proper practices, which are aimed at improving their service quality. In other words, the scale of e-travel service quality factors can help management to map the performance of specific service domains more precisely and to propose corresponding improvement programs more effectively.

## **REFERENCES**

- Bai, B., Law, R. & Wen, I., "The impact of website quality customer satisfaction and purchase intentions: evidence from Chinese online visitors". *International Journal of Hospitality Management*, 27, (2008), 391-402.
- Calisir and Gumussoy, "Internet banking versus other banking channels: Young consumers' view" *International Journal of Information Management* 28 (3) (2008), 215–221
- Chang, H. H & Chen, W.C. (2008). "The impact of online store environment cues on purchase intention". *Online Information Review*, 32 (6), (2008), 818-841
- Chen and Macredie, "The assessment of usability of electronic shopping: A heuristic evaluation" *International Journal of Information Management* 25 (6) (2005), 516–532
- Dehbashi S. & Nahavandi N. "Factors affecting on Iranian passengers' acceptance towards electronic ticketing provided by airlines", *IADIS International Conference e-Society*, (2007)
- Hassanein, K. & Head, M., "Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping". *International Journal of Human-Computer Studies*, 65, (2007), 689-708
- Ho, C. I., & Lee, Y. L. "The Development of an E-Travel Service Quality Scale", *Tourism Management*, 28, (2007), 1434-1449
- Heinze and Q. Hu, "The evolution of corporate web presence: A longitudinal study of large American companies", *International Journal of Information Management* 26 (4) (2006), pp. 313–32
- Jun M, Yang Z. & Kim, D. "Customers' perceptions of online retailing service quality and their satisfaction". *International Journal of Quality & Reliability Management*, 21(8), (2004), 817-840.
- Kaynama, S. A., & Black, C. I. "A proposal to assess the service quality of online travel agencies: An exploratory study". *Journal of Professional Services Marketing*, 21, (1), (2000), 63–89.
- Kim, W. G., & Lee, H. Y. "Comparison of web service quality between online travel agencies and online travel suppliers", *Journal of Travel & Tourism Marketing*, 17(2/3), (2004), 105–116
- King S.F. and J.S. Liou, "A framework for internet channel evaluation", *International Journal of Information Management* 24 (6), (2004), 473–488
- Liao, C. P. Palvia and H.N. Lin, "The roles of habit and web site quality in e-commerce", *International Journal of Information Management* 26, (2006), 469–483
- Madu, C. N., & Madu, A. A., "Dimensions of e-quality". *International Journal of Quality & Reliability Management*, 19(3), (2002), 246–258.
- Mohd Sam, M., Nor Hayati Tahir, Md., "Website Quality and Consumer Online purchase Intention of Air Ticket", *International Journal of Basic and Applied Sciences IJBAS* Vol:9 No:10
- Nusair, K. & Kandampully, J. (2008), "The antecedents of customer satisfaction with online travel services: a conceptual model". *European Business Review*, 20(1), 4-19.
- Perdue, R. R. "Internet site evaluations: The influence of behavioral experience, existing images, and selected website characteristics". *Journal of Travel & Tourism Marketing*, 11(2/3), (2001), 21–38.
- Rowley J., "An analysis of the e-service literature: Towards a research agenda", *Internet Research* 16 (3), (2006), 339–359
- Santos J., "E-service quality—a model of virtual service dimensions", *Internet Research* 15 (1), (2003), 21–48

Srinivasan, S. S., Anderson, R., & Ponnayolu, K. "Customer loyalty in e-commerce: An exploration of its antecedents and consequences", *Journal of Retailing*, 78, (2002), 41–50.

Su, Q., Li, Z., Song, Yong-Tao & Chen, T. "Conceptualizing consumers' perception of e-commerce quality", *International Journal of Retail & Distribution Management*, 36(5), (2008)

Udo, G.J. Bagchi, K.K. and Kirs, P.J. "An Assessment of Customers' E-Service Quality Perception, Satisfaction and Intention," *International Journal of Information Management*, Vol. 30, No. 6, (2010) 481-492

Wan, C. S. "The web sites of international tourist hotels and tour wholesalers in Taiwan". *Tourism Management*, 23, (2002), 155–160

Wolfenbarger, M., & Gilly, M. C.." eTailQ: Dimensionalizing, measuring and predicting retail quality". *Journal of Retailing*, 79, (3), (2003), 183–198

Yoo, B., & Donthu, N. Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL). *Quarterly Journal of Electronic Commerce*, 2(1), (2001), 31–46.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A., "Service quality delivery through web sites: A critical review of extant knowledge". *Journal of the Academy of Marketing Science*, 30(4), (2002), 362–410.

Zeithaml, V.A., Berry, L.L. Parasuraman, A., "The behavioral consequences of service quality," *Journal of Marketing*, Vol. 60 No. 2. (1996), 31 – 46.

Zeithaml, V.A., "Service excellent in electronic channels", *Managing Service Quality*, 12 (3), 2002. 135-138.

Zhang, X. and Prybutok, V.R., "A consumer perspective of e-service quality", *IEEE Transactions on Engineering Management*, Vol. 52, No.4, (2005), 461-477

# THE ROLE AND IMPLICATIONS OF KNOWLEDGE SHARING IN COMPLEX RESOURCE ORGANIZATIONS

**Sriram Balasubramanian and Guy Callender**  
**Curtin University, Australia**

## ABSTRACT

*Over the next ten years many petroleum corporations will face a knowledge loss closely related to the retirement of half of their workforce in addition to the relentless pursuit of higher production efficiency from existing resources and seeking new sources of oil in remote and more dangerous locations. In this environment significant value may be generated for an organization by the collective knowledge of its existing employees to eliminate mistakes, re-work and avoid the need for new learning caused by a failure to engage in formalised, knowledge sharing. A review of the literature does not explain how complex resource organizations are managing change to overcome the prospect of knowledge loss. This conceptual paper explores the dimensions of knowledge sharing and its relationship to knowledge management, knowledge transfer and the management of change and its ability to provide "forward momentum in turbulent times."*

## INTRODUCTION

Growth in world energy demand from petroleum sources is estimated to increase, even though alternative energy sources are being developed (Scarso, Bolisani & Salvador, 2009). Factors such as globalization, deregulation, technological innovation, depleting reserves and higher development costs have driven petroleum companies to reduce costs (Burnett, Brookes-Rooney & Keogh, 2002; Ednie, 2005, Scarso et al., 2009) and seek higher efficiency through automation and organizational re-structuring (Burnett et al., 2002; Sánchez & Palacios, 2008). Such strategies may have resulted in leaner organizational structures created by many petroleum companies reducing staff, through acquisitions, strategic alliances, joint ventures and other consortia agreements (Sánchez & Palacios, 2008; Kamph, 2009). There are claims that such practices are leading to a decrease in informal employee knowledge sharing and communications (Sánchez & Palacios 2008; Kamph, 2009) and a reduction in traditional 'learning on the job'.

There are also catastrophic operational losses in the petroleum industry which capture international media attention on a regular basis. Unfortunately, some of these incidents involve loss of life, serious injuries and environmental damage. Media reports demonstrate the losses which occur across a wide range of petroleum assets. For instance, Whittell (2010) and *Hydrocarbon Processing* (2005; 2006) have reported a number of abnormal situations, which include undetected instrument failures leading to erroneous control of critical processes, or undetected degradation in equipment performance resulting in constrained capacity. Many of these losses may have been prevented by knowledge sharing in such organizations (Davidson, 2006; Himmelsbach, 2007; Benson & Durler, 2009; Ahuja 2010), although the evidence supporting such claims is not really clear.

Examining the anticipated retirement of more than half of the petroleum industry workforce within the next 10 years Ahuja (2010) has calculated that major petroleum corporations may lose about 231,000 years of cumulative experience, learning and knowledge. Nevertheless, a significant amount of knowledge exists in the memory of people which could be transferred to other people. Knowledge capture from a dwindling workforce should be important to organizations, assuming the knowledge is of value, scarce, and threatened by loss (Burnett et al., 2002; Scarso et al., 2009; Jackson, 2010).

Many large organizations are seeking to better manage the collective knowledge of their employees (Chaharbaghi & Nugent, 1994; Drew & Smith, 1995; Dervitsiotis, 2007; Reinstein, 2007). Edwards (2008) points out that there are many examples of good practice in Knowledge Sharing in the energy sector and finds that some organizations, especially in the oil industry, are leaders in Knowledge Sharing practices. Even though the current quality management systems in many organizations, referred to as the Performance Improvement Framework (PIF) in this study, apply knowledge management as one of its core components, Knowledge Management and the PIF are often viewed as unrelated activities (Akdere, 2009). Additionally, their interaction has not been widely explored (Akdere, 2009). Furthermore, though many researchers and organizations claim that there can be a significant value from Knowledge Sharing and a PIF, they provide little guidance on how complex resource organizations leverage knowledge transfer for such a process (Deming, 1992; Flynn, Schroeder & Sakakibara, 1994; Kanji, 2002; McAdam, 2004; Gupta, 2010).

Some petroleum companies have a very flat organization structure with business units spread across the globe (Refaiy & Labib, 2009; Scarso et al., 2009). These business units of necessity operate with a great deal of autonomy, functioning almost as a discrete company, highly focused on performance (Scarso et al., 2009). In particular, the knowledge barriers tend to grow among these distant, self-reliant parts of the organization, that become “knowledge islands” with specific backgrounds, values, languages and behaviours (Scarso et al., 2009). Several global corporations have promoted communication and social interactions to bridge such knowledge islands within an organization and alliance partners (Inkpen, 1998; Scarso et al., 2009).

Even though many researchers and organizations claim that there can be significant value from Knowledge Sharing, especially to create Performance Improvement, they provide little in the way of systematic evidence to justify the claim (Deming, 1992; Flynn et al., 1994; Kanji 2002; McAdam, 2004; Akdere, 2009). Further, it is unclear how complex resource organizations are managing change to prevent knowledge loss. It may therefore be useful to research how major resource companies could use Knowledge Sharing to prevent knowledge loss.

## DEFINITIONS

Knowledge may be divided into two distinct types: explicit and tacit knowledge (Kumar & Nti, 1998; Bresman, Birkinshaw & Nobel, 1999; Joia & Lemos, 2010). *Explicit knowledge* involves knowledge that is of a codifiable nature, such as knowledge described in manuals or reports (Bresman *et al.*, 1999; Joia & Lemos, 2010). Explicit knowledge is expressed in formal language, words, symbols and numbers and can be stored in a database that allows the data to be conventionally transmitted and searched (Inkpen & Dinur, 1998; Joia & Lemos, 2010).

In contrast *tacit knowledge* is the knowledge carried within the memory of people, which is often intuitive, not written, and cannot be verbalized or articulated (Inkpen & Dinur, 1998; Bresman et al., 1999; Akdere, 2009; Joia & Lemos, 2010). Tacit knowledge is also difficult to express in formal language as it comes from experience, perceptions, individual values and depends on the context in which it is generated (Joia & Lemos, 2010). It is knowledge that seems to occur through a habitual process, which has a very personalized nature, making it harder to transfer and communicate to others (Inkpen & Dinur, 1998; Joia & Lemos, 2010). For example, articulating or describing an organizational process can be very difficult as the “knowledge supporting the process is highly tacit” (Inkpen, 1998, p. 74). Tacit knowledge therefore cannot be easily exchanged in intra-firm and inter-firm relationships, as it involves deeply embedded expertise and skills (Ratten & Suseno, 2006; Davenport, Prusak & Strong, 2008).

The dichotomy between explicit and tacit knowledge demonstrates the likelihood that *Knowledge transfer* will be a complex phenomenon and, in practice, success is often not easy to achieve (Ding, Akoorie & Pavlovich, 2009). Ratten and Suseno (2006) estimate that more than half the knowledge that exists in firms is largely of a tacit nature. Tacit knowledge can be classified into two categories: the first is technological knowledge such as material processing, machine maintenance, product design and new product test knowledge. The second is managerial knowledge such as staff management, supplier management, and customer management (Refaiy & Labib, 2009). There are also a number of factors that may affect the outcome of transfer, even for the relatively simple case of transferring knowledge within the same firm (Ding et al., 2009). These

include the challenge for many organizations is to systematically capture the tacit knowledge, transfer it to a form of explicit knowledge and share it to create value (Ratten & Suseno, 2006; Refaiy & Labib, 2009). Typically, this process is referred to as *Knowledge Management*.

Knowledge Management can be described as the ability of an organization to leverage its collective wisdom, to increase its responsiveness and innovation through the systematic capture, transfer and application of knowledge (Davidson, 2006; Thomas, 2007). Davenport et al. (2008, p.R-11) define Knowledge Management as “a concerted effort to improve how knowledge is created, delivered and used”. Once again, there are claims, such as that of Anderson and Boulanger (2004) that Knowledge Management is one of the factors propelling the global knowledge economy, organizational change, competitive advantage and wealth creation for many organizations.

*Knowledge Sharing* describes the process of sharing mutual knowledge, beliefs and assumptions. Haythornthwaite (2006) believes that Knowledge Sharing can facilitate productive work and interaction, where group members have a shared understanding of content, process and each other. Firms are embedded in a social environment where human resources are instrumental to innovation and are supposed to use all information available to them (Spithoven, Frantzen, & Clarysee, 2010). While there are numerous sources of useful information, ranging from specialized knowledge embodied in individuals within enterprises, to publicly available general knowledge (Spithoven et al., 2010) the literature is not very clear how complex resource organizations use knowledge sharing to maintain performance.

*Knowledge Sharing* is defined as “provides a link between individual knowledge workers, where such knowledge resides, and the level of organization, where it attains its (economic, competitive) value” (Hendriks, 1999, p.91). For the knowledge to be shared at least two parties are required. The first party communicates the knowledge in some form, and the other party perceives these expressions of knowledge and makes sense of them (Hendriks, 1999; Haythornthwaite, 2006; Spithoven et al., 2010). As knowledge does not have a physical form, it cannot be physically shared (Hendriks, 1999). Yet, many companies believe they gain significant competitive advantage through their ability to establish Knowledge Sharing amongst their workforce (Kumar & Nti 1998; Burnett, Illingworth & Webster 2004; Davenport et al., 2008; Akdere, 2009).

Knowledge Sharing acts as a resource that could enable organizations and its employees to achieve faster learning and create better decision-making processes (Al-Busaidi, 2005). There has been a significant amount of research dedicated to examining learning within an organization, as well as learning between organizations (Cohen & Levinthal, 1990; Huber, 1996; Inkpen, 1998; Kumar & Nti, 1998; Zahra & George, 2002; Todorova & Durisin, 2007). The nature of organizations as social communities further encourages organizations to learn by sharing knowledge between their partners, customers, suppliers, and competitors (Kogut & Zander, 1996; Dyer & Singh, 1998). Since tacit knowledge (explained in subsequent sections) is acquired through inner individual processes such as experience, reflection, internalization and individual talent, some understanding of the personal component is the factor for sharing tacit knowledge (Joia & Lemos, 2010). As people work and integrate within organizations, a structured *Performance Improvement Framework* may be necessary to facilitate the spread of tacit knowledge (Joia & Lemos, 2010). In such an environment of learning could Knowledge Sharing provide a critical link between a Performance Improvement Framework and Management of Change?

Nonaka and Takeuchi (1995) have proposed a spiralling process of sharing and reflection, comprising of internalization (conversion of explicit to tacit knowledge), then socialization (conversion of tacit to tacit knowledge) and combination (explicit to explicit). The process of such conversion of knowledge leads to the creation and proliferation of knowledge through sharing, where people are able to reflect on what they have learnt, put it into practice and then improve on it (D'Eredita & Barreto, 2006). There are a number of authors Cohen and Levinthal (1990), Zahra and George (2002); and Todorova and Durisin (2007), who have claimed that the ability of a firm to recognize the value of new external information, to assimilate it, can apply the knowledge to commercial ends. However, once again, it is not very clear how complex resource organizations can use Knowledge Sharing to continually improve their existing procedures, technology and performance.

The implication of Knowledge Sharing seems to be achieved through tacit to tacit communication although there are those who suggest Knowledge Sharing can also be achieved through a tacit to explicit to tacit

conversion loop, outlined below (Refaiy & Labib, 2009). According to this view, Knowledge Sharing is facilitated by the creation of virtual team. In virtual teams, members must develop mechanisms for knowledge sharing, which includes distribution of existing knowledge among team members its evaluation and synthesis leading to the construction of new knowledge (Hendrix, 2007). This process involves critical thinking, reflection, participate in group discussions, exchange of ideas, arguing from different perspectives and coming to a decision based on some level of consensus (Hendrix, 2007).

Davenport and Prusak (1998) described the process of Knowledge Transfer as the sum of transmission and absorption. The amount of knowledge transferred might be distorted or reduced through some knowledge barriers, which may exist in the form of barriers such as space and time, or more fundamental barriers such as social distance, cultural difference (including language) and differences in mental and conceptual frames (Hendriks, 1999). Davenport et al. (2008) claim that knowledge and organizational learning are two sides of the same coin, as organizations cannot learn without effective knowledge and knowledge is not possible without effective learning. Their research demonstrates that there is no single recipe for creation, transfer and dissemination of knowledge. for example, Davenport et al. (2008, p.R-11) note that “while firms in highly competitive industries may choose to focus the majority of their efforts on knowledge creation because their survival depends on having the most advanced products, others, say those with far-flung operations, may be better off focusing on how best to disseminate existing know-how to diverse work forces”.

Avoiding major catastrophic incidents remains a key outcome of this research. Its aim is to research the links between knowledge sharing and safe performance and reduction of losses caused by frequently occurring, minor events. It is reported that a review of the Belke and Delguid incident databases indicate that improved process measurements and real-time analysis/detection might have prevented, or at least substantially reduced, the damage from approximately 25% to 40% of these incidents (*Hydrocarbon Processing* 2005; 2006). Detecting the initial failure early enough to take corrective action and manage the necessary changes through a systematic framework, may have high potential value (*Hydrocarbon Processing*, 2005; 2006; Whittell, 2010). This is an industry claim which seems to be unsubstantiated through academic research.

Knowledge Sharing systems have been implemented in various global companies during the last few years. However, many of them have failed because they were limited to technical solutions and did not consider the organizational and cross-cultural factors that are necessary to make a knowledge-sharing platform successful (Voelpel, Dous & Davenport, 2005). The literature prompts the question: Is there a reliable process to simplify, validate and distil the knowledge being shared? Could a common, reliable technology provide the infrastructure required to facilitate the networking?

## MANAGEMENT OF CHANGE

The *Management of Change* not only affects a business but also influences personal behaviour in an organization. Reinstein (2007) notes that managers are often engaged in process changes or implementing technology. The impact of this focus is emphasised by Reinstein (2007) who reports that an analysis completed by Deloitte Consulting on sixty two companies implementing ERP programs found that 62% were people issues, 16% were process, 9% were technology and 3% were knowledge assets. This view is reinforced by Law (2009 p.384) who observes that transformational technological changes present a challenge where “the business and people aspects of the change need to be balanced”. This research suggests the people side is overlooked, with the focus being on the change leaders implementing structural changes too quickly to yield the results that owners and shareholders seek (Law, 2009).

Often the impact of such changes at the level of the individual in the organization is not adequately considered. In many of the Management of Change models which recognize individuals they are seen as recipients of change (Becker, 2010) rather than deliverers. The individual needs are lost in the overall structured, objective and clinical perspective on dealing with change (Becker, 2010). Law (2009) claims that technological and organizational changes can only be successful in an organizational culture of trust, loyalty, ongoing learning, enthusiasm and productivity and adds that even if the participants involved in the change, know what to do to implement the change, there is a sense of uncertainty about the value of the changes. For successful implementation of changes, organizations may need to convince individuals to learn and adopt the new

knowledge, requiring individuals to relinquish or at least refine their existing knowledge and practices (Becker, 2010).

Martin, Weisenfeld and Bekmeier-Feuerhahn (2009) also observe that conservative forces in big organizations are slow to change. Vested interests, once labelled as “dynamic conservatives”, may oppose even promising innovations. Martin et al. (2009) favour management of change in a conducive environment, where the mindset of people supports change and individual goals are broadly aligned to organizational objectives. Further, they add that the employees should be included in the process of successful management of change, as employee structures contain both conservative and progressive forces, aimed at overcoming outdated solutions.

Brown and Eisenhardt (1997) observe that many organizations successfully manage changes by blending limited management structure around responsibilities, prioritizing extensive communication and design freedom to create improvisation. This combination is neither so structured that change cannot occur nor so unstructured that chaos ensues. Additionally, such organizations rely on a wide variety of low-cost probes into the future, including experimental products, futurists, and strategic alliances. Such organizations ‘link the present and the future together through rhythmic, time-spaced transition processes’ (Brown & Eisenhardt, 1997, p.1).

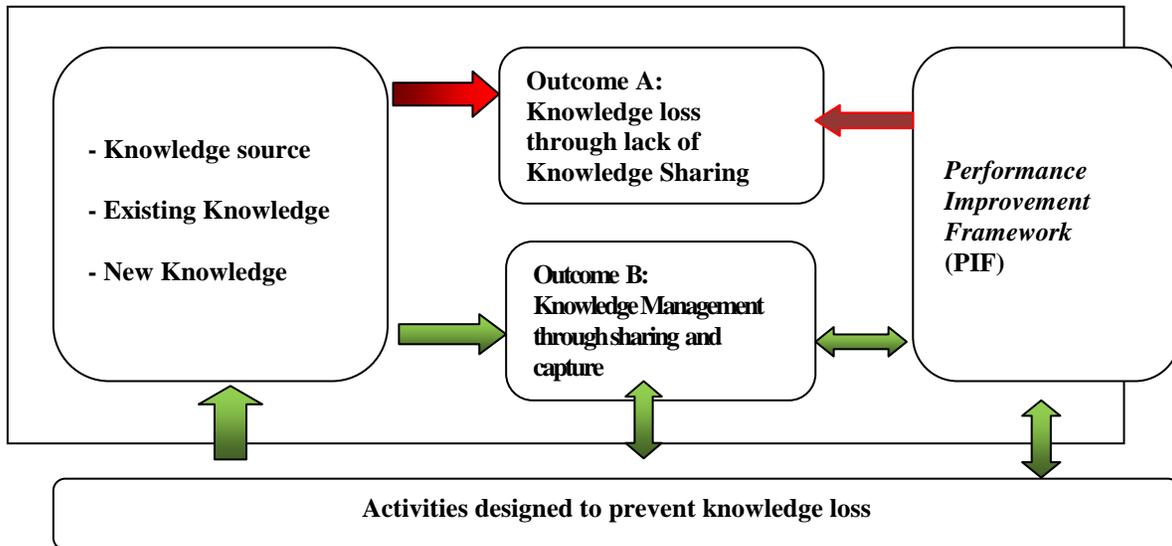
Sikora, Beaty and Forward (2004) proposed a model to study the varying levels of employee physiological stress levels with different changes in an organization. They note that the current organizational change and work stress models inadequately address the subjective experience of employees. They add that the complexity of contemporary work settings with multiple and simultaneous changes, is contributing to the high psychological stress levels in employees. Dool (2010) also points out that the environment of continuous, serial change has increased employee stress and leads to a condition known as enervative change. The net effect of employee response to cycles of major and minor organizational changes is believed to be a primary contributor to employee resistance to change (Sikora et al., 2004; Dool, 2010). The cumulative impact of multiple and sometimes conflicting change initiatives may eventually overwhelm an individual’s cognitive appraisal and coping mechanisms (Sikora et al., 2004; Dool, 2010). Dool (2010) claims that a new framework for management of change is required, so that organizations can adapt to changes and avoid the negative effects of changes. Such a framework of change might shift the notion of change from being an unusual organizational adaptive response to a positive and natural part of the organization.

An example of this type of approach to change is exemplified by a *Performance Improvement Framework* used by many complex resource organizations to facilitate the management of their operations (Collison & Parcell, 2004). Many major petroleum companies are driven by a focus on all activities around Performance Improvement, building a high performance culture, sustainability, safety and profitable growth (Ednie, 2005). There is evidence that this approach to facilitating the sharing and diffusion of knowledge has had some positive effects. For example, Steinberg and Davis (2002) claim that a Knowledge Sharing culture saved Shell around \$200 million in the year 2000. Kruzner and Trollinger (1996), Davidson (2006); Barr and Cook (2009); Scarso et al., 2009) also observe that a Performance Improvement Frameworks help large organizations to capitalize on the available knowledge. Scarso et al. (2009) highlight global oil corporations such as Shell, BP, and ChevronTexaco have large communities of practice to facilitate Knowledge Sharing

One method of deconstructing this challenge is to use the model below to summarize the research. It was seen from the various frameworks that a systematic link to *Knowledge Sharing*, a *Performance Improvement Framework* and *Management of Change* is not readily visible. A model is proposed below to explore the link between *Knowledge Sharing* (KS), *Performance Improvement Framework* (PIF) and *Management of Change* (MOC). Based on the basic framework described below in Figure 1, it will be explained how any changes required to existing knowledge base can be managed and absorbed into the organizational learning process and exploited, through a systematic process of performance improvement. In this context, some of the existing literature will be examined in areas like *Knowledge Management*, *Knowledge Sharing*, *Organizational learning*, *Absorptive Capacity* and a few existing *Performance Improvement Frameworks* like *Total Quality Management* (TQM) and *Operations Excellence*, for improving the quality of this research. It is not the intention to prescribe or evaluate any particular *Performance Improvement Framework* in this study as it would be specific to each organization. Further, there have been numerous studies already carried out on topics such as *Knowledge Management*, *Knowledge Sharing* and *Management of Change*. Hence this study will be an exploratory research to establish the link between *Knowledge Sharing*, a *Performance Improvement Framework* and *Management of*

Change. Any further identified gaps in literature for establishing causal links between *Knowledge Management, Performance Improvement Frameworks and Management of Change* will be suggested for future research.

**Figure 1: Conceptual Model of the Management of Change focused upon Knowledge Sharing**



(Source: Original Table)

Until recently, the petroleum companies were protective of their knowledge, due to the level of competition within the industry (Thomas, 2007). However, the petroleum industry is coping with losses due to an aging workforce coupled with an acute labour shortage (Himmelsbach, 2007; Benson & Durler, 2009; Ahuja, 2010). For many years it has been claimed that petroleum companies can have significant competitive advantage if it can use information to act faster, respond to external changes faster, make more informed decisions, by allowing every individual in the company to better communicate, collaborate and share information on a routine basis by establishing forums through a form of knowledge exchange (Reed, Palmeri, Coy & Brady, 2006; Ahuja, 2010). This research will test this premise.

## CONCLUSION

Many companies believe they gain significant competitive advantage through their ability to establish Knowledge Sharing amongst their workforce (Burnett et al., 2004). Preliminary information gathered to study the importance of the Knowledge Management process in creating sustainable competitive advantage through sharing tacit knowledge in many industries suggest that the relationship between Knowledge Sharing, Management of Change and a Performance Improvement Framework (PIF) in petroleum companies was examined and preliminary results show that until recently, insights into the dynamics of the relationship between a Performance Improvement Framework (PIF), Knowledge Sharing and Management of Change in the petroleum industry have been fragmented. Some organizations, especially in the oil industry, claim to be seen as leaders in Knowledge Sharing practices and have earned a good reputation for Knowledge Management (Edwards, 2008) and Management of Change (TTC, pers.com). However other parts of the resource sectors are yet to embark on explicit Knowledge Management (Edwards, 2008) and Management of Change initiatives, seemingly unaware of the fields.

Since the 1990s, with the economic perception changing from an emphasis on tangible resources to intellectual assets, it has become clear that a company with an unstructured approach to corporate *Knowledge Management* is incapable of competing in this new environment (Burnett et al., 2002; Culpan, 2008; Benson & Durler, 2009; Kamph, 2009; Joia & Lemos, 2010). Dynamic markets for both end products and technologies, coupled with the increasing costs of doing business, inter-firm partnerships like strategic alliances, joint ventures, joint industry projects and acquisitions are no longer a strategic option, but a necessity in many markets and industries. Partnerships help companies pool their resources and knowledge, and spreading the costs and

risks to a number of organizations (Burnett et al., 2002; Kamph, 2009). Acquisitions can provide instant access to new knowledge in the form of expertise, process and technology from another organization (Burnett et al., 2002). Overall, the challenge is not losing current knowledge.

## REFERENCES

- Ahuja, Y., "Making Social Media Work for Oil & Gas", *Oil & Gas Journal*, 26 April 2010, S15-S17.
- Akdere, M. "The Role of Knowledge Management in Quality Management Practices: Achieving Performance Excellence in Organizations", *Advances in Developing Human Resources*, Vol.11, No. 3(1 August 2009): 349.
- Al-Busaidi, K A., "A socio-technical investigation of the determinants of *Knowledge Management* systems usage", Ph.D. diss., The Claremont Graduate University, In Dissertations & Theses: A&I [database on-line] (2005), <http://www.proquest.com.dbgw.lis.curtin.edu.au>, accessed July 12, 2010.
- Anderson, R. & Boulanger, A., "Lean energy management-7: *Knowledge Management* and computational learning for lean energy management", *Oil & Gas Journal*, 22 November, Vol. 102, No. 44, (2004): 36-40.
- Barr, R & Cook, R., "Mining for operational excellence", *Mining Engineering*, Vol.1 (November, 2009): 26-31.
- Becker, K., "Facilitating unlearning during implementation of new technology", *Journal of Organizational Change Management*, Vol.23, No. 3, 1 May, (2010): 251-268.
- Benson, A.D., & Durler, G., "Knowledge Management Systems for the development of a precious natural resource", *Oil, Gas & Energy Quarterly*, (1 September 2009): 85-95.
- Bresman, H., Birkinshaw, J. & Nobel, R., "Knowledge transfer in international acquisitions", *Journal of International Business Studies*, Vol. 30, (1999): 439-462.
- Brown, S.L & Eisenhardt, K.M., "The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations", *Administrative Science Quarterly*, Vol.42, No. 1 (1997): 1-34.
- Burnett, S., Brookes-Rooney, A & Keogh. W., "Brokering knowledge in organizational networks: The SPN approach", *Knowledge and Process Management*, Vol.9, No. 1, (2002): 1-11.
- Burnett, S., Illingworth, L. & Webster, L., "Knowledge auditing and mapping: a pragmatic approach", *Knowledge and Process Management*, Vol.11, No. 1, (2004): 25-37.
- Chaharbaghi, K & Nugent, E., "Towards a dynamic organization", *Management Decision*, Vol.32, No. 6, (1994): 45-48.
- Cohen, M.W & Levinthal, D.A., "Absorptive Capacity: A new perspective on learning and innovation", *Administrative Science Quarterly*, Vol.35, (1990): 128-152.
- Collison, C. & Parcell, G., *Learning to Fly, Practical Knowledge Management From Leading and Learning Organization*, Capstone Publishing Limited, Chichester, West Sussex, U.K, 2004.
- Culpan, R., "The Role of Strategic Alliances in Gaining Sustainable Competitive Advantage for Firms", *Management Revue* Vol.19, No. 1/2, (2008): 94-105.
- Davenport, T.H, Prusak, L, & Strong, B, "Business Insight (A Special Report): Organization; Putting Ideas to Work: *Knowledge Management* can make a difference", *Wall Street Journal*, (10 March 2008).

- Davidson, J., "Finding value in lessons learned databases", *Knowledge Management Review*, Vol. 9, No. 3, (2006): 6-7.
- Deming, W.E., "A system of profound knowledge", *British Deming Association*, Knoxville, TN: SPC Press, 1992.
- D'Eredita M.A & Barreto C., "How does tacit knowledge proliferate? An episode based perspective", *Organization Studies*, 27, No. 12, (2006): 1821-1841.
- Dervitsiotis, K.N., "On Becoming Adaptive: The New Imperative for Survival and Success in the 21st Century", *Total Quality Management & Business Excellence*, Vol. 18, No. 1/2, (2007): 21.
- Ding, Q., Akoorie, M., & Pavlovich, K., "Understanding the Specificity and Complexity of Inter-Firm Knowledge Flows in Alliance Networks", *Interdisciplinary Journal of Contemporary Research In Business*, Vol. 1, No. 7, (2009): 8-33.
- Dool, R., "Lessons From the Military: A New Framework for Managing Change (C5)", *Journal of Leadership & Organizational Studies*, Vol. 17, No. 3, (2010): 253-263.
- Drew, S.A.W & Smith, P. A.C., "The learning organization: "change roofing" and strategy", *The Learning Organization*, Vol.2, No. 1, (1995): 4-14.
- Dyer, J.H. & Singh, H., "The relational view: cooperative strategy and sources of interorganizational competitive advantage", *Academy of Management Review*, Vol. 23 (1998): 660-79.
- Ednie, H., "From the top down", *CIM Bulletin*, Vol.98, No. 1089, (2005): 12-15.
- Edwards, J.S., "Knowledge Management in the energy sector: review and future directions". *International Journal of Energy Sector Management*, Vol.2, No. 2, (2008):197-217.
- Flynn, B.B., Schroeder, R. G & Sakakibara, S., "A framework for quality management research and an associated measurement instrument", *Journal of Operations Management*, Vol.11, No. 4, (1994): 339.
- Gupta, P., "The Role of ISO 9001 Standards" *Quality*, (1 February 2010): 14.
- Haythornthwaite, C., "Learning and Knowledge Networks in Interdisciplinary Collaborations", *Journal of the American Society for Information Science and Technology*, Vol.57, No. 8, (2006): 1079-1092,
- Hendriks, P., "Why share knowledge? The influence of ICT on the motivation for knowledge sharing", *Knowledge and Process Management*, Vol.6, No. 2, (1999): 91-100.
- Hendrix, D., "Focusing on Behaviors and Learning at Shell", *Knowledge Management Review*, (2997):8-13.
- Himmelsbach, V., "Exploring the oil & gas sector", *Computer Dealer News*, Vol.23, No.3, (2007): 22-24,
- Huber, G.P., "Organizational learning: A guide for executives in technology-critical organizations", *International Journal of Technology Management*, Vol. 11, No. 7, 8, (1996): 821-833.
- Hydrocarbon Processing*, "Achieving operational excellence in gas plants", (1 January 2005): 1.
- Hydrocarbon Processing*, "Abnormal situation prevention through smart field devices", (1 March 2006): 1.
- Inkpen, A.C., "Learning and knowledge acquisition through international strategic alliances", *Academy of Management Executive*, Vol. 12, (1998): 69-80.

- Inkpen, A.C. & Dinur, A. (1998). Knowledge management processes and international joint ventures. *Organization Science*, Vol. 9, no. 4, pp. 454-468.
- Jackson, P., "Capturing, structuring and maintaining knowledge: a social software approach" *Industrial Management + Data Systems*, Vol. 110, No. 6, (2010): 908-929,
- Joia, J.L. & Lemos, B., "Relevant factors for tacit knowledge transfer within organizations", *Journal of Knowledge Management*, Vol. 14, No. 3, (2010): 410-427.
- Kamph, B., "What To Do With the Workforce in a Down Economy", *Natural Gas & Electricity*, No.23, (1 March 2009):
- Kanji, G. K., "Measuring Business Excellence", *Management Research News*, Vol. 25, No. 6/7, (2002): 92-94.
- Kogut, B. & Zander, U., "What do firms do? Coordination, identity and learning", *Organization Science*, Vol. 7, (1996): 502-18.
- Kruzner, D. & Trollinger, R., "Performance management vital in implementing new Strategies", *Oil & Gas Journal*, (11 November 1996): 66-72.
- Kumar, R. & Nti, K.O., "Differential learning and interaction in alliance dynamics: a process and outcome discrepancy model", *Organization Science*, Vol. 9, No.3, (1998): 356-67.
- Law. S., "Learning from employee communication during technological change", *Journal of Workplace Learning*, Vol. 21, No. 5, (2009): 384-397.
- Martin, A., Weisenfeld, U. & Bekmeier-Feuerhahn, S., "Mechanisms of Change". *Management Revue*, Vol.20, No. 2, (2009): 117-125.
- McAdam. R., "Knowledge creation and idea generation: a critical quality perspective", *Technovation*, Vol.24, No. 9, (2004): 697-705.
- Nonaka, I & Takeuchi, H., *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford: Oxford University Press, NY, 1995.
- Ratten,V. & Suseno, Y., "Knowledge development, *Social Capital* and alliance learning", *The International Journal of Educational Management*, Vol.20, No. 1, (2006): 60-72.
- Reed, S., Palmeri, C., Coy, P. & Brady, R., "Why You Worry About Big Oil", *Business Week*, (15 May 2006): 66-70.
- Refaiy, M. & Labib, A., "The effect of applying tacit knowledge on maintenance performance: an empirical study of the energy sector in UK & Arab countries", *Knowledge Management Research & Practice*, (1 September 2009): 277-288.
- Reinstein, D., "Results Matter: Unlocking Value through Avaya's Business Transformation", *Organization Development Journal*, Vol. 25, No. 4, (2007): 55-62.
- Sánchez, M.P.S & Palacios, M.A., "Knowledge-based manufacturing enterprises: evidence from a case study", *Journal of Manufacturing Technology Management*, Vol 19, No.4, (2008): 447-468.
- Scarso, E, Bolisani, E. & Salvador, L., "A systematic framework for analysing the critical success factors of communities of practice", *Journal of Knowledge Management*, Vol. 13, No. 6, (2009): 431-447.

Sikora, P.B., Beaty, E.D, & Forward, J., "Updating Theory on Organizational Stress: The Asynchronous Multiple Overlapping Change Model of Workplace Stress", *Human Resource Development Review*, Vol. 3, No. 1, (2004): 3-35.

Spithoven, A, Frantzen, D & Clarysee, B., "Heterogeneous Firm-Level Effects of Knowledge Exchanges on Product Innovation: Differences between Dynamic and Lagging Product Innovators", *The Journal of Product Innovation Management*, Vol.27, No. 3, (2010): 362.

Steinberg, D. & Davis, Z., "Share Knowledge (Ignorance Costs Millions), Shell International Exploration and Production" *Smart Business*, Vol. 15, No.4, (2002): 45.

Thomas, B., "Knowledge Management and the Oil Industry", *Oil, Gas & Energy*, Vol.55, No.4, (2007): 829-837.

Todorova, G & Durisin, B., "Absorptive Capacity: Valuing a Reconceptualization", *The Academy of Management Review*, Vol. 32, No. 3,(2007): 774-786.

Voelpel, S.C., Dous, M. & Davenport. T.H. , "Five steps to creating a global knowledge-sharing system: Siemens' ShareNet", *The Academy of Management Executive*, Vol.19, No. 2, (2005): 9-23.

Whittell, G., "It is out there waiting ... a huge rebuke for America's addiction :The worst scenario -- that BP cannot contain the spill -- may herald a change in thinking about energy sources, writes Giles Whittell in New Orleans [Eire Region]", *The Times*, 4 May 2010.

Zahra, S.A & George, G., "*Absorptive Capacity* : A review, reconceptualization, and extension", *Academy of Management. The Academy of Management Review*, Vol.27, No. 2, (2002): 185-203.

# **PRIVATIZATION OF AIRPORTS: SUCCESS FACTORS AT THE PRIVATISATION OF AIRPORTS IN TURKEY**

**Unal Battal, Anadolu University, Turkey**

## **ABSTRACT**

*The privatization of airports was carried out by the General Directorate of State Airports Authority of Turkey (SAA), which, starting in 1994, used the Build-Operate-Transfer (BOT) methodology to transfer the operating rights of airport terminals to the private companies, while keeping the airside operations under state control. In this paper is mainly looking at the evolution of airport governance in Turkey. This paper is organized as follows: In the section 1 focuses on airport privatization in Turkey and analyzes success factors in the privatization methodology undertaken by the SAA. In the section 2 focus on the framework conditions as a success factor. In section 3 focus on analyze success factors in the privatization methodology. Finally, conclude by raising some questions for further research.*

## **INTRODUCTION**

Over the last 25 years, the governance structure of airports has changed in many parts of the world. Today airports are no longer a homogenous group of public utilities, but a heterogeneous group with ownership structures ranging from state-owned to partial and even full privatization, with regulatory systems ranging from cost regulation to price cap and even to complete deregulation and with different degrees of competition, ranging from pure monopolistic to oligopolistic markets.

Airports, even publicly owned airports, have become more commercialized and more profit oriented. Thus, the upstream markets within the vertical air transport supply chain followed the trend set by the downstream markets, as the airline industry underwent these changes earlier and many (“downstream”) air transport markets are now characterized by fierce competition between airlines.

World international and domestic airports are expected to handle a record five billion passengers in 2011, half a billion more than last year. This figure will rise to nine billion in 2025, Airports Council International (ACI) chairman James Cherry said. This growth in passenger numbers means more capital investment will be needed in airports to build new terminals and expand old facilities. Last year, the world's airports spent some US\$38 billion on airport improvements to cater to increasing passenger numbers. This investment is likely to increase over the next few years.

Accordingly, governments, airport operators, civil aviation regulators, airlines and service providers must work together with to meet and respond to passengers' needs. They provide incentives for airport operators to continue to build non-aeronautical revenue streams, and the operators of commercial services in airports are stakeholders with whom they must work closely with to ensure successful ventures. Improving airport security also brings airport operators, vendors and regulators into a much needed partnership.

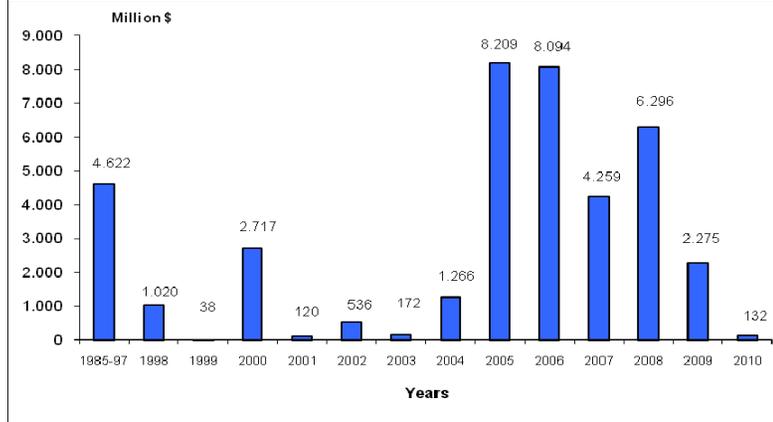
## **AIRPORT PRIVATIZATION IN TURKEY**

The European economy experienced a remarkable change in the 1980's with the emergence of privatization procedures, which first started in the UK under Thatcher government, both for firms in production economy, but also for infrastructure providers and public utilities. The main aim of UK privatization was reducing government involvement in industry. Followed by the UK, continental Europe started to privatize

government companies in various sectors. As an emerging economy, Turkey was also influenced from this wave and set up the Republic of Turkey Prime Ministry Privatization Administration (PA) in 1984. Since then, a number of public enterprises have been privatized in different sectors, such as energy, transportation and telecommunication.

The PA has used different privatization methods, like straight sales, leases, granting of operational rights, establishment of property rights other than ownership, profit sharing model and other legal forms, depending on the nature of the business. The receipts attained from privatization reached a peak in the middle of 2000's, as large public utilities were included in the process. Figure 1 shows the value of privatization implementations in Turkey undertaken so far.

Fig. 1: Privatization Implementations in Turkey by Years



In Turkey, air transport has gained more and more importance in the last decades. From 1988 to 1993, number of passengers served by Turkish airports doubled. As a result, the existing capacity not only became inadequate, but also started to suffer from the bad quality. Especially terminals in main airports were insufficient, which required enlargements or replacement with high levels of investment. This, together with the privatization wave in the Turkish economy led to the first airport privatization in 1993, which was the tender of BOT for Antalya Airport Terminal 1, prepared and implemented by the General Directorate of State Airports Authority (SAA) independent of the Republic of Turkey Prime Ministry Privatization Administration (PPP). Similar contracts followed over the next decade, as can be seen from Table 2, which summarizes the BOT implementations for Turkish airports. It is interesting to see that the operating period granted for BOT contracts varied significantly, depending on the income that could be received from the operation and the cost of the terminal construction according to predetermined plans by the SAA.

We see that BOT was one of the interesting options pursued, since the investments are financed by the private sector, but in the long term the government remains the owner. Especially in developing countries as in Turkey, it is controversial to transfer the ownership of strategic infrastructure to the private sector; therefore it may be one of the motivations behind BOT implementations.

The airport privatization in Turkey that has been undertaken by the SAA, can be summarized as a two stage process. In the first phase BOT implementations have taken place, in which the winning operating company is required to build a terminal according to the contract and gets the operating rights for that period. At the end of this period, the operating company is obliged to give all the rights back to the SAA. This policy has been implemented already at Antalya (Terminal 1 and 2 separately), Istanbul Atatürk, Dalaman, Ankara, Izmir and Milas-Bodrum airports.

However, since significant efficiency gains are not only observed in the construction process, but also in the operation of the terminals, it was natural to continue operating them in private hands at the end of the contract period. It is for this reason that we observe a second phase in the privatization process. In this second phase, the SAA agreed to transfer the operating rights of the newly acquired terminals via long-term leasing back to the private sector. The interested companies were asked to submit their bids in price auctions. The one with

the highest bid obtained the operating rights for a predetermined period. In Antalya and Istanbul Atatürk airports, the BOT period has already come to an end, followed by a long-term lease agreement.

Table 2: BOT Implementations for Turkish Airports

Airport	Year of Tender	Winner	Operation Period	Operation Until	Investment Period	Investment Amount	Number of Firms in the Tender	Notes
Istanbul Atatürk	1997	TAV	3 y 8 m		30 m	306 mill USD	12	1) Prolonged in 2001 with additional 13,5 months due to the earthquake.
Antalya Terminal 1	1994	Fraport (+Bayindir)	9 y	01.09.2007	2 y	65,5 million USD	2	Fraport took over 50% in 2001, and 100% in 2005 of the operating company Bayindir
Antalya Terminal 2	2004	Celebi-ICTAS	3 y, 5 m, 26 d	24.09.2009	N/A	71,1 million USD	N/A	
Ankara Esenboga	2004	TAV	15 y, 8 m	Mid 2023	36 m	188 million USD	2	1) TAV offered 15y8m, ICTAS offered 17y6m for operating rights.
Izmir Adnan Menderes	2004	Havas-Bayindir	6 y, 7 m, 29 d	January 2015	2 y	125 million USD	6	1) Participants: Havas-Bayindir, Gama-Casa-Riva, Teknotes-Manas, Çelebi-Fraport (7y8m), Tepe-Akfen and İçtaş-Constain. 2) TAV took over Havas in 2005
Dalaman	2003	ATM(Aksa-Turkuaz-Manas)	6 y, 5 m, 20 d		2 y	72,4 million USD	4	Participants: ATM (6y5m), Bilkent Holding-Regional Airport(9y5m), Cakir Yapi, Makyol(8y6m)
Milas-Bodrum	2006	Teknotes-Aerodrom Beograd	3 y, 9 m		N/A	N/A	8	Participants: Teknotes-Aerodrom Beograd (winner), Global/ERS/Borsy Pil(4y10m), Makyol(5y8m), Celebi, Ictas, Alsim, Aksa/YDA, TAV

## The Characteristics of the BOT Implementation

SAA defines the framework of the contract in advance, where they determine;

- (1) For the building phase; the content what is to be built, the amount of investment;
- (2) For the operating phase; the revenue sources for the operating company and the proportion of the revenues for both parties;
- (3) A guaranteed number of annual passengers over the contract period (in most of the cases).

In the BOT applications in Turkey, the sealed bid auctions have been used, where the bidder with the shortest operation period wins the auction. However, in order to take part in the auction, the participants should fulfill some criteria in terms of technical proficiency, experience in this area and financial situation in a pre qualification process. The revenue sources for the private operating company vary from airport to airport, however they mainly cover the following activities; passenger fee; loading bridge fee; space assignment, rent and advertising revenues; revenue share and endorsement revenues; counter fee; CIP and meeting room revenues; ticket office, restaurant, bank, office, luggage revenues; car parking rents; electricity-water revenues etc.

## Long Term Leases

The operation period for the BOT contract at Istanbul Atatürk airport terminal expired in June 2005. Instead of taking the operating rights back from the operator TAV, which had won the BOT tender, the SAA started to pursue a policy of long-term leasing. It quickly completed the legal applications in order to lease the operating rights to the private sector via tenders. For Istanbul Atatürk airport, the lease period was set at 15.5 years. Four consortia originally considered taking place in the tender. However, ADP-SNC Lavalin dropped out before the auction started. Alsim-Alarko & Corporation America was not allowed to take part in the auction, as they did not fulfill the requirements set by the SAA. Only Malaysia Airports and TAV participated in the sealed

bid auction and bid 1.59 billion USD and 2.1 billion USD respectively. Following this, separate price negotiations between the parties and the SAA determined the winner TAV with a lease amount of 3 billion USD. The situation for Antalya airport was slightly different, as the two international terminals were operated by two different private firms following the original BOT implementation. In 2007 the SAA prepared a tender for the two international and one domestic terminal. The tender followed the same two-stage process as in Istanbul Atatürk with sealed bid auction and subsequent price negotiations. Celebi Holding was not allowed to participate in the auction, as they did not fulfill the requirements set by the SAA. Newly established consortia Fraport-IC Ictas Holding10 (shortly ICF Airports) overbid TAV with 3.2 billion USD and it was given the operating rights of those three terminals until 2024. (SAA, 2008)

## **THE FRAMEWORK CONDITIONS AS A SUCCESS FACTOR**

By analyzing privatizations which have already taken place, one can identify the factors governing the success or failure of a privatization. World privatization examples show that success seems to depend above all on the relations in the triangle between government, airlines and airport. These relations must be adapted ex ante to the future challenges the aviation industry has to face through increasing bottlenecks in the infrastructure and the conditions of the post-privatization era. Changing conditions include:

- (1) The abolition of the existing closeness and quasi identity between the airport owners on the one side and the regulator on the other.
- (2) The transformation of a state-owned infrastructure provider into a commercial entity.

These changing conditions also determine the relevant positions of co-operation and conflict in privatization projects. The airlines and the consumers are interested in adequate infrastructure at competitive prices. They hope that privatization will make use of the latent efficiency potential and thus lead to lower prices. Potential investors involved in a privatization are interested in the lowest possible purchase price, the highest appreciation, high returns on investment, entrepreneurial freedom and especially when the level of investment for purchasing the airport and for improving the infrastructure are taken into consideration in long-term planning security. For the public sector privatization leads to a conflict of interest: on the one hand, it has to pursue politico economic, traffic political and structure-political targets, on the other hand, it is interested in the highest possible privatization earnings.

Investigating the examples of successful and failed privatization endeavors one can see that they differ in the way they handled the conflict of interest between these different parties. The less successful privatizations solved the conflict by forming a two party coalition but this solution regularly inhibited the success of the privatizations and thereby had a negative feedback effect on the winners. In the end, the winners were losing too. Successful privatizations did not build two-party coalitions but three party-partnerships. In these system-partnerships each party had to forgo the pursuit of individual goals in favor of a successful privatization. In the end all the parties involved benefited, and thereby transformed a seemingly irresolvable conflict into a “win-win situation”.

However, the conditions for the formation of such “win-win situations” can only be created by the government. This means that the state must adhere to its political responsibility and restrict itself by for example, waiving a short-sighted maximization of privatization yields. It also means that a regulatory framework must be established which enables an intelligent self-restriction of all the parties involved.

## **Success Factors for the Privatization of Airports an Airline Perspective**

Airport privatization must be understood and undertaken as a politically active process. The task of the government is to set up a regulatory framework which

- (1) balances out the various interests of the “stakeholders”, especially airlines and airports,
- (2) protects the user (i.e. passengers and airlines) from monopoly abuse of the airport and
- (3) creates a basis for system partnership to enable growth

Independent monopoly price regulations must be set up not only because of the lack of infrastructure but also due to the continuing monopoly of the airport and the danger of the monopoly becoming even stronger after privatization. The objective of such regulations is a macro economically useful and fair reconciliation of

interests between the airport and the airlines, which will lead to satisfactory results for both parties. This requires both a fair division of risks within the branch airlines face considerable investments in aircraft and marketing measures when serving new routes and a fair division of profit resulting from growth and efficiency. Regulation must also assure that prices and fees stay in line with market conditions. In order to prevent prices being based on strength within the market instead of on effective performance, regulations must prevent the misuse of power when setting airport charges. At the same time, a fall in quality standards must be avoided. Additionally, the regulation must set up incentives to maintain and build up an efficient airport infrastructure. Due to the long-term character of infrastructure investments, the regulations must make it possible for airports to achieve investment security, reasonable profits and adequate return on interest taking account the risk they also face.

The price regulation principles should take into account the following facts:

- (1) Rise in the cost of living,
- (2) Changes in air traffic volume,
- (3) Changes in productivity of the airport and

Furthermore the regulations should provide incentives for further productivity and a healthy development in air traffic. Most price regulations have intended only to cover the costs of the airport (“cost plus” method). The disadvantage of this method is that it provides inefficient outcomes because there are inadequate incentives for innovation, productive performance or investments.

In order to achieve an economically useful and fair mediation between the conflicting interests of airports and airlines, the regulation requires the transparency of the airport’s income, costs and investment. The following are needed in time in order to achieve this transparency:

- (1) forecast data, e.g. regarding traffic,
- (2) proof of cost relatedness for all airport charges,
- (3) budgeted/actual comparisons for the development of productivity, the amount of traffic, investment, fees and revenue.

These items should be made available to the regulator as well as to the airlines in a comprehensible form. For the airlines, they are the basis for a system partnership based on trust. For the regulator, they are the basis on which it can create an incentive system within the regulations to increase productivity and efficiency in the airport.

The regulatory period must give airport companies and airlines mid-term planning security, but it also has to leave room for flexible reaction to environmental changes. A regulatory period of 3–5 years therefore seems adequate. For the initial phase a regulatory period of 3 years seems appropriate in order to ensure that the effects of the agreed regulations can be reviewed in time.

In order to avoid danger of quality decrease after privatisation, binding quality standards must be agreed on and laid down. These can be included either in the regulation contract or in an additional agreement. A system of penalties should be created for non-compliance with the agreed upon standards.

## **SUCCESS FACTORS FOR THE PRIVATIZATION OF AIRPORTS IN TURKEY**

Airport privatization should be development under a P3 (Public/Private Partnership) model from the perspective of central government. Government should be setting priorities for understanding the process:

- (1) What are the **Reasons/Objectives**? Why does government turn to the P3 model for delivery of infrastructure?
  - a. Lack of sufficient funds for development, or inability of the state to borrow
  - b. Scheduling and budget control – delivery time and cost of construction
  - c. Ideology – belief that private sector is inherently more efficient and cost conscious
  - d. Infusion of funds into government coffers – ongoing rent payments or one time asset sales
  - e. Any combination of the above
- (2) Who are the **Decision Makers**? Many entities have control and a direct stake in the process and the outcome.
  - a. Central government
  - b. Regional/municipal government
  - c. Military/Air Force
  - d. Ministry of Transportation
  - e. Ministry of Finance
  - f. Political Opposition

- g. Some may have directly opposing interests
- (3) What is the **Regulatory Framework** required? What are the minimum regulatory requirements to conduct and oversee P3s?
  - a. Law allowing concession of public assets
  - b. Land ownership issues
  - c. Foreign ownership issues
  - d. Economic regulations that will apply
  - e. Set-up of a regulatory or oversight agency
- (4) What **Concession Type** is appropriate? What is the appropriate vehicle for delivery of the stated objectives?
  - a. Management contract
  - b. Design, Build, Finance, Maintain (DBFM)
  - c. Build, Operate, Transfer (BOT)
  - d. Long term leases
  - e. Sale of assets
  - f. Sequence and number of airports to be included:
    - i. One airport at a time – initially faster; ability to develop a template; lowers cost of delivery and markets respond well; overall roll-out slower
    - ii. Multiple airports (bundling) – ability to co-ordinate services; allows cross-subsidization; limits competition; overall roll-out faster; possible financing problems
- (5) What is the **Business Case**
  - a. Understanding the opportunity from the bidders' perspective
  - b. The value is in the concession – not the real estate
  - c. Anticipated growth and revenue streams; positive bias
  - d. Sovereign guarantees, subsidies, cross-subsidization
  - e. Risk-transfer
  - f. Timing with respect to domestic and international financial markets
- (6) What are the **Delivery Horizons**? What is the average time between decision to proceed and project realization?
  - a. Preparation of bid documents (legal, financial & technical) 12 months
  - b. Pre-qualification submissions and evaluation 6 months
  - c. RFP submission and evaluation 9 months
  - d. Contract negotiation and financial closing 3+ months
  - e. Total time to start of concession 30+ months
  - f. Time to deliver new/upgraded terminal 24+ months
  - g. TOTAL 54+ months

## CONCLUSION

The world's airlines, through IATA, have made it known that they are strongly supportive of privatization of airports where it ensures needed capacity is constructed and when it promotes greater efficiency. But significantly IATA has said that greater use should be made of low-interest, low-risk, long-term bonds written against the security of the cash flow from user charges. This seems to reflect a concern that airports should not be sold off to the private sector without their first being an effective set of controls on market power. While there are many examples of airport privatization around the world, it is fair to say that the greatest successes have been in situations where the institutional framework is well developed and where the political risk factor is somewhat reduced. Even then, policy makers continue to search for effective mechanisms.

This change in policy with a move to lease agreements, as illustrated by these two examples, raises a number of interesting questions that are worth being investigated in greater detail;

- Why did the SAA prefer leasing the terminals instead of full privatization or partial privatization?
- How did the SAA decide the length of long term leasing period of the terminals?
- What kind of requirements did the SAA have for participating in the auctions? Did the auctions take place in a competitive environment?
- Which criteria helped the SAA on the choice of the two stage auction methodology?

- What kind of agreement design was used to distribute the risk between and the bidder?

## REFERENCES

Peter Gerber, "Success factors for the privatization of airports an airline perspective" *Journal of Air Transport Management* 8, 2002, 29–36

Peter A. Forbes, "Airport privatization: How should airport operators and investors react to changing market conditions" *Association for European Transport*, 2002

Paul Freathy, "The commercialization of European airports: successful strategies in a decade of turbulence?" *Journal of Air Transport Management* 10, 2004, 191–197

Tolga Ülkü, "Privatization of Turkish Airports", [www.gap-projekt.de](http://www.gap-projekt.de)

Paul Hooper, "Privatization of airports in Asia" *Journal of Air Transport Management* 8, 2002, 289–300

Nadine Pilon, "Challenges for Air Transport at the Horizon 2030" *EUROCONTROL Experimental Centre Association for European Transport and Contributors* 2010

Hans-Martin NIEMEIER, "Gateway Airport Investment & Development of Airline Services for a Global Economy Regulation of Large Airports: Status Quo and Options for Reform", *International Transport Forum* 2009, 26-29 May Leipzig

Dr H.-A. Vogel, "Impact of privatization on the financial and economic performance of European airports" *The Aeronautical Journal* April 2006, 197-214

Mikhail Zolotko, "Re-estimating Financial Performance of European Airports" *Humboldt University, Berlin*

Özenen, C.G. (2003), "Havaalanı Yatırımlarında Özelleştirme Dünyadaki Uygulamalar ve Türkiye İçin Öneriler", *DPT Uzmanlık Tezi*

Kaya, E., Gerede, E., Kuyucak, F., Basar, M., Sürmeli, A. (2007): *Build-Operate-Transfer (BOT) Implementations at Airports in Turkey. TODAIE's Review of Public Administration*, Vol. 40, No. 2, pp. 115-151.

Darija K. Scott, *Airport Privatization: Magic Formula Or Pandora's Box?*, Managing Principal : SCOTT Associates Architects Inc., *Airport Evolution: Latin America* : may 2011 : Sao Paulo, Brazil, Session 4: regulation & planning

# THE IMPACT OF INFORMATION DISCLOSURE ON THE VALUE OF BRICS COMPANIES: INTELLECTUAL CAPITAL EMPIRICAL RESEARCH

**Elvina R. Bayburina and Elena G. Kusaya**  
**National Research University Higher School of Economics, Russia**

## ABSTRACT

*In the world of knowledge economy, knowledge significance and key importance of innovations for creating competitive advantage the new drivers of companies' sustainable development are of great importance. The Intellectual capital and its components is the solid basis to create new drivers of value sustainability. The assessment of which concerns both academic and business researchers. There is a necessity to reveal the most significant value drivers and to report them adequately in order to satisfy internal and external stakeholders and their information disclosure requirements. Disclosed information is especially vital in countries with emerging capital markets, since they are comparatively less stable than developed ones and until recently any information about companies has been relatively unavailable. The traditional financial statements fail to solve this problem, firstly, due the fact, that it is impossible to represent Intellectual capital promptly with the help of conventional financial measures. Obviously, more detailed report helps external users to assess position and competitiveness of a company properly. Simultaneously, it enables managers to determine core intellectual assets and estimate quality of managing them. What's more, disclosed additional information signals about the company's readiness and ability for innovative development. Thus, the authors of this article firstly analyze the features of value creation by companies from BRICS countries and then introduce the research of their reporting practices in terms of Intellectual capital. The subject of this study is Intellectual capital information and its disclosure in different sources. The principle aim of this analysis is to assess the impact of Intellectual capital disclosure on companies' value. In order to achieve this objective the authors proposed the appropriate definition of Intellectual capital and marked out its components and subcomponents; determined some disclosure measures of corresponding components and subcomponents of Intellectual capital; collected data about listed BRICS companies in line with the determined measures; estimated Intellectual capital on the basis of existing measures; developed a methodology for the appreciation of Intellectual capital disclosure and created a final index; examined the correlation of developed index with existing measures. The results of the project "Researches of corporate financial decisions of the companies of Russia and other countries with emerging capital markets under conditions of global transformation of the capital markets and formation of economy of innovative type", carried out within the framework of the Programme of Fundamental Studies of the Higher School of Economics in 2011, are presented in this paper.*

## INTRODUCTION

Modern companies have to cope with new difficult tasks in all aspects of their activities due to development of information technologies, increase in knowledge significance and key importance of innovations for creating competitive advantage. One of trigger value drivers is an ability to inform stakeholders adequately. The traditional financial statements fail to solve this problem, firstly, owing to the fact, that *Intellectual capital* and its components are the most essential drivers of companies' value growth and it is impossible to represent them promptly with the help of conventional financial measures (Firer, Williams, 2003). Moreover, there are many pieces of research (e.g. Ortiz, 2009), representing magnitude of non-financial measures for explaining difference between market and book value of companies. That is why problems of *Intellectual capital disclosure* come to the force both for companies, publishers of financial reports, and analysts, users of financial reports. Obviously, more detailed report helps external users to assess position and competitiveness of the company properly. Simultaneously, it enables managers to determine core intellectual assets and estimate quality of managing them.

Such information is especially vital in countries with emerging capital markets, since they are comparatively less stable than developed ones and until recently any information about companies has been relatively unavailable. What is more, additional information signals about company's readiness and ability for innovative development. Recently many various definitions of *Intellectual capital* were constructed and proposed. Itami, the pioneer in this field, defined *Intellectual capital* and its components as the intangible assets which include particular technology, brand name, customer information, reputation and corporate culture that are invaluable and priceless to a firm's competitive power (Itami, 1987). Stewart esteemed *Intellectual capital* as knowledge, information, intellectual property and experience that can be used to create wealth (Stewart, 1997). Edvinsson (in Bontis, 2003) viewed *Intellectual capital* as applied experience, organizational technology, customer relationship and professional skills that provide the company with a competitive advantage in the market. For Bontis, *Intellectual capital* means individual workers' and organizational knowledge that contributed to sustainable competitive advantage (Bontis, 2003), while Pulic includes all employees (Pulic, 2000), their organization and their abilities to create value added that is evaluated on market into *Intellectual capital* (Puntillo, 2009) International accounting standards also include the definition of *Intellectual capital* (e.g. IAS 38), however, it consists only of measures available from accounting reports. More general approach is used in this study, considering that assets, which are difficult for taking into straight account, frequently are very influential in terms of company's value. (Berezinetz, Udovichenko, Sisolyatina, 2010; Garanina, 2009) The fundamental definition of this study is worked out by Bayburina and Golovko (Bayburina, 2007; Bayburina, Golovko, 2008, 2009, 2010). Thus, the *Intellectual capital* is a "complexity of key qualitative characteristics of the company. The complexity of such characteristics represents the competitive advantage originated inside and within the company" (Bayburina, 2007; Bayburina, Golovko, 2008, 2009, 2010). This notion gives the broadest idea of *Intellectual capital* concept, considering, that this definition is wider than the notion of intangible assets and is not limited to concrete measures as it was in definitions mentioned previously and above. Thus, *Intellectual capital* is a complexity of knowledge, accrued experience of employees and intellectual property. It is important to mention that not all objects of engineering design, marketing mix tools, customer relationship principles are the objects of the intellectual property (Bayburina, 2007; Bayburina, Golovko, 2008).

## **THE IMPORTANCE OF INTELLECTUAL CAPITAL REPORTING AND MEASURING**

Many researchers have approved the crucial role of *Intellectual capital* to evaluate the company and to define prerequisites for future earnings forecasts, to explain the difference in market and book value of company by the means of *Intellectual capital* components (Petty and Cuganesan, 2005). At the same time companies under the competition threats and world economy transformation conditions are now more concerned with *Intellectual capital reporting*. Some companies, especially in Europe have developed special types of *Intellectual capital reports*; however such practice is not common and is not applied elsewhere in emerging economies and emerging capital markets by example of BRICS, such as Brazil, Russia, India, China, and South Africa. (On 24th of December 2010 South Africa received an official invitation to enter BRIC. The entrance has previously been approved by members of BRIC, however, according to many experts; South Africa is not on the level of other BRIC-countries by some economic measures.) Meanwhile, various studies of information disclosed for investors and analysts indicate a substantial difference between the type of the information found in the annual reports of companies and the type of information demanded by the market (e.g. Eccles et al., 2001; Eccles and Mavrinac, 1995). In general, companies, investors and analysts require more reliable information, for example, on managerial competencies, expertise, and experience. Stakeholders require more reliable information concerning the client analytical lens, e.g. features of customer relations management integrity. Personnel competencies are to be observed also. All those mentioned above factors are related to *Intellectual capital* (Bukh, 2003). Thus, there is necessity to analyse reporting practices of BRICS companies. Such analysis will help to mark out the available reporting practice, its strength and features. On the other hand it may become a basis for new reporting standards development. At last, more complex analyses and investigation, including both *Intellectual capital* in terms of value creation and reporting are useful, since it will probably enable companies to identify and to assess their intangible resources and to report information about them adequately internally and externally (Petty, Cuganesan, 2005). According to Puntillo, there are 34 methods of measurement of Intellectual capital (Puntillo, 2009; Sveiby, 2001). They are divided by levels (organization level only with the identified components) and by types of valuation (monetary, non-monetary). This scheme involves the range of complexity of *Intellectual capital* analytical tools. Each method has for sure its advantages and disadvantages. There is no doubt that the

*Intellectual capital* and the information disclosed research should be executed by the means of at least 2 different approaches. Taking into account the above mentioned reasons within the bounds of the research two types of *Intellectual capital* evaluation approaches are going to be tested and the results received are to be discussed. The first one is based on financial evaluation of *Intellectual capital* by the means of empirical panel data research and the second one corresponds to the investigation of *Intellectual capital disclosure* by the means of the certain index analysed through the content-analysis.

## INTELLECTUAL VALUE RESEARCH DESIGN

The main goal of this research is to evaluate the influence of particular components of the *Intellectual capital* on the *Intellectual value* of BRICS companies and to reveal the influence of the *Intellectual capital disclosure* on the *BRICS companies' value*. The first part of this research is based on the model developed firstly by E.R. Bayburina and T. Golovko (Bayburina, Golovko, 2008). This research is going further, since one more country is now added into emerging capital markets sample (BRICS, incl. South Africa). The main task of this part of the research is to reveal the influence of financial measures, chosen like proxy for *Intellectual capital components* (subcomponents) and *some fundamentals* as the dependent variables. Following Bayburina and Golovko, the authors determine the dependent variable *Intellectual Enterprise Value, IEV*, as the difference between *Market value of company's Equity and the Book value of its Equity* (Bayburina, Golovko, 2008). The calculated delta reflects the excess of the Market capitalization over the Book value, which on the panel data of over 5 years help to eliminate short-term speculative reactions; this delta also reflects how "the market" (stakeholders and mainly investors) measures the level of the company's internal efficiency (Bayburina, Golovko, 2008). By this pattern the value is generated by its intellectual part. So, Bayburina and Golovko conclude, that the *Intellectual value* of the company is a part of the total value, created through the process of the intellectual components' accumulation (Bayburina, Golovko, 2008). And moreover this value can be traced by the external stakeholders of the company. In addition, the authors can underline that the delta (the difference) between the Market value of the equity and its Book value can also be traced (Bayburina, Golovko, 2008). According to (Bayburina, 2007; Bayburina & Ivashkovskaya, 2007) it is necessary to determine the reason for taking into account only the characteristics of the Equity. Managers of BRIC (BRICS also) companies when targeting the capital structure of the company do not always consider future growth and sustainable development as the long- and medium term goal especially with emerging markets sample of companies. That is why the choice of the capital structure by BRIC (BRICS also) companies depends on a range of factors, which cannot be considered in this article and are left for the future distinguished research from the conceptual point of view. From the point of view of Bayburina, Golovko (Bayburina, Golovko) 2008 the *Intellectual capital* is a complexity of key qualitative characteristics of the company, which are not always objects of intellectual property, such as, for instance, competencies. Thus, *Intellectual capital* is a complexity of knowledge, accrued experience of employees and intellectual property. It is important to mention that not all objects of engineering design are the objects of the intellectual property; however its importance for the process of the value creation is difficult to underestimate, for example, in the companies of the high tech industry. Simultaneously it is complicated to provide the full, complete, exact definition of the notion '*Intellectual capital* of the company'. For this purpose it is reasonable to concentrate on its structure and the content. According to the paper and main approach mentioned above the following components of *Intellectual capital* are chosen: human capital, process capital, innovation capital and network capital. Moreover, the key notions of *Intellectual capital* components are used:

1. *Human capital* consists of employees' knowledge and skills, their key competencies; loyalty (which hang upon labour conditions and social programs, training programs undertaken by companies).
2. The company's infrastructure refers to *process capital* (e.g. information technologies and systems, working processes, business-routines, operational processes, acceleration and integration of key, primary and secondary business processes, controlling, etc.)
3. *Innovation capital* includes commissioning and development of advanced technologies, capital investment, and increase in effectiveness of cost management as a consequence of modernisation, reinvestment policy and balance of the dividend policy. The increase of dividends usually leads to a decrease of reinvestment in business, from the other hand dividends are considered to be a signal for the market, however in general the dividends paid tend to decrease the financial opportunities for new innovations to be implemented.
4. *Network capital* is a complex system of relations with external stakeholders, such as banks, investors, creditors, government and suppliers. Correspondingly, fair marketing practices and competition, promotion of

social responsibility, forehanded and full executing of contracts, etc. sustain the accumulation and synergetic value of network capital. Taking into consideration the network capital it is worth to mention that the specific of the world economy stage influence the degree of stakeholders' activity. Specific and intensity of the business network collaboration depend on each particular investigated year. According to this logic the influence of each particular year on the *Intellectual value creation* is quite high. It is obvious, for example, that in 2007 year the world observed the so-called "stock market rally" on emerging markets caused by the activeness of investors and oil prices turbulent positive dynamics, in 2008– 2009 the obvious drop affected the network collaboration activity. Consequently, the authors have decided to prove a significance of the "time-factor" to be investigated along with the network capital. It is necessary to trace the industry dynamics - that is the market situation for the particular company, - whether the impact of the industry is positive or negative, and by means of this relation revealed it is possible to predict the company's perspectives towards its future market position and network position and possibilities for network collaboration.

The research model includes the following dependent variable *Intellectual Enterprise Value, IEV*, is determined as the difference between *Market value of company's Equity and the Book value of its Equity*. The research model includes the following fundamental factors: *Book value of assets (BVA)*, *Return on assets (ROA)*, *Return on equity (ROE)*, *Net income (NI)*, *Earnings before interest, taxation, depreciation and amortization (EBITDA)*, *Earnings before interest and taxation (EBIT)*. *Intellectual capital* proxy variables are structured as follows. Human capital is presented by *Personnel Expenses (PE)*, *Number of Employees (NE)*, and *Total Assets per Employee (TA/E)*. *Operating expenses (OE)* reflect Process capital. *Capital expenditures (CE)*, *Dividends Paid (DP)* and *Research and Development Expenditures (R&D)* stand for Innovation capital. Network capital is presented by the influence of particular time period (*Dummy of Year*). At last, a set of dummy-variables, reflecting industry influence were selected (*Dummy of Industry*). Taking into account the necessity to assess companies from different countries the final research sample was formed along with the following criteria:

- a) The sample is formed from BRICS companies listed from the year 2005 till 2010.
- b) The selection of such time period is caused by the length of *Intellectual capital* accumulation and, therefore, the necessity to analyze panel data for not less than 5 years (Bayburina, Golovko, 2009).
- c) Such research is of special interest, owing to the fact, that, from one hand, BRICS countries are leaders of emerging economies, though, at the same time, they differ dramatically from each other. It should be mentioned, that the information used in the study should be available in the open sources (e.g. annual reports or other information on websites), thus making it useful and acceptable to trace for a wide range of users. In order to ensure comparability, companies should have financial reports along with the National GAAP accounting standards. As the results of previous studies show (Bayburina, Golovko, 2009), the number of companies, especially from India and Brazil, which have IFRS financial reports in the period earlier than 2005, is not quite high and is not sufficient enough for the research purposes, thus it is necessary to impose restrictions on usage of such type of reports in the research.
- d) For the purpose of comparability, the limitations on the companies' capitalization prescribe to choose companies with market capitalization in 2010 not less than \$200mln.

Statistical information for the research was collected from the Bloomberg data source and corporate websites. The final sample includes 316 companies from BRICS countries, representing 10 industries. According to all limitations and principles of the analysis the basic research model can be presented as following:

$$(1) IEV_{it} = \alpha + (\rho^1_{it} \dots \rho^n_{it}) X IC + (\beta^1_{it}, \dots, \beta^k_{it}) X FV + \varepsilon_{it}$$

where:

*IC* – a vector of *Intellectual capital* subcomponents;

*FV* – a vector of fundamental variables;

$\varepsilon$  – a vector of random errors ("white noise");

*I* – BRICS company index;

*T* – a year index;

*N* – a particular *Intellectual capital* component index;

*K* – a particular fundamental variable index.

To reach the main goal of the research the special research model has been introduced and a series of linear regression tests has been held. The empirical panel data research was fulfilled with the use of regression analysis software tools (program packages Stata 11.0, Eviews 7.0, Microsoft Excel 2010).

## RESULTS OF STUDY: INTELLECTUAL VALUE

In order to choose the most important factors in terms of influence on *Intellectual capital* a set of linear regression models were constructed. The final model includes factors which are significant. The authors have also carried out specification tests: the Wald Test, Breusch-Pagan Test, Hausman Test. Wald Test showed that the Fixed Effect Model provides a better explanation than the Pooled-up Model. Breusch-Pagan Test showed that the Random Effect Model provides a better explanation than the Pooled-up Model. Hausman Test showed that the Fixed Effect Model is rejected compared to the Random Effect Model. According to the results the Random effect model of the regression has been chosen. So the basic criterion was the highest value of the Wald statistics (443,31).

**Table 1.** Model specification

Test	Statistics
Wald Test	F test that all $u_i=0$ : $F(155,335) = 1.28$ Prob > F = 0.0312
Breusch-Pagan Test	$\chi^2(1) = 15.05$ Prob > $\chi^2 = 0.0001$
Hausman Test	$\chi^2(6) = 16,27$ Prob > $\chi^2 = 0.0124$

The multicollinearity was not found. The average VIF meaning is 2,26, which is admitted. The final model is as follows:

$$(2) IEV_{it} = 567,65 + 0,27*BVA_{it} - 0,55*OE_{it} + 1024*TA/E - 5,38*DP_{it} + 10*R\&D_{it} + 5209*Dummy\ of\ 2007$$

## INTELLECTUAL CAPITAL DISCLOSURE RESEARCH DESIGN

The main research task of this research is to analyze annual reports as media of *Intellectual capital disclosure (here and further ICD)* by BRICS listed companies and to evaluate size, industry and time effects on disclosure along with the effects of ICD on the growth of a company. This part of research is based on the work of Branco (Branco *et al.*, 2010), devoted to the *Intellectual capital disclosure* of companies of emerging capital markets by example of Portuguese companies. The Market Capitalization is used in this part of the research as the measure of size, the change in market capitalization is used in this part of the research as the measure of growth. To analyze the influence of the industry on ICD, the Dummy variable is used. A one/zero variable is used to designate companies, according to sectors (one stands for companies from a knowledge intensive sector, zero stands for companies from a traditional sector). The following sectors are considered as knowledge intensive industrial sectors: Retail, Media, Banks and Technology. The other sectors (Raw resources; Construction and materials; Industrial goods and services; Travel and Leisure) are considered as traditional sectors. Following Petty *et al.* and Branco *et al.* in order to test the hypothesis that the value growth (growth of Market capitalization) of companies in the sample was affected by their *Intellectual capital disclosure*, the research model includes the two main types of variables, dependent variable is “growth” and key independent variable is “level of disclosure”, other independent variables are “time”; “size”; “industry” (Petty *et al.*, 2005; Branco *et al.*, 2010). “Growth” is calculated as change in the market capitalization of each company from one period to the next over the observed years. “Level of *Intellectual capital disclosure*” is calculated as the change in the total ICD index from one period to the next over the observed years. The derived variables are taken to indicate the increase in overall reporting of *Intellectual capital* and form the main hypothesis of this part of the research as follows: “companies with higher levels of ICD will achieve higher levels of size and growth than other companies” (Branco *et al.*, 2010). The ICD index-proposed methodology is based on content analyses and non-parametric statistical methods are used to assess industry, size, and level of disclosure and time effects. It should be mentioned that in this part of the research, a computerized content analysis of the annual reports was conducted, using a list of terms related to *Intellectual capital*. In total 256 annual reports in PDF format were collected. They were then searched for terms/expressions related to *Intellectual capital* with the help of the software PDF-XChange viewer. In this study the *Intellectual capital* is divided into three categories: internal capital, external capital and human capital as it was proposed by Guthrie and Petty (Guthrie, Petty, 2000). Internal capital refers to “the knowledge embedded in organizational structures and processes” (Petty, Cuganesan, 2005) and includes patents, trademarks, systems and processes used in day-to-day activities. The

external capital category consists of the relationships a firm has with outside stakeholders, such as relationships with customers and suppliers, brand names, trademarks and reputation (Petty and Cuganesan, 2005). Finally, human capital refers to “the skills/competences, training and education, experience and value characteristics of an organizational workforce” (Petty, Cuganesan, 2005). This study focuses on a sample of 62 companies chosen from the listed BRICS companies. Annual reports were collected for the period from 2006 to 2009. Taking into account the necessity to assess companies from different countries the final research sample was formed along with the following criteria:

- a) The company is the member of top-100 companies of the particular country in terms of highest market capitalization in 2010.
- b) The period of listing has a constraint history of 5 years (since 2005 till 2009)
- c) The corporate web-site of the company and its annual reports are available in English.
- d) Annual reports are available from 2005 to 2009, annual reports are presented for the calendar year (not for only for the financial year).

Along with all the criteria the final sample was formed and it does not include companies from India, since companies selected previously are used to present annual reports for financial year not for the calendar year, that because of that their results are not comparable with others. At last, reports for the year 2005 were excluded from the sample, since too many companies did not disclose this report on their web-site. The sample consists of 45 companies from knowledge-intensive industries and 17 companies from traditional industries. Statistical information for the research was collected from the Bloomberg data base and corporate web-sites. To reach the main goal of the research the special research model has been introduced and a series of tests has been held. The data research was fulfilled with the use of software tools (program packages Stata 11.0, EvIEWS 7.0, Microsoft Excel 2007).

## RESULTS OF STUDY: INTELLECTUAL CAPITAL DISCLOSURE

The results of content-analyses show, that the most frequently disclosed information is information about human capital in comparison with external capital and internal capital. The most popular, mentioned search terms for the category of internal capital are “trademarks” and “management processes”. “Consumer”, “customer”, “brand” are the most often revealed terms for external capital. At last, terms «employee», «training», «experience», «team», «human resources» are often disclosed in the category of human capital. An upward trend in the total *Intellectual capital disclosure* is suggested; however the amount of external capital disclosure decreases a bit in the year 2008. Following Branco the authors used non-parametric statistical methods to test the connection of independent variables mentioned above and *Intellectual capital disclosure* (Branco, 2010). Thus, the Mann-Whitney U test was used to test industrial affiliation. Spearman’s Rho test was used in order to decide whether size, time and growth are significant. Also Friedman test and Wilcoxon signed rank test was held for comparing the difference in *Intellectual capital disclosure* in time. Friedman test confirmed the differences in *Intellectual capital* and its categories disclosure. Wilcoxon signed rank test confirmed only differences in the amount of disclosure between 2006 and 2007, 2008 and 2009, 2006 and 2009 years. The results are presented in Table 2.

**Table 2.** Wilcoxon and Friedman test results (time period significance for ICD)

<i>Wilcoxon test:</i>	2006-2007		2007-2008		2008-2009		2006-2009		2007-2009		<i>Friedman test</i>	
	Z	P	Z	P	Z	P	Z	P	Z	P	$\chi^2$	P
<i>Internal capital</i>	-2,55	0,01	-	0,80	-	0,61	-	0,01	-	0,80	29,93	0,00
<i>External capital</i>	-2,72	0,01	-	0,91	-	0,02	-	0,01	-	0,19	43,74	0,00
<i>Human capital</i>	-2,45	0,01	-	0,02	-	0,02	-	0,00	-	0,03	51,84	0,00
<i>Intellectual capital</i>	-4,44	0,00	-	0,13	-	0,00	-	0,00	-	0,02	142,58	0,00

The hypothesis of positive connection of size and the amount of total *Intellectual capital disclosure* or its categories was not confirmed. This situation can be explained, for instance, by poor reporting practices in BRCS

countries. As for industrial affiliation, Mann-Whitney U test showed that this factor is significant for total *Intellectual capital disclosure* for all years except the year 2007 and for external capital disclosure for all years. Thus companies from knowledge-intensive industries disclose more information, than companies from traditional ones. The differences in external capital disclosure are connected with the fact, that knowledge intensive companies, mentioned above (like banks and media) are closely working with clients and brand is more important for them, so they demonstrate higher level of external capital disclosure.

**Table 3.** Mann-Whitney test results (industry importance for ICD)

Mann-Whitney test	BRCS: 2006		BRCS: 2007		BRCS: 2008		BRCS: 2009	
	Z	P	Z	P	Z	P	Z	P
<i>Disclosure:</i>								
<i>Internal capital</i>	-0,92	0,36	0,35	0,72	0,49	0,62	0,21	0,84
<i>External capital</i>	-2,88	0,00	-2,73	0,01	-2,60	0,01	-2,71	0,01
<i>Human capital</i>	-1,84	0,07	-0,93	0,35	-0,91	0,36	-0,96	0,34
<i>Intellectual capital</i>	-2,46	0,01	-1,54	0,12	-2,04	0,04	-1,91	0,06

As for connection between *Intellectual capital disclosure* and growth, the relationship is significant at 5% level only for growth 2006-2009 and ICD index for the period 2007-2009. The correlation is negative. It may be connected with the fact that many companies did not restore their capitalization to the level of the year 2006 by the year 2009, while the amount of *Intellectual capital disclosure* increased during the period. The same findings are observed for growth 2006-2009 and ICD index 2006-2009.

## CONCLUSIONS AND IMPLICATIONS

In the world of knowledge economy, knowledge significance and key importance of innovations for creating competitive advantage the new drivers of companies' sustainable development are of great importance. The *Intellectual capital* and its components is the solid basis to create new drivers of value sustainability. One of such key competitive issue of *Intellectual capital disclosing and reporting* is to inform stakeholders adequately. Meanwhile, various studies of information disclosed for investors and analysts indicate a substantial difference between the type of the information found in the annual reports of the companies and the type of information demanded by the market (e.g. Eccles *et al.*, 2001; Eccles and Mavrinac, 1995). In general, companies, investors and analysts require more reliable information, for example, on managerial competencies, expertise, and experience. Stakeholders require more reliable information concerning the client analytical lens, e.g. features of customer relations management integrity. Personnel competencies are to be observed also. All those mentioned above factors are related to *Intellectual capital* (Bukh, 2003). Thus, there is necessity to analyze reporting practices of BRICS companies. Such analysis will help to mark out the available reporting practice, its strength and features. On the other hand it may become a basis for new reporting standards development. In this research two types of *Intellectual capital* and its disclosure investigation were conducted: both are based on financial and non-financial measures. Both types showed the importance of human capital in terms of creation of company's value and reporting. The measures of Innovation or Internal capital, such as dividends paid or R&D expenses are significant according to the first part of our research, but the category of internal capital is the least disclosed. Such result is somewhat expected, since the tough and rival global competition among companies may decrease their wish to disclose additional information about internal capital. Comparing results of two studies of BRICS companies enables also to conclude that company's size influences positively on the amount of *Intellectual capital* accumulated. However, this fact doesn't not affect the *Intellectual capital disclosure* significantly. The influence of particular time period is important in both parts of the research. As for *Intellectual capital* creation, the year 2007 was important as a period of economy overheating before the crisis of the year 2008. At the same time, the amount of the *Intellectual capital disclosure* increased over time. At last, the industry type is significant only for *Intellectual capital disclosure*, but not for the Intellectual capital accumulation.

Thus, this study provides new empirical evidence on *Intellectual capital disclosure* and *Intellectual capital* empirical investigation. The main limitation of this study is the unavailability of annual reports for the similar sample in the second part of the report as it was in the first part of the research. Thus, the development of this research can be executed through the further analysis of companies' web-site contents and press releases, in particular, in order to increase the sample. Also it is possible to apply more complicated content-analyses, in order to create more thorough understanding of the essence of *Intellectual capital*. Promptitude and quality of

corporate disclosed information are of great importance within the framework of knowledge economy. Notably disclosures of the higher quality positively affect expectations of internal and external stakeholders. The information about *Intellectual capital* is probably the most valuable as long as complicated in terms of reporting quality as well as from the point of view of valuation and empirical research, due to the characteristics of this type of intangible capital. There is no convenient, common or best practice of *Intellectual capital disclosure*. Academic community creates different methods of appraising *Intellectual capital disclosure quality* among companies; however, there is still no well-defined approach and, concerning overall results received to the moment, the more it is investigated, the more questions arise. These findings along with the proceeding growth of the information significance explain the need for further development of this subject.

## REFERENCES

Bayburina, E. and Ivashkovskaya, I. (2007) Role of the Intellectual Capital in the Value creation Process of the Large Russian Companies.// *The bulletin of Finance Academy*, Vol.4 (44), pp. 53-62 (In Russian).

Bayburina, E. (2007) Intellectual Capital Investigation Techniques as the Key Trigger of the Sustainable Long-term Company Development.// *Journal Corporate Finance (e-journal)*, Vol. 3, pp. 85-101 (In Russian).

Bayburina, E. and Golovko, T. (2008) The Empirical Research of the Intellectual Value of the Large Russian Companies and the Factors of its Growth.// *Journal of Corporate Finance (e-journal)*. Vol. 2(6), pp.5-19 (In Russian).

Bayburina, E. and Golovko, T. (2009) Design of Sustainable Development: Intellectual Value of Large BRIC Companies and Factors of their Growth.// *Journal of Knowledge Management (e-journal)*. Vol. 7(5), pp. 535-558.

Bayburina, E. and Golovko, T. (2010) Synergetic effects of Intellectual capital: “hidden” reserves for innovation development of BRIC large companies.// *Proceedings of the 7th International Conference on Applied Financial Economics*, pp. 169-178.

Berezinetz, I., Udovichenko, O., Sisolyatina, E.(2010) Capital Contribution to the Business Value Creation.// *Journal of Corporate Finance (e-journal)*, Vol. 3 (15), pp.5-22.

Bontis, N. (2003) IC disclosures in Canadian corporations.// *Journal of Human Resource Costing and Accounting*, Vol. 7(2) pp. 9-20.

Branco, M.C., Delgado, C., Sousa, M. (2010) An analyses of intellectual capital disclosure by Portuguese companies.// *EuroMed Journal of Business*, Vol.5 (3), pp.258-278.

Bukh, N. (2002) The relevance of intellectual capital disclosure: a paradox? // *Accounting, Auditing & Accountability Journal*, Vol. 16 (1), pp. 49-56.

Eccles, R. and Mavrinac, S. (1995) Improving the corporate disclosure process. // *Sloan Management Review*, Summer, pp. 11-25.

Eccles, R., Herz, R., Keegan, E., Phillips, D. (2001) // *The value reporting revolution: moving beyond the earnings game*, New York: John Wiley & Sons.

Firer, S. and Williams, S. (2003) Intellectual capital and traditional measures of corporate performance.// *Journal of Intellectual Capital*, Vol.4 (3), pp. 348-360.

Garanina, T. (2009) The Role of Intangible Assets in Value Creation of a Company: The Critical and Empirical Approaches.// *Journal of Corporate Finance (e-journal)*, № 4 (12). pp. 79-96.

Itami, H. (1987) // *Mobilizing Invisible Assets*. Boston MA: Harvard University Press, 1987.

Ortiz, M. (2009) Analyses and valuation of intellectual capital according to its context. // *Journal of Intellectual Capital*, Vol.10 (3), pp. 451-482.

Petty, M., Cuganesan, S., Finch N., Ford G. (2005) Intellectual Capital and Valuation: Challenges in the Voluntary Disclosure of Value Drivers.// *Journal of Finance and Accountancy*, Vol. 1 (1), pp. 1-7.

Pulic, A. (2000) VAIC – an accounting tool for IC management.// *International Journal of Technology Management*, Vol. 20(5), pp. 702-14.

Puntillo, P. (2009) Intellectual Capital and business performance. Evidence from Italian banking industry.// *Journal of Corporate Finance (e-journal)*, Vol. 4 (12), pp. 96-115.

Stewart, T. (1997) // *Intellectual Capital: The New Wealth of Nations*, New York: Doubleday Dell Publishing Group.

# LONG-TERM M&A EFFICIENCY AND INTELLECTUAL CAPITAL IMPACT: EMPIRICAL EVIDENCE OF EMERGING MARKETS

**Elvina R. Bayburina and Tatyana V. Petrunina**  
**National Research University, Russia**

## ABSTRACT

*The results of the project “Researches of corporate financial decisions of the companies of Russia and other countries with emerging capital markets under conditions of global transformation of the capital markets and formation of economy of innovative type”, carried out within the framework of the Programme of Fundamental Studies of the Higher School of Economics in 2011, are presented in this paper. Since the world doesn’t fail to come to the era of globalization, technologies and innovations are developing at a huge pace. Companies should always stay upbeat in order to correspond to requirements of contemporary market and to stand the global competition. That is the main reason why merger’s activity has dramatically increased. A company should estimate M&A efficiency in order to formulate and to execute strategic decisions. Scholars investigate various factors that influence deals’ efficiency. This efficiency was revealed to be affected by such factors, as company’s size, its experience in M&A, alignment of merging companies, etc. The question whether all necessary M&A efficiency factors are investigated still arises, the new economy incubates the new success factors and value drivers, such as the Intellectual capital and its components as the specific advantage business-model features of each particular company. According to the research results, Intellectual capital impacts on the long-term M&A efficiency by the means of its components, such as human capital, process capital, innovation, network capital.*

## INTRODUCTION

Since the world doesn’t fail to come to the era of globalization, technologies and innovations are developing at a huge pace. Companies should always stay upbeat in order to correspond to requirements of contemporary market and to stand the global competition. That is the main reason why merger’s activity has dramatically increased. There are a lot of researches dedicated to evaluating efficiency of *Mergers and Acquisitions, M&A*. A company should estimate M&A efficiency in order to formulate and to execute strategic decisions. Why are some M&A more successful than the others? What are the particular key factors of this success? And what should a company do to grasp the maximum long-term sustainable benefits from this kind of deals? These are the main questions that a company encounters. Scholars investigate various factors that influence deals’ efficiency. This efficiency was revealed to be affected by such factors, as company’s size, its experience in M&A, alignment of merging companies, etc. The question whether all necessary M&A efficiency factors are investigated still arises, the new economy incubates the new success factors and value drivers, such as the *Intellectual capital* and its components as the specific advantage *business-model* features of each particular company. However, obviously the impact of *Intellectual capital* on the *M&A efficiency* is underestimated. In order to examine the extent of *Intellectual capital’s* importance in *M&A effectiveness*, several things should be determined. On the one hand, a researcher faces with a problem of measuring *Intellectual capital*. Despite the plethora of methods for its measuring, there is not a single one that is perfectly appropriate. The majority of models suffer from subjectivity in defining *Intellectual capital’s indicators and indexes*. In comparison with other models, *Value Added of Intellectual Capital, VAIC* method, created by Pulic in 2000 (Pulic, 2000), is based on the *factual information* and can be easily defined from company’s *financial statements*. These advantages have made *VAIC* method extremely widespread. Another problem, while evaluating *Intellectual capital’s impact* on *M&A efficiency*, lies in choosing how to measure parameter of *efficiency*. The *event study* methodology is extremely popular in academic research due to its simplicity. Nevertheless, it has one substantial drawback. This

method is not able to catch *long-term character* of mergers' processes. On an ideal market share prices correctly reflect future perspectives of companies. Still everybody knows that even developed markets are far from being ideal. One more model, which is also frequently used, is the method of *empirical testing of financial information to measure efficiency*. It implies comparison of company's financial ratios before and after the deal. It seems to be more objective, than *event study*, but it lacks relativity also to some extent. Imagine that market is going up. What is happening with financial ratios? They obviously increase, though not due to deal's efficiency, but due to positive market trend. In comparison to the *empirical testing* the *event study* methodology still has several significant advantages (along with the disadvantages). Firstly, it gives an opportunity to estimate the direct influence of these deals on the shareholder's wealth. Moreover, the abnormal return methodology has a forward-looking dynamics, which actually means that *stakeholders' expectations* form the capital market dynamics. Furthermore as it was already discussed, the method is friendly to use. Despite all of these obvious advantages, *event study* methodology provokes serious doubts in its validity. Some researchers are engaged in the process of fruitful modification and improvement of the initial *event study* methodology.

In particular, more and more models for predicting the shareholders return after the announcement are being put forward. Currently, statistical and economical methods are distinguished (MacKinlay, 1997). Those methods include *Capital Asset Pricing Model*, *CAPM* and *Arbitrage pricing theory*, *APT* models and they are the most wide-spread. Some researchers propose more complicated mathematical models for predicting shareholders' returns. For example, authors A. Sharkas & M. Hassan (Sharkas, Hassan, 2010) justified the usage of *Exponential Generalized Autoregressive Conditional Heteroskedasticity*, *EGARCH (1,1) model*. Along with *event study* approach, other methods of assessing deals' efficiency, such as accounting method and surveys of executives, are used (Bruner, 2001). At the same time, both methods are as well disputable. The methodology of conducting surveys seems to be too subjective. The results can be easily affected by manager's excessive optimism concerning a certain deal. *Empirical testing* method provokes a problem of choosing comparable companies (Martinova *et al.*, 2006). Thus, the present research tries to solve the problem of peer selection by proposing to compare *company's performance* along with the *Intellectual capital impact* before and after the deal. An approach, which is worth of interest, to measure M&A deal's efficiency, which has lately become very popular, is *Data Envelopment Analysis*, *DEA Analysis*. The method is based on comparison of a company in every period with the best practice companies in corresponding industry (see, e.g. Abd-Kadir *et al.*, 2010). *Data Envelopment Analysis*, *DEA* methodology is more appropriate, in author's point of view. Nevertheless, the methodology is far from being universal. Moreover, from authors' point of view, it grasps primarily the operational performance, instead of strategic. Besides, the described approach it doesn't take the life cycle of a market: if a certain market goes down, financial ratios rapidly change, but the relative standing of a company may not be influenced. Thus, the purpose of the present article lies in comparing the results of *event study* method with conclusions derived from the real financial information received later on several years after deal. As a proxy for measuring efficiency the ratio of *market capitalization to book value of total assets (Tobin's Q)* was chosen. In order to meet this objective a regression model on the basis of financial information before the deal was constructed. To construct a model the *Intellectual capital* and its components are to be defined. From the point of view of Bayburina & Golovko (Bayburina, Golovko, 2009) the *Intellectual capital* is a complexity of key qualitative characteristics of the company, which are not always objects of intellectual property, such as, for instance, competencies. Thus, *Intellectual capital* is a complexity of knowledge, accrued experience of employees and intellectual property. It is important to mention that not all objects of engineering design are the objects of the intellectual property; however its importance for the process of the value creation is difficult to underestimate, for example, in the companies of the high tech industry. Simultaneously it is complicated to provide the full, complete, exact definition of the notion '*Intellectual capital* of the company'. For this purpose it is reasonable to concentrate on its structure and the content.

According to the paper and main approach mentioned above the following components of *Intellectual capital* are chosen: *human capital*, *process capital*, *innovation capital*. Moreover, the key notions of *Intellectual capital* components are used. *Human capital* consists of *employees' knowledge and skills*, their key competencies. The company's infrastructure and *profit optimization margin* refer to *process capital* (e.g. information technologies and systems, working processes, business-routines, operational processes, acceleration and integration of key, primary and secondary business processes, controlling, etc.). *Innovation capital* includes commissioning and development of advanced technologies, *capital expenditures* and investment, increase in effectiveness of cost management as a consequence of modernization, *reinvestment policy* and balance of the *dividend policy*. The increase of *dividends* usually leads to a decrease of reinvestment in business, from the other

hand dividends are considered to be a signal for the market, however in general the dividends paid tend to decrease the financial opportunities for new innovations to be implemented. *Network capital* is a complex system of relations with external stakeholders, such as banks, investors, creditors, government and suppliers. Specific and intensity of the business network collaboration, M&A type and frequency depend on each particular investigated year. It is obvious, for example, that in 2007 year the world observed the so-called “stock market rally” on emerging markets caused by the activeness of investors and oil prices turbulent positive dynamics, in 2008 – 2009 the obvious drop affected the network collaboration and M&A activity.

The model of the empirical part of the research included influence of *Intellectual capital* variables described by *profit optimization margin (process capital)*, *employees’ leverage (human capital)*, *capital expenditures (innovation capital)* and some others. Afterwards, it was used for predicting company’s performance after the deal. If there were no controversial events and opposite dynamics of the market (since financial crisis occurred in 2008, it is necessary to explore whether it could have affected our results), that could affect market capitalization, happened in the investigated period, the difference between real and forecasted performance can be fully attributed and referred to the features and characteristics of the deal. According to the specific of the investigated companies of the sample we would try to evaluate the crisis input to the possible biases. To sum up, our main research goal is as follows. First of all, we measure the M&A deals’ efficiency *over the largest emerging capital markets of Brazil, India and China (BIC)* using *modified empirical testing* method, taking into consideration *Intellectual capital and its components*. The main research hypotheses are as follows:

*H<sub>1</sub> Intellectual capital and its components impact on the long-term M&A efficiency of the companies of the largest emerging capital markets*

*H<sub>2</sub> Each Intellectual capital component impacts on the long-term M&A efficiency of the companies of the largest emerging capital markets in its particular way.*

Secondly, we compare the results of this approach with the results of the *event study* methodology. Thus, the research is structured as follows: in the first part sample companies are selected. Afterwards, the authors choose and substantiate methodology of investigating long-term efficiency of M&A deals. Then, necessary indicators are chosen. As a result, the chosen methodology was applied to the given sample. In conclusion, the results are compared and discussed. In the final section a one can find implications for future research.

## SAMPLE SELECTION CRITERIA

The research was conducted on the sample of companies of BIC countries (Brazil, India, China), largest emerging capital markets. Taking into account the necessity to assess companies from different countries the final research sample was formed along with the following criteria. The sample is formed from BIC listed companies from the year 2005 till 2010. The sample is formed from BIC companies involved in M&A activity as an acquirer in the period from the year 2000 till 2010. The present research investigates acquisitions, as well as joint ventures. The selection of long-term period is caused by the length of *Intellectual capital* accumulation, its long-term impact (according to the main hypotheses) in terms of efficiency and value, not less than 5 years (Bayburina, Golovko, 2009) and, therefore, the necessity to analyze panel data for not less than 3 years before the deal and 2 or 3 years after the deal. The sample is formed from BIC companies, which belong to one of the following industries: manufacturing; telecommunications; consumer; basic materials. Statistical information for the research was collected from the Bloomberg data source and corporate web-sites. Bloomberg was chosen as a major source of information. The application of all the criteria brings us with a sample of 24 companies. The sample consists mostly of Chinese enterprises (88,5%). At the same time, according to the above mentioned data criteria there are no Russian companies in a sample (and it is not possible to analyze BRIC instead of only BIC companies), Indian company account for 7,7%. All the rest not so high percentage of the sample goes to Brazil (3,85%).

## METHODOLOGY AND MODEL SPECIFICATION

As mentioned above, traditional *empirical testing* method involves comparing performance of companies engaged in M&A activity with the performance of their peer companies. Thus, a researcher encounters the problem of choosing comparable enterprises and ventures. Invalid choice of such type of companies may lead to bias of estimates and to wrong conclusions. This was the reason why we have chosen another methodology, based on the direct comparison of companies’ performance before and after the deal. The method involves

several stages. *Step 1: Empirical model construction* based on financial information of companies 3 years before a deal. *Step 2: Empirical testing* and application of derived coefficients to forecasted efficiency 2 or 3 years after the deal. *Step 3: Event study investigation. Analysis of empirical findings* and the results of event-study. Taking into account the necessity to assess companies from different countries and that the sample in this particular research is heterogeneous, there is the strict necessity of using relative instead of absolute figures. According to all limitations and principles of the analysis the main dependent long-term dependent investigated variable as the Efficiency proxy variable is the ratio of *Market Capitalization to book value of total assets (Tobin's Q)*. According to previous studies (Bayburina, Golovko, 2009) it is necessary to determine the reason for taking into account the characteristics of the Equity and correspondingly *Market capitalization (MC)*. Managers of BRIC or BRICS companies when targeting the capital structure of the company do not always consider future growth and sustainable development as the long- and medium term goal especially with emerging markets sample of companies. (BRICS: Brazil, Russia, India, China, South Africa. On 24th of December 2010 South Africa received an official invitation to enter BRIC. The entrance has previously been approved by members of BRIC, however, according to many experts; South Africa is not on the level of other BRIC-countries by some economic measures.) That is why the choice of the capital structure by BRIC (BRICS and BIC also) companies depends on a range of factors, which cannot be considered in this article and are left for the future distinguished research from the conceptual point of view. According to all limitations and principles of the analysis the empirical research model can be presented as following:

$$(3) Q_{it} = \alpha + (\rho^1_{it}, \dots, \rho^n_{it}) X IC + (\beta^1_{it}, \dots, \beta^k_{it}) X FV + \varepsilon_{it}$$

where:  $Q$  – a vector of ratios of *market capitalization to book value of total assets (Tobin's Q)*;  $IC$  – a vector of *Intellectual capital* subcomponents;  $FV$  – a vector of fundamental variables;  $\varepsilon$  – a vector of random errors (“white noise”);  $I$  – BIC company index;  $T$  – a year index;  $N$  – a particular *Intellectual capital* component index;  $K$  – a particular fundamental variable index.

The research model includes the following fundamental factors: *Book value of assets (BVA)*, *Return on assets (ROA)*, *Return on equity (ROE)*, *Net income (NI)*, *Earnings before interest, taxation, depreciation and amortization (EBITDA)*, *Growth of Earnings before interest, taxation, depreciation and amortization (G<sub>EBITDA</sub>)*, *Growth of Earnings before interest and taxation (G<sub>EBIT</sub>)*, *Sales turnover (Sales)*. *Intellectual capital* proxy variables are structured as follows. Human capital is represented by *Number of Employees (NE)*, *Net Income per Employee (Employees leverage, NI/E)*. *Profit optimization margin (POM)*, *Operating expenses (OE)* reflect *process capital*. *Capital expenditures (CAPEX)*, *Amortization & Depreciation (A&D)*, *Dividends Paid (DP)* stand for *innovation capital*. *Network capital* is represented by the influence of particular time period and is investigated separately.

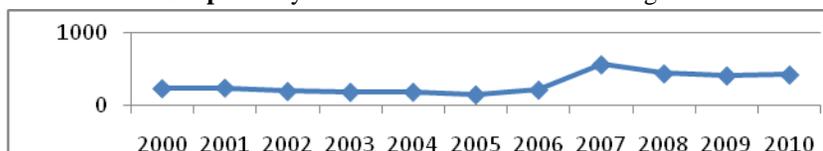
*Profit optimization margin (Net income/Sales turnover)* shows how many dollars of net income are derived from one dollar of sales; it reveals enterprise's efficiency related to cost optimization, since cost structures of the companies from the same industries are similar. *Amortization ratio (Amortization & Depreciation/ Total assets)* characterizes speed of impairment and retirement of assets. *Dividend payout ratio (Dividend payout/Net income)* represents the share of net income paid out to shareholders as dividends. *EBIT growth ratio (EBIT growth/current EBIT)* and *EBITDA growth ratio (EBITDA growth/ current EBITDA)*, both coefficients demonstrate current growth rates of a company. *Capex ratio (Capital expenditures/Total assets)*, the indicator gives a vision of company's future growth perspectives. *Operational expenses ratio (Operational expenses/Sales turnover)*, the ratio reveals how optimal is the operational cost structure of a company. *Employees leverage ratio (Net income/Number of employees)*, the indicator characterizes the level of company's human capital.

We assume that coefficient before variable calculated as profit optimization margin should have a positive sign: the more net income per dollar of sales a company earns, the higher is its operational efficiency and operational optimization. The sign of amortization ratio coefficient is ambiguous. On the one hand, significant amortization implies considerable cash flows for a company. On the other hand, fast impairment implies that a company modernizes its assets more frequently. In this case a company has to divert more cash flow to capital expenditures with the detriment for another investment activity. Also we expect the coefficient sign of dividend payout ratio to be positive, as far as dividends favorably influence the investors' attitude or negative, as far as the dividends negatively influence the financial possibilities to renovate the equipment and necessary operational routines. It is presumed that the signs of EBIT and EBITDA growth ratios coefficients also exceed zero, because capital expenditures lead to company's growth in long-term period, over more than 5 years of research period. Operational expenses ratio is expected to influence *Market capitalization* and *Tobin's Q* correspondingly and negatively. Employees leverage characterizes to some extent the features of human capital of the company. All

companies of the sample are similar in operational activity; therefore, high productivity of workers signifies the ability of the whole company to use efficiently its resources. It is assumed that higher level of employees leverage and human capital, correspondingly, favorably affects *Market capitalization* and *Tobin's Q* (following Bayburina, Golovko, 2009).

*Network capital overview: "time-factor"*. Network capital is a complex system of relations with external stakeholders, such as banks, investors, creditors, government and suppliers. Correspondingly, fair marketing practices and competition, promotion of social responsibility, forehanded and full executing of contracts, etc. sustain the accumulation and synergetic value of network capital. The networks capital is generated outside and partially within the company by the wide range of the corporate interactions and cooperation with external stakeholders of business networks (following Bayburina, Zhukovets, 2010). Obviously, the networks management can increase the corporate value significantly, but unbalanced inner-isolated managerial decisions cannot. As of day, it is not an easy matter to assign the key analytical substance of the business networks structure and the networks capital features as the value drivers of the company. The range of applied and empirical papers of the networks intuitive phenomenon and the possibility of the development of those new unique value drivers especially networks based, preliminary force out researchers to find the common concept of the analysis. The networks value drivers are to be unique and thus to be sustainable under up-to-date rival competition and even under the conditions of the distressed world economy. According to this widespread academic heritage, it is possible to distinguish networks capital as the part of the *Intellectual capital* of the company. The main distinctive feature is that the networks capital is accumulated mostly by the interactions of the company with the external business environment. The main issue in this case is that the company is quite limited in leveraging the business environment and is stint in resources to manage the external counterparts' interactions in contrast to internal corporate processes (following Bayburina, Zhukovets, 2010). Taking into consideration the network capital it is worth to mention that the specific of the world economy stage influence the degree of stakeholders' activity. Specific and intensity of the business network collaboration, M&A type and frequency depend on each particular investigated year. It is obvious, for example, that in 2007 year the world observed the so-called "stock market rally" on emerging markets caused by the activeness of investors and oil prices turbulent positive dynamics, in 2008 – 2009 the obvious drop affected the network collaboration and M&A activity. Consequently, the authors have decided to prove a significance of the "time-factor" to be investigated along with the network capital. Since financial crisis occurred in 2008, it is necessary to explore whether it could have affected the expected research results. The majority of companies in the sample are quoted on Chinese stock exchange. Shenzhen Stock Exchange Index is presented (taking into consideration the infrastructural features of Chinese capital market, it is worth to mention that there is a strong linkage between the Shanghai Stock Exchange and the Shenzhen Stock Exchange in terms of returns, return volatility, and volume volatility). Therefore, its dynamics is the most relevant.

**Graph 1:** Dynamics of Chinese stock exchange index

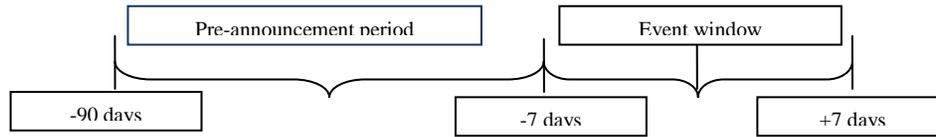


The above graph reveals that the value of index has doubled from 2000 till 2010 according to the sample time formation criteria. Year 2008 showed 21% drop of index, though its value still exceeded the before-crisis value (before 2006). Since the significant number of companies in the investigated sample were involved in M&A activity before 2007 (50%), the observations included years before 2006, when index value was relatively low. We can make a conclusion, that factual value of Tobin's Q should have been even more than predicted, but this is not the case. Despite the soundness of this argument, in the second section of the article we'll investigate whether our results are affected by the inclusion of crisis. As a result, predicted values of Tobin's Q should change proportionally according to the market dynamics. To reach the main goal of the research the above mentioned special research model has been introduced and a series of linear regression tests has been held. The empirical panel data research was fulfilled with the use of regression analysis software tools (program packages Stata 11.0, Eviews 7.0, Microsoft Excel 2010).

## EVENT-STUDY METHODOLOGY

The next stage of the research is to compare the results of the described above empirical approach with the results of *event study* methodology. In the academic literature the issue of choosing event window still has no single solution. Following Husainov (Husainov, 2008), we have chosen a period of 15 days. These include 7 days before the deal and 7 days after. Analysis of 7 days before the official announcement of a deal is essential to take insider information into account. This factor is extremely relevant due to emerging markets features. Calculation of abnormal returns was implemented according to the scheme, presented on the graph 2 below.

**Graph 2:** Structure of event study methodology



CAPM model was taken as a basis for calculating abnormal returns:

(4)  $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$ , where:  $R_{it}$  – return of company  $i$  in period  $t$ ;  $R_{mt}$  – market portfolio return in period  $t$ ;  $\varepsilon_{it}$  – random error or “white noise”,  $i$  – BIC company index;  $t$  – a year index;  $m$  – a market index.

Calculation included several steps. *Step 1:* CAPM model was estimated on the basis of company’s daily returns in the pre-announcement period. *Step 2:* Derived coefficients were used to predict stock returns in the event window. *Step 3:* Abnormal returns were calculated as differences between actual and predicted values of stock returns. Abnormal returns in each of 15 days were summed up for every company. Calculated average CAR of all companies in sample was tested for significance.

(5)  $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ , where:  $AR_{it}$  – abnormal return of company  $i$  in period  $t$

(6)  $CAR_i = \sum_{t=-7}^7 AR_{it}$ , where:  $CAR_i$  – cumulative abnormal return of company  $i$

## RESULTS AND MAIN FINDINGS

*Empirical research results (3 years before a deal).* The model described above was tested in software package *Stata*. First of all, a *pooled regression* on the basis of 72 observations (data of 24 companies over 3 years before a deal) was constructed. Thereafter, we tested *Fixed effects* model, which assumes the existence of unobservable *Fixed effect* for every company. Thus, this model takes potential heterogeneity of the sample into account. Based on F-statistics, the null hypothesis about the *pooled regression*’s superiority is rejected, which means, that *Fixed effects* model correctly explains the investigated dependence. *Breusch-Pagan* Test revealed that *Random effects* model also surpasses pooled regression. *Hausman* test allowed us to make a conclusion that *Random effects* model leaves behind the *Fixed effects* model. The multicollinearity was not found. After elimination of insignificant coefficient model presents the follows.

**Table 1: Model specification**

Test	Statistics
Wald Test	F test that all $u_i=0$ : $F(23,38)= 109,7$ Prob > F= 0.0000
Breusch-Pagan Test	$\chi^2(1)= 63,84$ Prob > $\chi^2= 0.0000$
Hausman Test	$\chi^2(6)=1,23$ Prob > $\chi^2= 0.9753$

(7)  $Q_{it}=3,719 + 60,518 \times Profit\ optimization\ margin_{it} + 161,276 \times Employees\ leverage_{it} + 359,663 \times Amortization\ ratio_{it} - 34,287 \times Operating\ ratio_{it}$

All the coefficients have expected signs: the more is *Profit optimization margin* and the higher is *Employees’ leverage* and *Amortization ratio*, the higher is *Tobin’s Q*. On the other hand, the higher is the share of *operational costs* in sales, the less efficient is the company and, in turn, the less valuable is the company for investors. Accordingly, the coefficient negatively influences the corresponding variable.

*Empirical research results (3 years after a deal).* The next step is to predict *Tobin’s Q* in three years after the deal period. On average, the deviation of *Tobin’s Q* factual value from *predicted one* is -8,229. *This difference appeared to be insignificant at 10% level.* This result can be explained by the additional investigation of the model specification. In particular, the model can be improved by adding extra factors. Besides, macroeconomic factors could also affect the results. During the considered period the financial crisis took place so that it could affect market capitalization dynamics of the observed companies. The majority of the companies of considered sample are quoted at the Chinese stock exchange. Accordingly, Chinese stock exchange dynamics is the most

relevant. As we can see on graph 1, from 2006 till 2007 value of an index has redoubled. 2008 has shown 21 % falling of an index, however its value and together with mentioned percentage of falling considerably surpassed the meaning of index before crisis (till 2006). As the majority of the Chinese M&A has occurred in 2007, observations included 2004-2006, accurate that period of time when values of an index were rather low. It means that actual value should be even more than we have predicted and that we don't observe. Despite validity of the statement, we investigate, how will change our conclusions with taking into account financial crisis. For this purpose as a resultant indicator Tobin's Q was adjusted by the Chinese stock exchange index. As a result of calculation of look-ahead values, Tobin's Q should change proportionally the movement of an index. Correspondingly, this part of the research is dedicated to investigation of how crisis affects our results. The new response variable is Tobin's Q adjusted to crisis. On the basis of F-statistics, *Breusch-Pagan* statistics and *Hausman* test *Fixed effects model* was chosen. The multicollinearity was not found. Elimination of all insignificant variables (at prudent level of significance) gave us the following regression, the final model is as follows:

**Table 2: Model specification**

Test	Statistics
Wald Test	F test that all $u_i=0$ : $F(23,38)= 18,06$ Prob > F= 0.0000
Breusch-Pagan Test	$\chi^2(1)= 30,93$ Prob > $\chi^2= 0.0000$
Hausman Test	$\chi^2(6)=36,64$ Prob > $\chi^2= 0.0000$

(8)  $Q_{it}=0,0102 - 0,0182 \times Profit\ optimization\ margin_{it} - 0,0000262\ Dividend\ payout\ ratio_{it}$

The above model appears to be worse than initial, as far as coefficients are less significant. Moreover, constant is highly significant, which testifies that fixed effects (factors that were not included in the model) have a greater influence on the response variable, than other factors. The average deviation of factual values from predicted amounted to -7,2365. The difference this time has become *significant at a prudent level*.

*CAR research results.* On the basis of selected for research companies CAR was calculated. For eight sample companies (33,3%) CAR appeared to be negative, while the rest of selected companies (66,6%) have positive value of CAR. For the whole sample CAR is positive and significant (at 5% level of significance), with the value of +0,0452 (see table 3).

**Table 3: CAR calculation**

Indicator	Value
CAR average	0,04521
CAR variance	0,000833
t-statistics	54,25039

The initial hypothesis was that the results of *event study* approach will significantly differ from the results of empirical investigation of financial information. As we have just determined, the results of two approaches differ significantly. Our research goal is twofold. First of all, we aimed to assess the long-term efficiency of M&A deals on the markets of BIC countries, since the number of corresponding studies is limited and we tried to measure the impact of *Intellectual capital* on the determined *efficiency*. For this reason, the sample of industrial enterprises involved in M&A activity in 2000-2010 was used. Another purpose of the research was to apply different methodologies to estimation of M&A efficiency and to test whether the results are consistent and corresponding to the Intellectual capital concept and investigation. To sum up, our main research goal was as follows. First of all, we measured the M&A deals' efficiency on developing emerging markets e.g. BIC using *modified empirical testing* method, taking into consideration *Intellectual capital and its components*. The main research hypotheses were confirmed. *Intellectual capital* impacts on the long-term M&A efficiency by the means of its components, such as *human capital, process capital, innovation, network capital*. Human capital is significantly represented by *Net Income per Employee (Employees leverage, NI/E)*. *Profit optimization margin (POM)*, *Operating expenses (OE)* reflect *process capital* significantly. *Amortization & Depreciation (A&D)*, *Dividends Paid (DP)* stand for *innovation capital*. *Network capital* is represented by the influence of particular time period and makes the vital input into the model and results.

Our modified empirical approach indicates that three years after the deal the additional input to the corporate performance the advantages of M&A is not so high (the constant in the model is quite exiguous), the variables that are significant are with the negative signs of coefficients and they are *Dividend payout ratio* (which is the outflow of the company and negatively influence efficiency), and, what is worse, *Profit optimization*

*margin* (which reveals enterprise's efficiency related to cost optimization). To some extent it is possible to conclude that deterioration of these companies' performance took place 3 years after M&A. M&A is the additional obligation to the company, that is why its stakeholders after M&A tend to demand higher level of *Dividends paid* after a deal, *M&A synergy* is quite an arguable question, especially because *Profit optimization margin* after started to contribute negatively into long-term *M&A efficiency* and *long-term corporate performance*, that with no doubt means, that 3 years after M&A the *operational efficiency* and possible *M&A synergy* were deteriorated. Secondly, we compared the results of this approach with the results of the *event study* methodology. Event study methodology by the means of days (not years) window testifies that M&A deals in the period of 2000-2010 with no doubt have improved the performance of participating companies after 7 days after M&A. Since the empirical method based on the actual panel data of financial information is more objective, we can drive the conclusion that calculation of abnormal return by the means of CAR scheme won't necessarily lead to valid results.

## CONCLUSIONS AND IMPLICATIONS

Since the world doesn't fail to come to the era of globalization, technologies and innovations are developing at a huge pace. Companies should always stay upbeat in order to correspond to requirements of contemporary market and to stand the global competition. That is the main reason why merger's activity has dramatically increased. There are a lot of researches dedicated to evaluating efficiency of M&A. A company should estimate M&A efficiency in order to formulate and to execute strategic decisions. Why are some M&A more successful than the others? What are the particular key factors of this success? And what should a company do to grasp the maximum long-term sustainable benefits from this kind of deals? These are the main questions that a company encounters. Scholars investigate various factors that influence deals' efficiency. This efficiency was revealed to be affected by such factors, as company's size, its experience in M&A, alignment of merging companies, etc. The question whether all necessary M&A efficiency factors are investigated still arises, the new economy incubates the new success factors and value drivers, such as the *Intellectual capital* and its components as the specific advantage business-model features of each particular company. However, obviously the impact of *Intellectual capital* on the M&A efficiency is underestimated. One of the most significant problems, while assessing M&A efficiency, lies in choosing how to measure this efficiency. Present article pursued an objective to compare the results of *event study* methodology with the results of empirical investigating financial information. Despite the method used by present researchers is disputable, results of the investigation eloquently testify, that calculation of abnormal returns is unable to reveal the actual long – term efficiency of M&A deals and depict factors that matter and that are worth of investigation, e.g. *Intellectual capital components*. It seems quite logic, that *event study* method is not always able to grasp the long-term efficiency of these deals: this instrument is based upon investors' reaction, which is frequently driven by speculative incentive, especially on developing markets.

Our initial hypothesis was that the results of *event study* approach will significantly differ from the results of empirical investigation of financial information. As it was determined, the results of two approaches differ significantly. Our research goal is twofold. First of all, we aimed to assess the long-term efficiency of M&A deals on the markets of BIC countries, since the number of corresponding studies is limited and we tried to measure the impact of *Intellectual capital* on the determined efficiency. For this reason, the sample of industrial enterprises involved in M&A activity in 2000-2010 was used. Another purpose of the research was to apply different methodologies to estimation of M&A efficiency and to test whether the results are consistent and corresponding to the *Intellectual capital* concept and investigation. To sum up, our main research goal was as follows. First of all, we measured the M&A deals' efficiency on developing emerging markets e.g. BIC using *modified empirical testing* method, taking into consideration *Intellectual capital and its components*. Intellectual capital impacts on the long-term M&A efficiency by the means of its components, such as *human capital*, *process capital*, *innovation*, *network capital*. *Human capital* is significantly represented by *Net Income per Employee*. *Profit optimization margin*, *Operating expenses* reflect *process capital* significantly. *Amortization & Depreciation*, *Dividends* stand for *Innovation capital*. *Network capital* is represented by the influence of particular time period and makes the vital input into the model and results. The main research hypotheses were confirmed. Our modified empirical approach indicates that three years after the deal the additional input to the corporate performance and M&A efficiency the advantages of a deal is not so high (the constant in the model is quite exiguous), the significant variables are represented in the model by coefficients with the negative signs. Those significant variables are *Dividend payout ratio* (which is the outflow of the company and negatively influence

efficiency), and, what is worse, *Profit optimization margin* (which reveals enterprise's efficiency related to cost optimization). To some extent it is possible to conclude that deterioration of these companies' performance took place 3 years after M&A. M&A is the additional obligation to the company, that is why its stakeholders after M&A tend to demand higher level of *Dividends paid* after a deal, *M&A synergy* is quite an arguable question, especially because *Profit optimization margin* after a deal started to contribute negatively into long-term *M&A efficiency* and *long-term corporate performance*, that with no doubt means, that 3 years after M&A the *operational efficiency* (which was revealed before the deal) and possible *M&A synergy* were deteriorated. Secondly, we compared the results of this approach with the results of the *event study* methodology. Event study methodology by the means of days (not years) window testifies that M&A deals in the period of 2000-2010 with no doubt have improved the performance of participating companies after 7 days after M&A. Since the empirical method based on the actual panel data of financial information is more objective, we can drive the conclusion that calculation of abnormal return by the means of CAR scheme won't necessarily lead to valid results. Further researches can extend the investigated sample and period. Moreover, it would be interesting to explore the influence of one and the same factors on company's efficiency before and after the deal. It is logical to assume that the influence of factors will differ in these two time periods. Besides, model specification improvement (which is, inclusion of more factors) will provide deeper insights into the field of investigation. Furthermore, it would be useful to compare obtained results with the results of other methods of investigation. Applying various methodologies to assessing M&A deals efficiency would give researchers a complete vision of the M&A market in order to investigate *corporate performance* along with *corporate control*.

## REFERENCES

- Abd-Kadir, H., Selamat, Z., Idros, M. (2010) Productivity of Malaysian Banks After Mergers and Acquisitions // *European Journal of Economics, Finance and Administrative Sciences*, Vol. 24, pp.111-122.
- Al-Sharkas, A. and Hassan, M. (2010) New evidence on shareholder wealth effects in bank mergers during 1980-2000// *Journal of Economics and Finance*, Vol. 34, pp. 326–348.
- Bruner, R. (2002), Does M&A Pay? A Survey of Evidence for the Decision-Maker, *Journal of Applied Finance*, Vol. 12(1), pp. 48-68.
- Bayburina, E. and Golovko, T. (2009) Design of Sustainable Development: Intellectual Value of Large BRIC Companies and Factors of their Growth.// *Journal of Knowledge Management (e-journal)*, Vol. 7(5), pp. 535-558.
- Bayburina, E. and Zhukovets, O. (2010) Networks capital analytic lens - moving towards the concept of the value drivers.// *Contemporary Views on Business - Partnering for the Future, Conference Proceedings*, Helsinki, pp.312-313.
- Husainov, Z. (2008) Estimating M&A deal's efficiency: complex approach.// *Journal of Corporate Finance (e-journal)*, Vol. 5, pp. 12-33 (in Russian).
- MacKinlay, A. (1997) Event Studies in Economics and Finance.// *Journal of Economic Literature*, Vol. 35(1), pp.13-39.
- Martynova, M., Oosting, S., Renneboog, L. (2006) The Long Term Operating Performance in European Mergers and Acquisitions.// *ECGI - Finance Working Paper*, № 137.
- Pulic, A. (2000) VAIC – an accounting tool for IC management.// *International Journal of Technology Management*, Vol. 20(5), pp. 702-14.

# **AN INTEGRATIVE MODEL FOR MULTIPLE STRATEGIES FORMULATION: THE CONTRIBUTION OF STRATEGIC FORESIGHT**

**Andréa Belfort-Santos and Maria Angela Campelo de Melo**  
**Pontifical Catholic University of Rio de Janeiro – PUC-Rio, Brazil**

## **ABSTRACT**

*This article proposes an Integrative Model to enhance the interaction between strategy formulation and prospective approach. The model's formulation was based on solid theoretical foundations in the strategy and prospective areas, and was developed according to action research methodology, based on one of the author's conduction of the implementation of a strategic planning process. Tested during the corporate planning process of a business group in Brazil's electricity sector, the model seeks to consolidate a multiple strategy formulation process, enriched by support from scenarios, and constitutes an instrument for the management of uncertainty in decision-making.*

## **INTRODUCTION**

In order to deal with the high degree of dynamism, complexity and uncertainty of the corporate environment, organizations develop planning processes based on *prospective* approach, incorporating into the strategic discussion a plural reflection on the future, which seeks to incorporate the dimensions of economic, social and environmental sustainability.

However, in corporate practice it is not usual to make extensive use of complex studies of scenarios when formulating the firm's strategies and defining its commitments, due to the decision-making difficulties encountered by managers when confronted with the diverse possibilities of these processes. In this way, when establishing their long term commitments, most executives select, as basis for their strategies, just one of the scenarios, neglecting the others. Beyond this, it is possible to observe that exists a distance between the processes of scenario construction and strategy formulation, as the authors discovered when analyzing various planning processes underpinned by scenarios performed in Brazil over the past fifteen years. For their inherent complexity, these processes are conducted as separate activities, with the first, which is devoted to the construction of alternative scenarios, having very little influence on the development of the second - the formulation of strategies -, especially when they are performed by different teams.

Thus, the interface between the prospective approach and the strategy area constitutes, for this reason, a field open to investigation, both for the development of theoretical models exploring the richness of using scenarios for the formulation of strategies, as well as in the practical application of the models, in order to evaluate the possibilities of enhancing the integration of these areas in organizational practice. This article intends to contribute to this field.

## **STRATEGIC FORESIGHT**

The term '*Prospective Stratégique*' has become widely used since the 1980's - especially in France - to explain the inter-relation between *prospective* approach and strategy. Godet and Durance (2007) argue that in successful firms, strategies are formulated aiming at anticipating and configuring products, services or even

entire sectors of activity. Thus, the winners are those that are concerned with foresight and innovation and not those firms that concentrate on positioning themselves in today's markets. According to these authors, *Prospective Stratégique* is the art of anticipating possible futures to illuminate present action, preparing the organization not only to face expected changes in its environment (pre-activity) but also to provoke desired change on it (pro-activity). Focusing on decision-making and action itself, the *prospective* is close to strategy, preparing organizations to recognize and face changes, when necessary, or provoke them, when possible. Moving from anticipation to action, based on the knowledge generated during *prospective* reflection, the *Prospective Stratégique* or Strategic Foresight reaffirms its purpose of illuminating - in the present - the choices that determine the future of the organization.

The main instrument to exercise a prospective analysis is the construction of scenarios, perceived by Godet (1983) as descriptions of possible futures, feasible or desirable for a system and its context, and of the path – or trajectory – which links them to the initial situation of that system. For Schwartz (1995), the technique of scenarios building constitutes a tool to explore the future in a world of great uncertainty, serving more precisely to organize the perception of alternative futures environments and to support the decision making process. For this, various scenario construction methodologies have been developed to perform *prospective* approach. They can be divided broadly into two schools: the French and the Anglo-Saxon. The first is characterized by a high level of sophistication and structuring, methodological rigor and the use of various analytical methods during the scenario preparation process, while intuitive and creative methods predominate in the second. Despite their methodological differences, both fulfill their role, developing scenarios that are plausible, consistent, realistic, qualitatively contrasting, challenging as a whole and useful for the strategic process (BELFORT-SANTOS, 2011). Scenarios have a wide use, ranging from improving the shared perception of the possible future evolution of the environment, based on the creation of a common organizational language and view of the future, to the making a highly effective contribution to the quality of decisions, formulation of strategies and organizational learning (VAN DER HEIJDEN, 1996; FAHEY; RANDAL, 1998; POSTMA; LIEBL, 2005).

By improving their collective understanding of possible future developments of reality, executives question existing decisions, generate strategy options and formulate decisions, while learning in the course of this process. For this reason, various authors consider that the use of scenarios in strategic planning should focus on organizational learning and choose strategic conversation as the main instrument of this learning process, as it facilitates the creation of a shared mental model that underpins institutional action and takes into account environmental uncertainty to counteract the prevailing organizational view (DE GEUS, 1988; VAN DER HEIJDEN, 1996; FAHEY; HANDAL, 1998). Thus, strategic foresight reflection encourages the organization to embark on a double-loop learning process (ASHBY, 1952; ARGYRIS; SCHÖN, 1974), incentivizing the reassessment of values and its view of the future, thus leading to new corporate strategies.

In academic literature, the strategy concept is understood from diverse perspectives, ranging from the purely rational view of the Design School (ANSOFF, 1965; 1991) and its followers of strategic planning and positioning, which advocate a unique strategy, exclusive and valuable for the company (Porter, 1991), to perceptions of strategy as resulting from adaptation and learning based upon the decision making daily practice, emerging, therefore, as a company's pattern of behavior over time (Mintzberg *et al.* 2000); or yet to views that consider it as multiple, representing options which the company should use as its interests or the environment changes. In the latter sense, Beinhocker (2006, p. 334) conceptualizes strategy as "a portfolio of experiments, a population of competing Business Plans that evolves over time".

As seen, Beinhocker believes in multiplicity of experiences to reach a higher objective. However, analysis of planning processes under scenarios of large Brazilian companies in the last 15 years brings a reflection on the feasibility of several conflicting strategies simultaneously existing in the organization. It seems necessary, especially considering the maturity level of the strategic process of large corporations in Brazil, the identification of a grand strategy, one that indicates the direction to be followed and direct major business decisions. On the other hand, it makes sense to consider the arguments of Beinhocker by arguing that when a company is able to internalize and manage a variety of ways by which it can achieve a goal, this company is more likely to succeed in comparison with others that put their stakes *a priori* in a single direction. Thus, this paper proposes a new understanding of the strategy:

Strategy comprises a set of grand choices (main strategy) and a portfolio of experiments (complementary or alternative to the main one) with a great potential reach, that guide the management of the present and the construction of the future over a long-term horizon, under conditions of uncertainty.

Considering this understanding, it is necessary to develop a way of conceiving strategies, being them the main or alternative or complementary ones, and combining them so that they can help the company achieve its overriding objective, which is to survive and grow. The Integrative Model was proposed as an instrument to this process.

## INTEGRATIVE MODEL

The Integrative Model aims to address a paradox of planning under scenarios: the creation and recognition of uncertainties versus their internalization and management in the sphere of strategy (LINDGREN E BANDHOLD, 2003). According to Brown and Eisenhardt (1998, p. 147):

*“The dilemma of the strategy in an uncertain, changing future involves balancing between the need to commit to a future while retaining the strategic flexibility to adjust to the future”.*

In order to deal with this paradox, a new understanding of the content of Strategy is proposed, considering that it should consist of multiple strands, rather than merely a single one, and cover the most relevant future possibilities, although a main direction should be maintained as the one to be pursued in principle. With this aim, the Integrating Model adopts the scenario technique as an inspiration for the preparation of the set of strategies. Each scenario is then analyzed in depth, using various strategic assessment techniques, in order to guide the choice of the main and additional strategies.

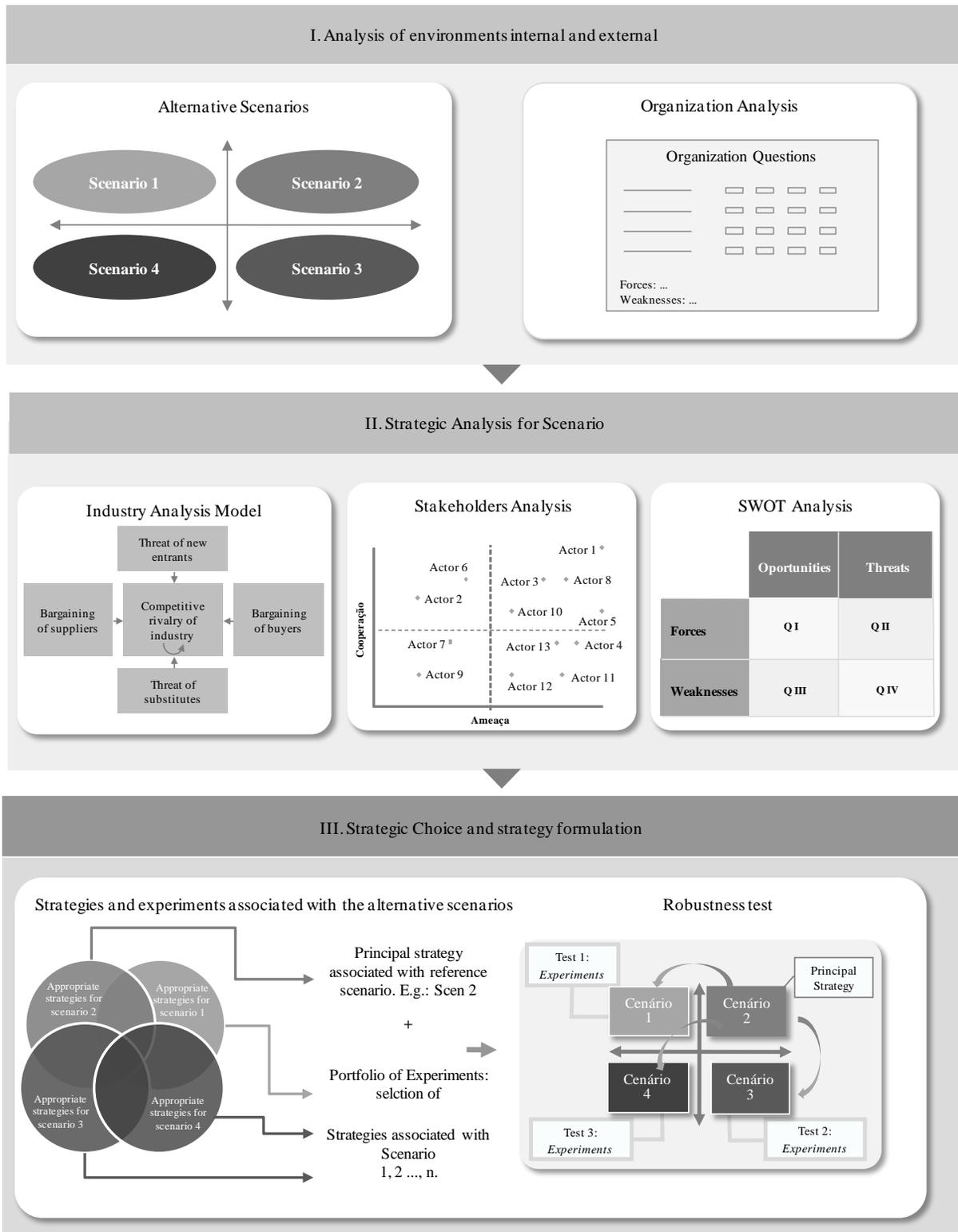
As a matter of fact, based on one of the author’s experience in the preparation of macroeconomic and sectoral scenarios in Brazil, and on the strategic foresight literature, it is possible to affirm that a set of well-constructed scenarios reflects the important alternatives in a sector or segment, translating the most plausible future possibilities over the time horizon analyzed. Thus, strategies designed for each alternative scenario should encompass a broad portfolio, which enables the company to act on various fronts to achieve its objective, internalizing the widest possible scope of market options. In this way, irreversible commitments are postponed until uncertainty is reduced, turning strategic decision-making under uncertainty into a continuous process (FRIEND; JESSOP, 1969).

Certainly, no organization would be able to conduct all alternative strategies simultaneously with an equal commitment of resources, as it is impossible to conduct so many business plans at the same time when resources are finite. In other words, a company’s planning process minimally requires a definition of the main path to be followed. Thus, the Integrative Model, which is presented in Figure 1, proposes:

- *using the alternative scenario-building technique to explore the most plausible future possibilities over the time horizon considered, exploring the variety of markets;*
- *analyzing these scenarios in depth, by means of strategic analysis tools commonly found in strategic planning processes. Among these tools, were chosen, for this model, SWOT analysis (strengths and weaknesses of the internal environment x opportunities and threats in each scenario), the structural analysis of industry and stakeholder analysis developed for each scenario;*
- *outlining a set of strategies that are appropriate for each scenario;*
- *selecting a scenario as a reference to define the main Strategy (or set of strategies);*
- *adding experiments (alternative or complementary strategies) based on the analyses and strategies outlined for other scenarios and submit the full set to robustness tests; and*
- *instituting a process to monitor uncertainties and actions to manage the experiment portfolio.*

Thus, a differentiation process is built into the company, based on which a qualitatively distinct portfolio of experiments is generated and managed in order to guide the organization in the face of environmental uncertainties.

**Figure 1: Integrative Model for multiple strategies formulation**



# THE CASE OF ELETROBRAS

The application of the Integrative Model in a real case was designed to assess the practical feasibility of the theoretical model previously defined, as well as to deepen it and enrich it with the results of the experience, thus contributing to the theoretical development of the subjects studied. Additionally, to the business system to which it was applied, the challenge was to improve its strategic planning process, integrating and modernizing it in order to introduce new concepts that could prepare the organization to deal with uncertainty.

The Integrative Model served as a methodological basis for the Corporate Strategic Planning project of the Sistema Eletrobras, conducted by 'Macroplan - Foresight, Strategy and Management', a consulting firm where one of the authors, who coordinated the project, works. Eletrobras, holding of the Sistema Eletrobras, is a publicly traded company controlled by the Brazilian government, which leads a pool of companies for generation, transmission and distribution of electricity in Brazil. This system is formed by a holding company and 12 subsidiaries, six for generation and transmission of electricity and six for distribution, plus a research center. In addition, Eletrobras holds half the capital of Itaipu, the biggest hydroelectric dam in the world in power generation, with installed capacity of 14,000 MW, owned by the governments of Brazil and Paraguay. Altogether, the Sistema Eletrobras has a generating capacity of 39,500 MW of electricity - including half of the Itaipu power belonging to Brazil - which accounts for 37% of the national total. This amount is generated by 46 hydroelectric plants, thermoelectric and thermonuclear. The transmission lines are over 59,000 km in length, representing about 56% of the total lines of Brazil (ELETROBRAS, 2010a).

The theoretical model was applied to the process of strategic planning of the Sistema Eletrobras by means of the action research methodology, turning this case study a field of analysis that allowed improving the theoretical model through analytical generalizations. Accordingly, with this research strategy, it was sought to explore in the best way the interaction between the researcher and the group members, in order to solve practical problems while developing the theory from the experience. Thus, repeated cycles of observation, analysis, proposal of new actions, negotiation with the group members and evaluation, as recommended by action research, characterized the whole process.

Given its complexity, the proposed strategic planning process was implemented in four modules, namely: (1) scenarios construction, (2) analysis of the internal environment and application of tools of strategic analysis, (3) selection and formulation of strategy, including the setting of multiple strategies, and (4) consolidation and analysis of consistency and robustness of the Plan. As a result, in the Strategic Plan were defined: (a) the mission of the Sistema Eletrobras of "acting in the energy markets in an integrated, sustainable and profitable way; (b) its future vision for 2020, namely," to be the largest global enterprise system for clean energy, with a return comparable to that of the best companies in the electricity sector"; (c) its organizational values, translated into "focus on results, entrepreneurship and innovation, value and commitment of people, and ethics and transparency," and its proposed benefits to their main stakeholders - shareholders, customers, government and society.

Taking the main strategy of the system, associated with one of the designed scenarios, five strategic objects, associated with its business and markets, were defined: (a) to expand the generation, transmission, distribution and sale of electricity in a competitive and profitable way; (b) to maximize the participation of clean energy in the energy matrix of the system; (c) to selectively expand its international operations, focusing on the American continent; (d) to participate in the management of electric power programs of interest to the government, establishing targets for implementation and for economic-financial balance; (e) to ensure that the projects of the Sistema Eletrobras are vectors of sustainable development to their surrounding areas. These strategic objectives comprise 19 specific strategies. Another set of seven strategic objectives, related to management, were broken down into 23 specific strategies.

Considering the other scenarios, four main themes have been defined to integrate the portfolio of experiments. They are: (a) electric transportation, including challenges relating to the supply network, storage capacity, reducing the cost of batteries and associated research and development; (b) revenue generation through the sale of carbon credits; (c) more water to the Northeast through the desalination process coupled with nuclear

generation and other energy sources; and (d) investment in smart networks - Smart Grid and PLC (broadband); and distribution.

Clearly, in the whole set of experiments of this case study, a bias related to innovation could be observed. Other experiments related to hedging strategies were listed in the process but were not incorporated into the Strategic Positioning of the Sistema Eletrobras.

## IMPLICATIONS FOR THE ORGANIZATION

The model considers the need to implement a portfolio of experiments' management process. However, as this article focuses on the portfolio's **formulation**, considerations regarding the implications of the formulation of multiple strategies in the organizational environment are presented below, drawn both from literature and practical experience.

Even if the organization privileges a main path, the portfolio of experiments increases its options. However, it is not feasible to keep many options open for a long time because many of them have a specific time horizon. Thus, at some point, it is necessary to decide whether the main strategy should continue to occupy this position, or whether another one has become more important and should therefore receive more investments. In addition, it is necessary to manage the portfolio of experiments to accelerate or cancel initiatives, or implement new options, at the appropriate moment. To achieve this, it is necessary to institute a strategy portfolio management process that considers not only organizational conditions and the evolution of initiatives, but also the evolution of the environment and competitors' movements.

Although the portfolio of experiments, in principle, reflects existing market diversity, the pressure to select these experiments (their continuity, acceleration or disposal) over time should internalize market parameters in the company. Thus, an important stage in the portfolio of experiments' management consists of monitoring the environment and especially the key variables on which the scenario's configuration was based. As regards the portfolio of experiments' management, monitoring the environment means being able to detect signals emerging from the contextual and transactional environments that may convey information about each experiment – or about initiatives that have not been included in this set – in order to facilitate decision-making regarding the organization's options.

When implementing the Integrative Model, the monitoring of the environment based on scenarios constitutes a critical factor of success, given that the latter support the set of strategies' formulation. Based on the scenarios' main elements – trends and uncertainties – an assessment of the development of the real trajectory compared to the alternatives futures outlined should be undertaken, analyzing their impacts on the defined portfolio of experiments. It is also necessary to be prepared to capture signals that were not anticipated in the scenarios and that may have an impact on the strategy portfolio. Thus, the tracking of the external and internal environments emits potentially important signals that should be thoroughly analyzed in terms of the scenarios and set of multiple strategies.

Additionally, in order to assess the evolution of the experiments, it is required to create an environment for the selection of the investments in the portfolio and for the rapid reallocation of resources aimed at fully developing the most promising experiment (Beinhocker, 2006). Thus, if it necessary to reorient the strategy, this should be done as promptly as possible. In this case, the investments that have already been undertaken accelerate this repositioning, giving the company an advantage over others that concentrate investments in one specific area.

## CONCLUSIONS

The reflection on scenarios opens up various strategic formulation possibilities, running the scope from the choice of a desired or more probable scenario to the adoption of robust strategies – appropriate to the range of plausible scenarios or multiple strategies - that jointly explore all scenarios, or even including the decision to maintain a flexible stance without assuming long-term commitments. However, whatever the strategy chosen, the contribution of strategic foresight is optimized when the whole set of scenarios is considered, whether during

the complete strategy formulation process or during its management. The Integrative Model here proposed uses the set of scenarios to formulate multiple strategies, and seeks to put environmental uncertainty at the heart of strategy.

The adoption of multiple strategies permits the integration of two currents of the literature: the traditional one, that proposes the definition of a single strategy, exclusive for the organization in its segment and the heterodox current, based on learning and experimentation, that envisions various possible strategies in contexts characterized by complexity and uncertainty, although it is impossible to define, *a priori*, which is the best. In order to integrate these currents, the set of strategies proposed should contain a main choice to guide the organization, and a portfolio of additional, complementary or alternative strategies that add flexibility and warranties if the main direction ceases to be the most appropriate one.

The application of the Integrative Model to the Strategic Planning of the Sistema Eletrobras demonstrated its feasibility in a real case, allowing the analytical generalizations applicable to a case study in order to extend the theoretical knowledge in the field studied. Moreover, with this experiment it was possible to express the real possibility of amplifying the contribution of prospective analysis for the formulation of multiple strategies and for the management of uncertainty in decision making, adopting methods that use scenarios throughout the strategic planning process.

For the Sistema Eletrobras, various evaluations brought evidence that the entire proposed planning process, with emphasis on the Integrative Model, constituted an invaluable contribution to the improvement of its corporate planning. Furthermore, they made clear that the use of alternative scenarios and the analysis of various methods of strategic evaluation by means of scenarios have brought a deeper awareness, for the participants, of the various future possibilities and of the challenges and opportunities in each of these alternatives. This appraisal has also showed that the process generated alternative views of how to overcome these challenges and capture opportunities, and that the design of the portfolio of experiments brought innovations to the planning of the system and might substantiate the adoption of proactive posture desired by the group.

The use of multiple strategies protects the firm against a single and risky bet in intensely uncertain environments, while the explicit preference for a main strategy provides the organization with a predominant unity of direction. The Integrative Model essentially internalizes the management of uncertainty in decision-making, for although a main choice is prescribed, it is clear - given uncertainty - that this choice is not definitive and requires the analysis of alternative paths and strategic reorientation mechanisms if necessary. Thus, strategic decision-making under uncertainty becomes a continuous process and irreversible commitments are postponed for as long as possible until either uncertainty is reduced or environmental circumstances require the company to define its position.

Working in the midst of such diversity is no easy task and requires the development of an open organizational culture, in which most members of the team will concentrate on the main Strategy, while others will try to develop alternative paths. To achieve this, the firm needs to recognize this plurality, create an environment favorable to it and develop creative and bold teams that will dedicate themselves to the experiments.

In order to manage a multiple strategy portfolio, an organization must be ready to perceive change at an embryonic stage, internalize it and unhesitatingly change or adjust the main direction chosen. It requires boldness, together with an awareness of the risks assumed and associated with mechanisms of protection in the face of uncertainty. It thus truly requires the management of uncertainty.

## REFERENCES

ANSOFF, H. I. "Critique of Henry Mintzberg's "The Design School: Reconsidering the Basic Premises of Strategic Management". *Strategic Management Journal*, vol. 12, (1991), p. 449-461.

ANSOFF, I. *Corporate Strategy – An Analytical Approach To Business Policy for Growth and Expansion*. New York: McGraw-Hill, 1965, 241 p.

ARGYRIS, C.; SCHÖN, D. A. *Organizational Learning: a theory of action perspective*. Reading, Mass: Addison Wesley, 1978.

ASHBY, W. R. *Design for a Brain*. New York: Wiley, 1952.

BEINHOCKER, E. D. *The Origin of wealth: evolution, complexity and the radical remaking of the economics*. Boston: HBR School Press, 2006.

BELFORT-SANTOS, A. “Um Modelo Integrador para Formulação de Estratégias Múltiplas: Contribuição da Análise Prospectiva”, Tese de Doutorado, Departamento de Engenharia Industrial, Pontifícia Universidade do Rio de Janeiro – PUC-Rio, 2011.

DE GEUS, A. “Planning as Learning”. *Harvard Business Review*. (1988). Mar-apr.

ELETRORBRAS. “Informações constantes do site”. Disponível em: [www.eletrabras.com.br](http://www.eletrabras.com.br).( Acess; 11/12/2010).

FAHEY, L.; RANDALL, R. M. (eds.) *Learning from the Future*. New York: John Wiley & Sons, 1998.

FRIEND, J. K.; JESSOP, W. N. *Local Government and Strategic Choice*. London: Tavistock Publications Limited, (1969).

GODET, M. “Méthode des Scénarios”. *Revista Futuribles*, nov, (1983).

GODET, M. ; DURANCE, P. “*Prospective Stratégique – Problèmes et Méthodes*”. *Cahier du Lipsor n° 20*. CNAM, Janvier, 2<sup>ème</sup> édition, 2007.

LINDGREN, M.; BANDHOLD, H. *Scenario Planning – the link between future and strategy*. Great Britain: Palgrave Macmillan, 2003.

MINTZBERG, H.; AHLSTRAND, B.; LAMPEL, Joseph. *Safári de Estratégia – um roteiro pela selva do planejamento estratégico*; trad. Nivaldo Montingelli Jr., Porto Alegre: Bookman, 2000.

PORTER, M. *Estratégia Competitiva: Técnicas para Análise de Indústrias e da Concorrência*. Rio de Janeiro: Campus, 1991.

POSTMA, T. J. B. M.; LIEBL, F. “How to Improve Scenario Analysis as a Strategic Management Tools?” *Technological Forecasting & Social Change*. N. 21, (2005), p. 161-173.

SCHWARTZ, P. *A Arte da Previsão - Planejando o futuro em um mundo de incertezas*. São Paulo: Página Aberta, 1995.

VAN DER HEIJDEN, K. *Scenarios: the art of strategic conversation*. England: John Wiley & Sons, 1996.

# **REAL ESTATE MARKET IN RIO DE JANEIRO, BRAZIL: AN INVESTIGATION ON THE MAIN FACTORS THAT INFLUENCE CONSUMER'S BUYING BEHAVIOR**

**João Renato de Souza Coelho Benazzi**  
**Pontifical Catholic University, Brazil**

## **ABSTRACT**

*The purpose of this research was to investigate the set of most relevant factors that influence clients that are in the process of buying their first residence in the Real Estate Market of Rio de Janeiro, Brazil. The research process was conducted through two distinct phases: one qualitative and a subsequent quantitative phase. On the qualitative phase interviews with market specialists and a focus group with sellers were both conducted, in order to identify a list of relevant product attributes. During the quantitative phase, a group of real estate brokers was asked to put the previously identified relevant attributes in order of preference. A list of ordered attributes considered more important to the first-time real estate buyers decision was produced and suggestions for the management of companies of this sector were made.*

## **INTRODUCTION**

The real estate market nowadays has considerable importance for the Brazilian economy. The potentialities of this industry were amplified by a favorable economic scenario (since 2006 and up to mid 2008) which generated changes in the real estate companies' financial planning. Previously, the companies played the role of bankers of the operations, whereby returns on capital frequently extended themselves beyond production cycles, which is not always compatible with its funding requirements for new investments (Stahl and Pecahan, 2005).

Specifically, some of the greatest real estate firms Initial Public Offerings (IPO) in Brazil's stock market, during the period from 2005 to 2008, brought an intense dynamism to the market, in such a way that those extremely capitalized companies began searching regional and local partners in order to implement new projects in the real estate industry, with important consequences in market growth and competitive intensity within the sector in Brazil (FIESP, 2001 apud Stahl and Pecahan, 2005).

Mapping publications of the real estate market, factors influencing customers' decisions, and defining purchasers' most important attributes (CORDEIRO, 1992), based on the perception of the sector's professionals, can be a useful contribution to more efficient management of the sector, given the extreme competition among the real estate market. (ALBUQUERQUE and BARROS, 2003)

The objective of this paper consists on identifying, on the basis of perceptions of executives and professionals of the real estate sector, a set of crucial attributes for the purchase of the first home for middle class citizens in Rio de Janeiro, Brazil. Additionally it intends to conduct a preliminary inquiry on the feasibility of a method to measure the importance of attributes that can be used in future research on the subject. (CHURCHILL and NIELSEN, 1999) This work is limited to an initial exploration of the subject in order to seek indicators which may be useful to guide future developments.

This research intended to produce a list of ordered attributes that are relevant in the decision process of first-time real estate buyers in the market of Rio de Janeiro, Brazil from the professionals involved in the selling process point of view. Having a comprehensive view of the opinion of those professionals is important as they not only have extended experience in knowing the clients buying priorities but also have a remarkable influence on the clients during their relationship and intense communication process with those potential consumers. That situation may have important repercussions both on the clients satisfaction and the business survival and its profitability.

Initially, specialized literature was researched concerning the main attributes considered in the first-time home purchases (DANTAS, 2000; MEYER and HADDAD, 2001, 2001b, 2002, 2004). Departing from the set of attributes identified through literature review, interviews with specialists (real estate executives) were carried out in order to choose a reduced set of relevant attributes. This second set of attributes was submitted to a second phase of confirmation through in-depth focus group analysis. The last phase of the research process consisted of the application of questionnaires with real estate brokers, specifically with the professionals with direct customer contact at the moment of sale in order to produce set of attributes relevant in the buying decision process ranked in order of importance. This article presents a summary of the results obtained through the research process and analyses the managerial opportunities and threats of the findings.

## THEORETICAL REFERENCES

Similarly to other industrial sectors, the real estate market has suffered sharp and rapid changes due to ambient uncertainty and growing competition that characterize the contemporary social and economic contemporary environment in emerging economies. According to Mello and Cunha (1997) various problems hamper strategic adaptation of real estate companies in Brazil, such as paternalistic organizational culture of those family-owned enterprises, high degree of variability and long maturation period of the distinct phases of both producing and selling processes in the industry, complexity of the product itself and high number of players involved in the market, among other strategic factors (MALIZIA and HOWARTH, 1995).

Meyer and Haddad (2004) argue that literature on real estate marketing, despite its importance, is still very restricted in Brazil. Market research, especially regarding consumer profiles and buying preferences is still incipient in the country and its instruments of research are still in construction when regarding the peculiarities of the local real estate market, especially when compared to countries that already have some tradition in this area in particular (WIND and SPITZ, 1976). Meyer and Haddad (2001b) point out that the frequent adaptations that are consistently carried out by first-time owners in residential constructions in Brazil may be an indicative of poor product adaptation to clients demands and, consequently, underline the inefficiencies of research processes on consumer preferences and behavior among the companies in the industry.

Despite this, Guagliardi et al (2004) point out that the adoption of marketing tools has been decisive when regarding improved orientation in the offering of products to the target market and management of the businesses. This reorientation took place during the early 2000 due to deregulations processes which enabled the consumer to access new features in modern constructive systems.

Therefore, according to Stahl and Pecahan (2005), the research phase prior to launching is especially important and must be carried out in such a manner as to identify what the customer values most. The social man seeks much more than housing when choosing a property. He will also consider issues such as status, comfort, practicality and overall welfare. (BALARINE, 1996; BALARINE, 2004)

Fernandez and Hochheim (2004) show clearly the importance of market analysis, affirming that the success of a real estate enterprise is related to the correct perception of the desires and necessities of the existing demand relative to supply. For this reason, the market analysis becomes part key in the conception of the enterprise (MYERS and MITCHELL, 1993). This analysis brings suggestions of improvement or differentiation of the product and strategies of commercialization that optimize its absorption for the target market. It can still conclude for a radical change in the conception of the product in case that it detects more attractive niches by making the analysis of the set of ambient variable (localization), of the demand and of it offers (competition).

According to Carrol and Green (1995), it is important to measure the relevance of the most important attributes in the purchase decision process, but, despite the method, it is clearly necessary to previously carry out a qualitative research. Interviews with consumers and research with the market specialists are extremely important to identify the most significant attributes.

Regarding the attributes choice, Wind and Spitz (1976) point out that any product or service can be seen as a structural collection, functional, psychological, social and economic of attributes. Therefore, in order to configure a desirable mix of products attributes, information on the consumers preferences and its relation to the these attributes levels can be crucial.

These authors also argues that understanding the consumers most important attributes depends on precise information availability on the importance of the attributes and on the exchanges and compensations that the purchasers make between attributes, when they choose products or services. (BOONE and KURTZ, 1989)

Brandstetter and Heineck (2005) show the consumer behaviour has two main research paths. One says respect to the relations that investigate the interaction between the man and the construction, known as the relations environment-behaviour, generally tied the aspects already wide spread out by the architecture and ambient psychology.

The other one relates the consumer behaviour in economical and demographic geographic labels. In this last literature, the consumer behaviour is related to the habitation with diverse emphases that involve the mobility processes generally, choose and satisfaction (BRANDSTETTER and HEINECK, 2005; MÜCKENBERGER, 2001).

It is important to stand out the specificities of buying in the real estate market (HOCHHEIM, DANTAS and SON, 1999). When developing evaluation criteria, the purchasers tend to a different decision process and a detailed and rigorous research (FREITAS and HEINECK, 2006). With no doubt, the home purchase is one of the situations of higher consumer involvement, has one of the highest high risks (performance, psychological, financial and - auto image, satisfaction. Besides, there are many available alternatives and brands, the purchaser can feel unsafe for having little or no experience of purchase and over all involves much money and the cancellation and adjournment of the satisfaction of many other necessities (MEYER and HADDAD, 2004).

Stahl and Pecahan (2005) underline this fact when affirming that, in the purchase decision process, the purchaser needs a great effort on the comparing process, and the technical attributes tend to the most relevant attributes.

## **RESEARCH METHOD**

The research process was conducted through two distinct phases: one qualitative and a subsequent quantitative phase.

The qualitative phase consisted on the use of two distinct data collection methods. First, an exploratory study was conducted where a set of five interviews with market specialists on the Real Estate market in Brazil were realized. The objective of those interviews was to obtain an extensive list of motives and attributes relevant to buyers when facing the decision of choosing their first residence. A second qualitative phase consisted of a focus group with eight real estate sellers, where the main objective was to establish an hierarchical list of the ten most important attributes among those identified in the interviews.

The information obtained was submitted to content analysis. The central aim, clearly of qualitative and interpretive perspective, intended to capture perceptions, opinions and evaluations of respondents regarding the possible reasons for the positive or negative preferences towards consumption decision processes, products and other factors of influence. One of the main aspects focused was the reason offered by the respondents for their behaviors and attitudes. The research concerned about classification is, fundamentally, based on interviews and employ, as analysis tool, the verbal expressions contained in the participant narratives. The illustrative expressions of each interview were selected as quotes and are preliminarily classified, based in their similarity. The groups of quotes are organized and re-organized, each group's attributes are explicated and the meaning of

each group is consolidated in a definitive category. The result is a list or map of qualitatively different ways in which people undertake, define, distinguish and understand the aspects of reality that are the object of the research. It is a process of analysis that involves a sequence of actions, comprising the decontextualization, the classification (or codification) and the contextualization of data (TESCH, 1990).

During the phases of interview and analysis of document originated by the data transcription, it is necessary to have in mind that we are dealing with what the interviewers revealed about their self-images, the people they are related to and aspects of their daily consumption. In many contexts one can expect that such images do not correspond to the respondents real opinion (ALVESSON, 2003). Such opinions may be selected or even deformed due to a variety of influences, from the expectations regarding the interviewer's reaction, a positive public image to be built or even the defense of public faces, images and roles played by the interviewed. It proved vital to interpret the interviews from a critical perspective in order to identify those possible counterfeits and point them out among the data collected.

During the quantitative phase of the study, a group of fifty real estate brokers was asked, through questionnaires, to assign notes to the set of ten attributes selected in the focus group and to put the previously identified relevant attributes in order of preference. Results are described and discussed in the following section.

## **RESULTS AND ANALYSIS**

The first step of this work was based on the research of the most important attributes that influence the first time home buyers choice process. Based on further research specifically on some selected articles, the most important attributes were selected (ALMEIDA and BOTELHO, 2005; BALARINE, 2004; BRANDSTETTER, 2004). Although this work's main target is middle class consumers, opinions regarding consumers of all classes were included in this very first step of the research ( i.e. on the interviews) as the objective of this phase was only to produce a first extensive list of relevant motives, from buyers point of view.

During the next step of the research process ( the focus group phase), the initial list of product attributes was submitted to the market specialists, in order for them to debate. This step led to the election of a set of ten most important factors in the specialists conception, which were: Image of the promotional agents, payment conditions, localization of the enterprise, security of the place, concept of the product or thematic conception of the enterprise, maintenance costs, quality of room disposal, quality of supporting sales material, business security and number of parking slots per apartment.

As the attributes were pointed out in the interviews with specialists, it seemed important to test that information with the real estate brokers, as those were the professionals who have direct contact with the customers during the sales process. A focus group was carried out with six real estate brokers.

The results that were produced in the focus group with the real estate brokers were coincident with those already found in the interviews with specialists. The list of product attributes was the same, and the results were reinforced. For instance, valuation potential was not pointed as decisive in the purchase process, because other factors were supposed to have more significant relevance, such as localization of the enterprise and quality of neighbour constructions.

The members of the focus group were also asked to order the identified factors in the order of preference of the buyers. Although it has been easy to arrive at a consensus on the most important factors in the purchase decision process, the consensus on its importance order showed difficult to achieve.

After the qualitative phase, the quantitative stages of the research took place. A questionnaire with ten items (the ten product attributes listed by the market specialists) was submitted to a sample of fifty real estate brokers. Each item consisted of an assertive of agreement, affirming that the attribute in question "is very important for the decision of middle class potential customers when they intended to buy their first residence". Each assertive was followed by a scale of agreement of five categories equally spaced. In that scale 5 meant most important and 1 least important.

**Table 1: Attribute relative importance**

Attribute	Average	Order on the basis of the Averages
Payment conditions	4,90	1

Business Security	4,65	2
Security of the place	4,33	3
Localization	4,20	4
Image of promotional agents	4,20	5
Maintenance costs	4,18	6
Sales material	4,06	7
Parking facilities	3,78	8
Room disposal	3,71	9
Thematic conception of enterprise	3,53	10

Table 1 shows the results of this phase of the research. The list of product attributes is followed by the average rank of the evaluations made by the fifty respondents and by the order of importance of each attribute.

According to those results the most important attribute of an apartment should be its payment conditions, followed by the security of the business itself and the security conditions of the apartment's neighborhoods. On the fourth place is the localization of the building followed by the positive image of sales representatives and Maintenance costs of the building. The sales material that supported the sales process, parking facilities, room disposal of the apartment and the thematic conception of the enterprise were the less valued attributes of the product.

After the application of the questionnaires, the respondents were asked to put the attributes in order of importance, according to their perception on the purchase behaviour of the buyers. Table 2 shows the positions of order produced by the results of the questionnaires and the positions produced in the forced ordinance phase. The results – specifically the order of importance of the product attributes, were quite similar. There were only two inversions of position: localization of the enterprized was ranked third place, and security of the place fourth. Also the Thematic conception of enterprise was ranked ninth place and the room disposal was ranked tenth.

**Table 2: Compared order of attributes**

Attribute	Order on the basis of the Averages (questionnaire)	Order on the basis of forced ordinance
Payment conditions	1	1
Business Security	2	2
Security of the place	3	4
Localization	4	3
Image of promotional agents	5	5
Maintenance costs	6	6
Material	7	7
Parking facilities	8	8
Room disposal	9	10
Thematic conception of enterprise	10	9

The similarity of the two set of data was evaluated by way of a correlation for ranks of Spearman. The results are shown in table 3. The coefficient of 97,6% correlation suggests that the two forms of evaluation had been consistent, one with the other. This means that the methods of measuring the importance of attributes by means of questionnaire and forced ordinance had shown that it is a consistent and a trustworthy measure (NELSON and RABIANSKI, 1988). It also shows that the answers of the questionnaires had been coherent, considering that very significant differences in the two sets of orders could mean error, lack of care, disinterest, lack of agreement or any another problem occurred during the fulfilling of the questionnaire or in the task of the forced ordinance (ZIKMUND, 2004).

**Table 3: Nonparametric Correlations**

SPSS			OrdQue	OrdFor
Spearman's rho	OrdQue	Correlation coefficient	1,000	,976(**)
		Sig. (2-tailed)	.	,000
		N	10	10
	OrdFor	Correlation coefficient	,976(**)	1,000
		Sig. (2-tailed)	,000	.
		N	10	10

\*\* Correlation is significant at the 0,01 level (2-tailed).

**OrdQue:** decurrent order of the averages of the answers to the questionnaire

**OrdFor:** Decurrent order of the forced ordinance

## CONCLUSIONS

This research intended to produce a list of ordered attributes that are relevant in the decision process of first-time real estate buyers in the market of Rio de Janeiro, Brazil from the professionals involved in the selling process point of view. Having a comprehensive view of the opinion of those professionals is important as they not only have extended experience in knowing the clients buying priorities but also have a remarkable influence on the clients during their relationship and intense communication process with clients. That situation may have important repercussions on the clients and the business.

The results suggest that consistent information on the relative importance of the attributes was produced. Payment conditions and Business security were ranked as the most important decision factors when Brazilian middle class young couple intend to buy their very first apartment, in Rio de Janeiro. Conversely attributes such as the sales material that supported the sales process, parking facilities, room disposal of the apartment and the thematic conception of the enterprise were considered of less relative importance in the buying decision process.

Finally, it is strongly suggested that those attributes should be object of more extensive research efforts in Brazil, especially in identifying if buyers priorities are similar to the set here identified though the sellers opinion on buyers priorities. Brazilian Real estate companies may take great market advantage in prioritizing specific product aspects directed to market segments. Such measures of importance will also be used as a base for balance the results of the factors of satisfaction in future research and for the analysis of exchanges and compensations (trade-offs) that the customers make in their purchase decision processes (CURRY, 1997). More specifically it may be of extreme managerial importance to try to measure the level of an attribute that can compensate the non-achievement of a desirable level in another attribute.(CARN, 1998)

## REFERENCES

ALVESSON, M. Beyond neopositivists, romantics, and localists: a reflexive approach to interviews in organizational research. *Academy of Management Review*, v. 28, n. 1, 2003, p. 13-33.

ALBUQUERQUE, P. M.; BARROS, J. P. N. (2003) Estratégias de marketing para a construção civil: um estudo de caso em Fortaleza. **III SIBRAGEC**. São Paulo: SIBRAGEC - Simpósio Brasileiro de Gestão e Economia da Construção. (in portuguese)

ALMEIDA, A. R. D. ; BOTELHO, D. (2005) Confiança, Qualidade ou Valor Percebido: O que Influencia a Satisfação na Compra de um Imóvel? In: **XXIX Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração** (EnANPAD), 2005, Brasília, DF. v. 29. (in portuguese)

ALMEIDA, M. I. R.; GIGLIO, E. M..(1998) O planejamento estratégico no ramo imobiliário: um estudo exploratório. **III SEMEAD**. São Paulo: SEMEAD – Seminários em Administração FEA-USP. (in portuguese)

- BALARINE, O. F. O. (1996) Determinação do impacto de fatores sócio econômicos na formação do estoque habitacional em Porto Alegre. **EDIPUCRS**, Porto Alegre. (in portuguese)
- BALARINE, O. F. O. (2004) Planejamento estratégico na indústria imobiliária: evidências de mercado. **ANTAC**. Florianópolis: ANTAC – Associação Nacional de Tecnologia do Ambiente Construído. (in portuguese)
- BOONE, L. E.; KURTZ, D. L. (1989) **Contemporary Marketing**. South-Western: Thomson.
- BRANDSTETTER, M. C. G. O.; HEINECK, L. F. M. (2005) Proposta metodológica para o Marketing imobiliário – investigação do comportamento do consumidor. **IV SIBRAGEC**. Porto Alegre: Simpósio Brasileiro de Gestão e Economia da Construção. (in portuguese)
- BRANDSTETTER, M. C. G. O. (2004) **Análise do comportamento dos clientes do mercado imobiliário com ênfase na mobilidade, escolha e satisfação residenciais**. Tese (Doutorado em Engenharia de Produção) UFSC, Programa de Pós-Graduação em Engenharia de Produção. (in portuguese)
- CARN, N. et al. (1988) **Real Estate market analysis: techniques and application**. Englewood Cliffs, New Jersey: Prentice-Hall.
- CHURCHILL, J.; NIELSEN, A. C. (1999) **Marketing Research: Methodological Foundations**. Orlando: Dryden Press, 7ª ed.
- CURRY, J. (1997) Multivariate Data Analysis. **Sowtooch News**, 5 (Fall), 5-7.
- DANTAS, M.L.C. (2000) **Composto mercadológico de imóveis residenciais: uma análise do ponto de vista do incorporador e do cliente**. Tese (Mestrado em Engenharia Civil) – Programa de Pós-graduação em Engenharia de Produção de Sistemas da Universidade Federal de Santa Catarina, Santa Catarina. (in portuguese)
- FERNANDEZ, J. A. C. G.; HOCHHEIM, N. (2004) Localização habitacional e ciclo de vida familiar. **IV Seminário Internacional da Lares**. São Paulo: LARES – Latin American Real Estate Society. (in portuguese)
- FERNANDEZ, J. A. C. G; OLIVEIRA, R. (2005) O Ciclo de vida familiar e a concepção de edifícios residenciais multifamiliares. **V Seminário Internacional da Lares**. São Paulo: LARES – Latin American Real Estate Society. (in portuguese)
- FREITAS, A. F. e HEINECK, L. F. M. (2006) Da mobilidade residencial à avaliação pós-ocupação: estudos do comportamento de clientes do mercado imobiliário. **Revista Espaço Acadêmico** N° 65, Ano VI. (in portuguese)
- GUAGLIARDI, J. A.; PECANHAN, M. N.; CHIUSOLI, C. L. (2004) Design of a Real Estate Product: Contributions of Marketing research and consumer's behavior in this process. **IV Seminário Internacional da Lares**. São Paulo: LARES – Latin American Real Estate Society. (in portuguese)
- HEINECK, L. F. M. ; BRANDSTETTER, M. C. G. O. (2005) Investigação do comportamento dos clientes no mercado imobiliário - propostas conceituais e metodológicas. In: **XXVIII Encontro da Associação Nacional de Pesquisa em Administração**, 2005, Brasília.. (in portuguese)
- HOCHHEIM, N.; DANTAS, M.L.C; FILHO, J.L.C. (1999) Análise de desempenho do produto e do preço: um estudo da ótica do empreendedor e da satisfação do cliente. **I Seminário Internacional da Lares**. São Paulo: LARES – Latin American Real Estate Society. (in portuguese)
- MALIZIA, E. E.; HOWARTH, R. A. (1995) Clarifying the structure and advancing the practice of real Estate market analysis. **Appraisal Journal**, vol. 63; n. 1; Jan..

- MELLO, R. B.; CUNHA, C. J. C. A. (1997) A pesquisa das estratégias de marketing, finanças e produção em empresas construtoras: uma referência de apoio ao pesquisador. **XVI Encontro Nacional de Engenharia de Produção e II Congresso Internacional de Engenharia Industrial**, Piracicaba/SP. Anais. (in portuguese).
- MEYER, J. F.; HADDAD, E. (2001) Adoção de métodos de análise de mercado imobiliário nas decisões de projeto: estudo de caso dos incorporadores residenciais no bairro de Pinheiros, no período 1.994 – 1.999. **Anais do IX encontro nacional da ANPUR**. Rio de Janeiro: ANPUR, (in portuguese).
- MEYER, J. F.; HADDAD, E.. (2001b) Adoção de métodos de análise de mercado imobiliário nas decisões de projeto de incorporações residenciais: parte 1 – métodos e critérios de classificação de dos incorporadores. **2<sup>nd</sup> International Seminar on Real Estate in Latin America – LARES**. São Paulo:.. CD-ROM. (in portuguese)
- MEYER, J. F.; HADDAD, E. (2004) Motivação de escolha residencial na percepção dos empreendedores. **IV Seminário Internacional de Real Estate**. São Paulo: LARES – Latin American Real Estate Society. (in portuguese).
- MEYER, J. F.; HADDAD, E. (2002) Adoção de métodos de análise de mercado imobiliário nas decisões de projeto de incorporações residenciais: parte 2: estudo de caso dos incorporadores residenciais no bairro de Pinheiros, no período 1.994 – 1.999. **III Seminário Internacional de Real Estate**. São Paulo: LARES – Latin American Real Estate Society, (in portuguese).
- MÜCKENBERGER, E. (2001) O papel da satisfação, confiança e comprometimento na formação de intenções futuras de compra entre clientes com níveis de experiências diferenciados. **XXV ENANPAD, ANAIS**. Campinas/São Paulo. ENANPAD – Encontro da Associação Nacional dos Programas de Pós-Graduação em Administração. (in portuguese).
- MYERS, D.; MITCHELL, P. S. (1993) Identifying a well-founded market analysis. **The Appraisal Journal**, Oct..
- NELSON, T. R.; RABIANSKI, J. (1988) Consumer preferences in housing market analysis: an application of multidimensional scaling techniques. **AREUEA Journal**, vol. 16, n 2.
- PARASURAMAN, A., V.A. ZEITHAML; BERRY, L.L..(1994) Alternative scales for measuring service quality: a comparative assessment based on psychometric and diagnostic criteria. **Journal of Retailing**, v. 70, n. 3, p. 201-230, (Fall).
- STAHL, L. M.; PECANHAN, M. N. (2005) Marketing imobiliário: uma abordagem do marketing *mix* no mercado de Londrina. **VI SEMEAD**. São Paulo: SEMEAD. (in portuguese).
- WIND, Y.; SPITZ, L. K. (1976) Analytical Approach to Marketing Decisions in Health Care Organizations. **Operations Research Society of America**, september-october, p.137-146.
- TESCH, R. **Qualitative Research: analysis types and software tools**. New York: The Palmer Press, 1990.
- YIN, R. K. (2005) **Case study: planning and method**. 3<sup>a</sup> ed; Porto Alegre: Bookman, 2005.
- ZIKMUND, W.G. (2004) **Essential of Marketing Research**. Orlando: Dryten Press.

# INFORMATION AND COMMUNICATION TECHNOLOGY ADOPTION PATTERNS OF INDIVIDUALS LIVING IN A LOW INCOME NEIGHBORHOOD

**Etienne Barnard, Wynand Grobler and Andrea Garnett  
North-West University, South Africa**

## ABSTRACT

*Technological progress and development of information access has arguably infiltrated all facets of human existence. However, different sectors of society have adopted information and communication technology (ICT) at different rates; in particular, ICT adoption patterns by individuals earning lower incomes are certainly lower than in other social groups. The study empirically investigated the ICT access and usage of low income individuals on a variety of ICT mechanisms. A quantitative research method was deployed and a stratified random sample of 350 questionnaires was administered to residents in Bophelong (a low income neighborhood in South Africa). By using descriptive analysis, the most relevant factors regarding respondents' information technology adoption patterns were extracted. This paper aims to contribute to a better understanding of ICT adoption patterns (broadly defined) among low income individuals for the purpose of public policy making, thereby assisting with the development of a coordinated approach to the provision of information resources in environments of this nature.*

## INTRODUCTION

The emergence of Information and Communication Technology (ICT) has been recognised as an important contributing factor to Human Development and has generated enthusiasm about the possibilities for alleviating poverty in poor economies. Many authors (Maitland 1984; Rezaian, 2006; Freire, 2000; Sen, 2009) have referred to the possibilities derived from ICT to bring about human development, to stimulate economic growth and to enhance quality of life. It is also widely recognised that ICT brings about empowerment and broadens the base of participation of the poor (Brown, *et al*, 2001; Kleine, 2009). Norris (2001) refers also to the potential that ICT has in enhancing the capabilities of a society to work as an organized network, internally but also to the outside world.

The benefits of ICT in education have also been strongly emphasized by previous research (Selinger, 2009; Angrist and Lavy, 2002). Limited access to Information and Communication Technology may consequently be seen as an obstacle to the alleviation of poverty in poor economies.

The economic benefits of ICT on the Macroeconomic level in high-income countries (Van Ark *et al*, 2003; Drace *et al*, 2006, Rezaian, 2006) and low income countries (Mann, 2003; Warchauer, 2004) suggest that remarkable economic benefits can be expected from ICT diffusion. Specific types of ICT like mobile phones can empower people and *turn the ownership of a mobile phone into a business model....* (Hamel, 2010:45).

Adoption patterns globally are testament to an incredible spread of mobile technology, especially in developing countries (ITU, 2009). According to Hamel (2010:8) "there are now more than 4 billion mobile phone subscriptions around the world with 75 percent of them in developing countries. The ITU (2009) also revealed that Internet growth was tremendous, with 1.5 billion Internet users around the world; however, only 60 percent of these users are in developing countries. In particular, access to internet and ICT in general are

substantially lower in Africa, Latin America and the Middle East than elsewhere (Hamel, 2010:10). Against this background the following questions arise: to what extent is ICT adopted by poor communities in South Africa, and to what extent is ICT used in such neighborhoods? The first section of this paper gives an overview of the Low Income Neighborhood in which we have chosen to investigate these issues, namely Bophelong in South Africa. The second part elaborates on the relevant literature on ICT adoption, followed by a look at the methodology used. Our findings are then discussed and we end with a conclusion which contextualizes the work and describes some avenues for further exploration.

## **BACKGROUND OF THE LOW INCOME NEIGHBORHOOD**

Bophelong is a former black township on the outskirts of the industrial town of Vanderbijlpark. It was established in 1955. The area belongs to the Emfuleni Municipality, on the southern tip of the Gauteng Province in South Africa. In the late nineties, the area was extended with 10,000 new low cost (RDP) houses. Most of the people who settled in the new houses were poor – those who could not previously afford a house. The population in Bophelong is estimated at 37,779, and the number of households is estimated at 12,352. The average household size in Bophelong, calculated from Statistics SA data (2007) is three persons per household. The average household size for Emfuleni as a whole is 3.52. Several studies have found increased levels of poverty in Bophelong. Sekhampu (2004), in his study found 62 percent of the population to be living below the poverty line. A follow up study by Slabbert and Sekhampu (2009) revealed that 66.3 percent of the residents of Bophelong are poor and that the unemployment rate is 62.2 percent. Fifty four percent of the poor were found to be female. Dubihlela (2011) found a poverty gap index of 0.53 among female-headed households in Bophelong, meaning that on average, households have a shortfall of 53 percent of their income to be placed on their respective poverty line.

## **LITERATURE REVIEW**

In the literature review the definition and types of ICT, the impact of ICT on communities, and determinants of ICT adoption will be discussed.

### **Definition and Types of ICT**

According to Quibria and Tschang (2001:2), new ICTs can be divided into three broad categories, namely, computing, communication and internet-enabled communication and computing.

These ICTs include then:

- Computing: The use of personal computers and different software.
- Communication: Two forms of communication can be distinguished, namely, one way and two way communication. In terms of one way communication, radio, television and any broadcasting media are included. Two way communication includes devices such as telephones (fixed line), mobile phones etc.
- Internet-enabled communication and computing: The internet, including the World Wide Web, multimedia and the use of mobile phones to access the internet are incorporated in this category.

### **Impact of ICT on Communities**

Research on the impact of ICTs to reduce poverty is sparse; some of the more important contributions in this regard include Mansell and When (1998); Talero and Gaudette (1995) and the World Bank (1998). A comprehensive report by Quibria and Tschang (2001:4) indicates that ICTs can potentially enhance the welfare of the poor. In this regard the following important impacts are mentioned that are relevant in this study:

- (1) Information about markets, opportunities
- (2) Employment, where ICTs are used to provide information on new employment opportunities

Maitland (1984:65) refers to *stimulating economic growth and enhancing the quality of life* of communities by adoption of ICTs. The United Nations (2000) and Rezaian (2006) refer to the role that ICTs can play in reaching Millennium Development Goals and as enablers of development. The adoption of ICTs in a poor neighborhood thus may lead to poverty alleviation.

Norris (2001) believes that ICTs can *enhance the empowerment of civil society by augmenting their capacity to work as organised networks both within and beyond borders*. Other researchers (Brown *et al*, 2001; Kleine, 2009) indicate that access to ICTs may have positive impacts on peoples' sense of empowerment and ability to participate meaningfully in their societies.

The impact of ICTs on education according to Hamel (2010:33) lies on the level of access: "benefits of online information are a source of great optimism and offer immense potentials for ICTs to fill a large gap in the developing world". Selinger (2009) advocates that the biggest role of ICTs may be the use as a means to enhance learning. This may be relevant in a poor community where limited access to ICTs and specifically the internet may limit the ability of poorer people to further their careers via enhanced learning.

The economic impact of ICTs has also been discussed by various authors. The economic benefits of ICT on the Macroeconomic level in high-income countries (Van Ark *et al*, 2003; Drace *et al*, 2006, Rezaian, 2006) and low income countries (Mann, 2003; Warchauer, 2004) suggest that remarkable economic benefits can be expected from ICTs diffusion.

Norris (2001) indicates that gender, ethnicity, age, income are significant dimensions that give rise to inequality of access to ICTs. Guida and Crow (2009) indicate that the adoption pattern of young educated adults may be higher than older people because of the access to disposable income.

## **Information and Communication Technology Adoption**

When looking at the adoption patterns of ICTs in poorer countries, the study of Quibria and Tschang (2001) discusses the determinants of ICT adoption. In this regard they refer to population size, income level, educational background and complementarity between technologies. This study was conducted in Asia where poverty is high. The study indicates the following important findings relevant to our study and with which we will draw comparisons:

- Using simple regression, computer usage is strongly correlated with GDP per capita or income.
- Internet usage is strongly positively correlated with Income level
- Mobile phone usage is strongly positively correlated with income
- The relationship between computer usage and education is statistically significant at the 10 percent level with tertiary education
- Internet usage is significant at the 1 percent level with secondary education.
- Telephone use is strongly correlated with personal computer use and internet use.

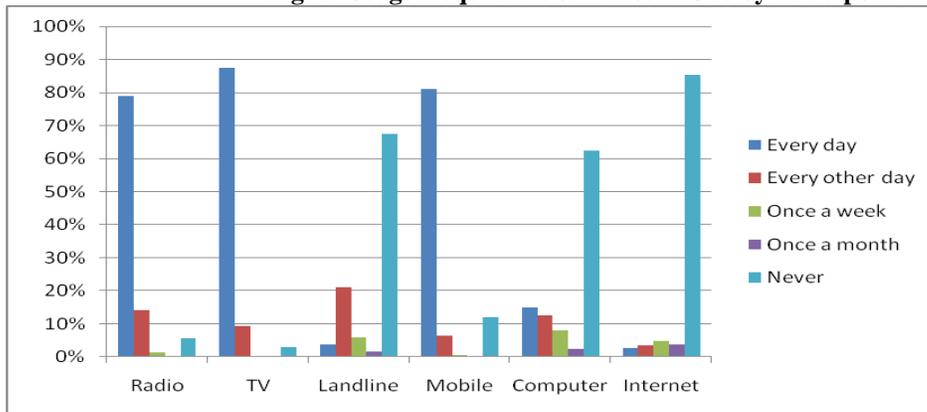
## **RESEARCH METHODOLOGY**

This study aimed at analysing the adoption patterns of Information and Communication Technology (ICT) in a typical low-income South African neighborhood. The research is based on a quantitative survey methodology, using questionnaire interviews. Maps were obtained for the different areas of Bophelong and a stratified sample was compiled by taking into account the geographical distribution and concentration of people in different areas of the township. The areas were divided into different extensions and the questionnaires were distributed evenly among the inhabited sites. A total of 350 households were interviewed by four fieldworkers in March 2011. All households approached were willing to participate in the study. To obtain a sample size that would supply statistically reliable results and be representative of the population of the area, the researchers relied on the experience and convention regarding similar surveys (Sekhampu, 2004; Slabbert and Sekhampu, 2009; Dubihlela, 2011) conducted in similar locations in South African townships.

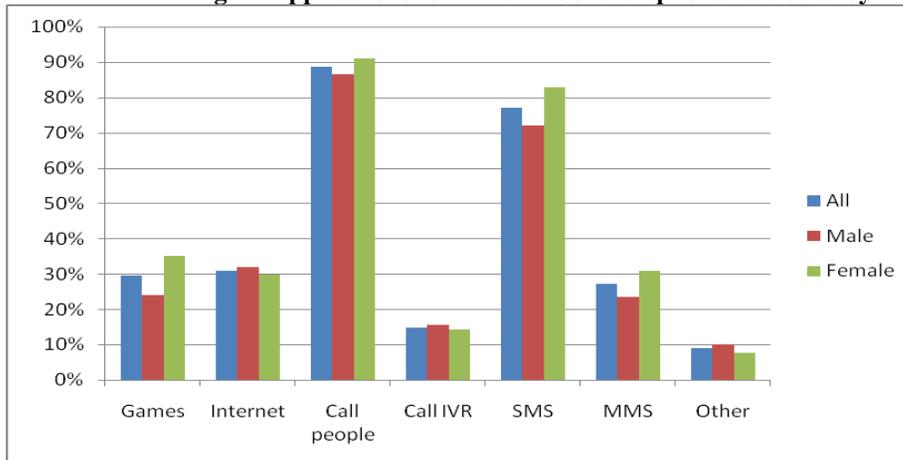
## RESULTS

Our main results are summarized in Figs. 1 to 4, where we show the frequencies of use as well as the most common applications of various information and communication technologies (ICTs) by our target population. Fig. 1 shows that the radio, cellular telephone and television are the most commonly used ICTs in this community; about 28 percent of the respondents are frequent (daily or every other day) users of computers, but only about 6 percent of the respondents use the Internet frequently. In Fig. 2 it can be seen that person-to-person calls and short messages (SMSs) are the most common applications of cellular telephones. Very few of the respondents call Interactive Voice Response systems (IVRs), and only about 30 percent use their mobile phones for internet access (which is about the same percentage as those regularly sending multimedia messages (MMSs)).

**Fig. 1: Usage frequencies of various ICTs by all respondents**



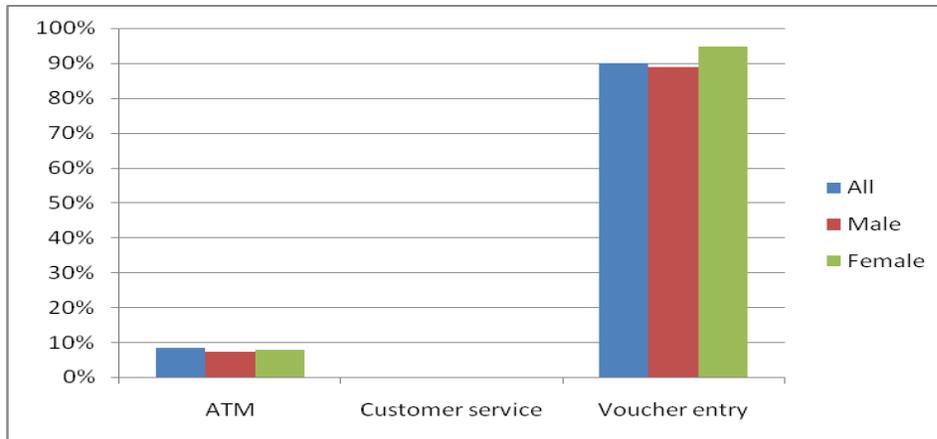
**Fig. 2: Applications for which mobile telephones are used by respondents.**



In Fig. 2 we also see that some of the typical gender stereotypes are confirmed and others contradicted: whereas female respondents do indeed use their mobile telephones more frequently for various forms of communication (person-to-person calls, SMSs and MMSs), they are also substantially more likely to play games on their telephones than male respondents.

Fig. 3 demonstrates that the vast majority of our respondents use prepaid cellular telephones, and are able to use automated services to perform recharges of those telephones. (We did not distinguish between different ways in which the voucher codes can be entered – typically, USSD and IVR technologies are used for this purpose in South Africa).

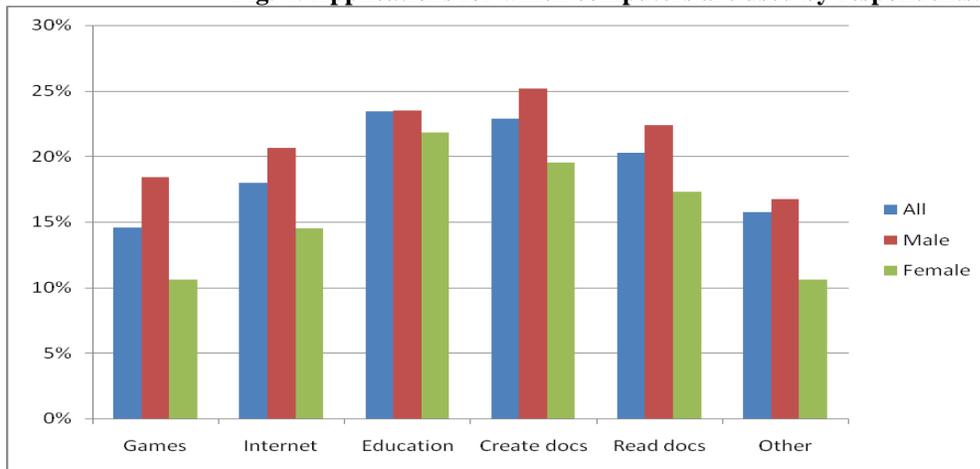
**Fig. 3: Frequencies of prepaid recharges for cellular telephones through various mechanisms.**



ATM denotes recharges at automated teller machines

Fig. 4 summarizes the most frequent applications of computers – we see that access to educational software is the most common application, followed by the creation of documents and internet access. Males are more frequent users in every category, with educational software being closest to usage parity between the genders.

**Fig. 4: Applications for which computers are used by respondents.**



We have also investigated how respondents' *age* and *household income* correlate with their use of ICTs. For the purposes of this analysis, we define “regular use” as weekly or more frequent use. We find that all these correlations are rather weak in our population: the strongest observed value is a negative correlation between age and mobile internet usage (with a Pearson correlation coefficient of -0.35), and is a positive correlation between household income and mobile internet usage (Pearson correlation coefficient equals 0.28).

## DISCUSSION

Although our study was intended to be exploratory rather than prescriptive, a number of interesting conclusions are suggested by our findings. Perhaps the most significant result is the relatively high percentage of respondents who use their mobile telephones for internet access. In fact, the number of mobile internet users is almost twice as many as those using computers for internet access. This has important managerial implications, in various quarters, since it implies that the mobile internet is a viable mechanism for reaching out to these populations. Given the relatively recent advent of the mobile internet in South Africa, this phenomenon is certain to grow in importance and provides a platform for marketing, health, governmental and almost boundless other interventions.

Our findings on gender differences in the use of technology also have implications that should be considered carefully. For one thing, the relative dominance of males as computer users calls for specific efforts to promote computer usage by the female population; on the other hand, the unexpectedly high fraction of female game-players on mobile telephones may point to market opportunities that are currently not widely understood.

The lack of correlation between most forms of ICT usage and demographic variables such as age and income is notable. This suggests that ICTs such as computers and telephones are *not* a significant economic factor in this community – a suggestion that is strengthened by the frequency of entertainment-related applications of these technologies reported by the respondents.

## CONCLUSIONS AND MANAGERIAL IMPLICATIONS

We believe our study is the first to look at ICT usage patterns in low-income communities in South Africa; although limited in scope to a single community in Southern Gauteng, we believe that its results are at least somewhat relevant to a substantial cross-section of South African society. It would be interesting to extend this work in a number of directions – for example, to confirm our suspicion that similar usage patterns will be observed in other communities with comparable demographics, but also to contrast these findings with those that occur, for example, in rural communities and also in other socio-economic strata. Given the dynamic nature of ICTs in general, it is also important to monitor changes in these usage patterns over time.

As stated in the introductory section of this paper, ICTs are an important mechanism for economic and personal empowerment. We believe that detailed studies on the usage of these technologies are an important management tool for government and industry, and hope that a more complete picture of their usage will eventually lead to policies and procedures that spread their benefits even more widely.

## REFERENCES

- Angrist, J., and Lavy, V., “New Evidence on Classroom Computers and Pupil Learning”, *The Economic Journal*, volume 112 (2002): 735-765.
- Brown, B., Green, N., and Harper, R. *Wireless World: Social and Interactional Aspects of the Mobile Age*. Heidelberg: Spriger Verlag., 2001.
- Drace, M., Sadun, R., and Van Reenen, J. *Productivity and ICT: A review of the Evidence*. CEP Discussion paper no 749. London : Centre for Economic Performance, London School of Economics and Political Science., 2006.
- Dubihlela, D. *Socio-economic challenges and the survival mechanisms for female-headed households in Bophelong township*. Vanderbijlpark: North-West University (M.Com Dissertation)., 2011.
- Freire, P. *Pedagogy of the Oppressed*. Continuum International Publishing Group., 2000.
- Guida, J. and Crow, M. *E-government and E-Governance. ICT4D: Information and Communication Technology for Development*. Cambridge: Cambridge University Press.,2009.
- Hamel, J. *ICT4D and the human development and capabilities approach: the potentials of information and communication technology*. United Nations Development Programme: Research Paper 2010/37: United Nations, 2010.
- International Telecommunications Union (ITU). *Measuring the Information Society*. Geneva: International Telecommunications Union.,2009.

Kleine, D. *ICT4What?-Using the Choice Framework to Operationalise the Capability Approach to Development*. ICTD2009. Proceedings. Retrieved 13 May 2011 from <http://ictd2009.org/documents/ICTD2009Proceedings.pdf>

Maitland, D., *The Missing Link: Report of the Independent Commission for World Wide Telecommunications Development*. Geneva: International Telecommunications Union.,1984.

Mann, C.L. Research Report: Information Technologies and International Development: Conceptual Clarity in the Search for Commonality and Diversity. *Information Technologies and International Development*. Vol 1(2003):67-79.

Mansell, R. and When, U. *Knowledge Societies: Information Technology for Sustainable Development*. Oxford: Oxford University Press.,1998.

Norris, P. *Civic Engagement, Information Poverty, and Internet Worldwide*. Cambridge: Cambridge University Press., 2001.

Quibria, M.G. and Tschang, T. *Information and Communication Technology and Poverty: An Asian Perspective*. ADB Institute., 2001. Accessed on line on 15 May 2011 from <http://mpra.ub.uni-muenchen.de/2639/>

Rezaian, B. *Integrating ICTs in African Development: Challenges and Opportunities in Sub-Saharan Africa* in Gasco-Hernandez, M., Equiza-Lopez, F. and Acvedo, R.M. (eds) *Information and Communication Technologies and Human Development: Opportunities and Challenges*. London: Idea Group Publishing., 2006.

Sekhampu, T.J. *An in-depth micro-economic analysis of the poor in Bophelong with special emphasis on the activities they use to sustain themselves*. Vanderbijlpark: North-West University (M.Com Dissertation), 2004.

Selinger, M., *ICT in education: catalyst for development* in Unwin, T.(ED), *ICT4D: Information and Communication Technology for Development*. Cambridge: Cambridge University Press., 2009.

Sen, A. *Development as Capability Expansion* in Fukuda-Parr, S. and Shiva Kumar, A. K. (eds) *Handbook of Human Development*. Oxford University Press., 2009.

Slabbert, T.J.C. and Sekhampu, T.J., *Bophelong: a socio-economic and environmental analysis*. Research report no.22. Vanderbijlpark: Vaal Research Group., 2009.

Statistics South Africa., *Community survey 2007*, statistical release P0301.1. Pretoria: Government Printer., 1997.

Talero, E. and Gaudette, P. “ Harnessing Information for Development-A Proposal for a World Bank Group Strategy”. *World Bank Discussion Paper* nr 313. (1995): 145-188.

United Nations( UN). Resolution adopted by the General Assembly:55/2 United Nations Millennium Declaration. Retrieved 15 May 20011 from <http://un.org/millenniumgoals/>.

Van Ark, B., Inklaar, R. and McGuckin, R.H. *ICT and Productivity in Europe and the United States: Where do the differences come from?* Economics Program Working Paper nr 3-05. New York: The Conference Board.,2003.

Warchauer, M. *Technology and Social Inclusion: Rethinking the digital divide*. Cambridge: The MIT Press., 2004.

World Bank. *Knowledge for Development*. World Development Report 1998-1999., 1998.

# WHAT BULGARIAN UNDERGRADUATE STUDENTS BELIEVE ABOUT ACADEMIC DISHONESTY

Donald L. Brady, Mark Trocinski, and Lucia Miree  
American University in Bulgaria, Bulgaria

## ABSTRACT

*The results of this study indicate that a majority of respondents believe that six of the 10 academically dishonest constructs investigated are inappropriate. In spite of this favorable finding, the percentage of respondents that believe these constructs are appropriate is large enough to be troubling. Respondents believe the three constructs that can be classified as unauthorized collaboration are appropriate behaviors. Beliefs tend to be influenced by grade point average, class standing, and gender in particular. The reason beliefs were found to be so favorable can be attributed to a strongly enforced honor code.*

## INTRODUCTION

Academic dishonesty, in all of its forms, is a significant problem in academia (McCabe and Bowers 1994, Spiller and Crown 1995, and McCabe and Trevino 1996). Therefore, academic dishonesty, sometimes referred to as academic misconduct or cheating, has been the subject of considerable research since as early as 1928 (Brownell 1928). Studies have shown that students who are academically dishonest were found to be more likely to engage in and be accepting of unethical behaviors in the workplace (Sims 1993, Nonis and Swift 2001, Harding et al. 2004, and Lawson 2004). Therefore, one conclusion has to be considered unanimous – academic dishonesty is a growing problem and source of concern for university faculty, administrators, and businesspeople.

### Previous Research

Academic dishonesty is not well-defined in the literature because different perspectives are considered. Definitions have been based on a person's behavioral intentions, the particular behaviors violated, and violations of an institution's honesty policy (Lambert et al. 2003, p. 2). Because of the lack of standardization surrounding the topic, research on academic dishonesty has occasionally produced contradictory conclusions. A predominant area of conflicting results is in the incidences of dishonesty reported. Research implies that the rates of the occurrences of academic dishonesty have been increasing over the years. For example, in three cross-sectional studies, the rates of academic dishonesty increased from 11 percent (Bowers 1964), to 54 percent (Haines and Diekhoff 1986), and to 100 percent (Brown and McInerney 2008). A longitudinal study at nine schools over a 30-year time period found increasing rates of academic dishonesty (McCabe and Bowers 1994). Rates higher than 70 percent have been reported in additional studies (Meade 1992, Sims 1993, Genereux and McLeod 1995, Brown and Abramson 1999, Brown and McInerney 2001, Chapman and Lupton 2004, and Brown and McInerney 2008). However, other studies have found that the incidents of academic dishonesty have not increased over time, and that the reported differences were the result of discrepancies in the way the research was conducted (Cole and McCabe 1996 and Brown and Emmett 2001). Additionally, students that self report are more likely to be altruistic and concerned about cheating, causing the severity of the problem to be understated (Miller et al. 2008). Regardless of whether or not rates are increasing, the numbers reported are high enough to be of concern to academics.

Unfortunately, academic dishonesty can be viewed narrowly or broadly. Therefore, what is taken into consideration as being academically dishonest can vary from study to study. In other words, the basis for being academically dishonest is not consistent, and therefore, a standardized perspective of the topic is lacking.

Studies narrowly focused on test cheating or plagiarism (e.g., McCabe and Trevino 1993 and McCabe and Bowers 1994) reported different results than those with a broader scope or no precise definition of academic dishonesty (e.g., Blankenship and Whitley 2000 and Lambert et al. 2003). In a comprehensive analysis of 31 studies that were published over a 33-year time period where the number of students that engaged in academic dishonesty was assessed, four variables common to all the studies were examined. Only the number of academically dishonest behaviors included in the study was significantly related to the percentage of students found to be dishonest (Brown and Emmett 2001). Therefore, the percentages of academically dishonest students reported in each study were undoubtedly influenced to some extent by what behaviors the researchers considered to be dishonest. Additionally, results vary when the intent of the studies differ even though the specific research approach employed, for example the questionnaire, is the same (McCabe and Trevino 1997 and Miller et al. 2008). Thus, what is considered to be academically dishonest behavior can impact results.

## **Academic Dishonesty across Cultures**

Most of the research about academic dishonesty was conducted with students in American universities. Fewer studies have been conducted outside of the United States, even though the number of these studies has increased since 2000. International studies can be classified as either country-specific or comparing two or more countries cross-culturally. Examples of country specific studies have been done in Russia (Poltorak 1995), India (Gitanjali 2004), Taiwan (Chun-Hua and Ling-Yu 2007), Canada (Birchard 2006), Brazil (Monzani Da Rocha et al. 2007), and Sweden (Trost 2009). Rates of academic dishonesty ranging between 50 and 88 percent were reported in these studies.

The results of cross-cultural studies on academic dishonesty, in which two countries were compared, vary depending on the countries involved. In most studies, American students were found to be less academically dishonest, but the results were not always absolute or consistent. One of the earliest cross-cultural studies involving Japanese and American university students examined cheating on examinations (Diekhoff et al. 1999). The results found that Japanese students were more likely to cheat, consider cheating justifiable, and overlook cheating by others than American students. Polish business students were found to be more academically dishonest, to feel that cheating was acceptable, and to provide information about exams to students in other sections of the course than American students (Lupton et al. 2000). In other studies, American students were found to be more academically dishonest. American accounting students were found to be more likely to cheat than United Kingdom accounting students (Salter et al. 2001). American business students were found to be more likely to cheat and to believe that their peers cheat than Hong Kong business students (Chapman and Lupton 2004). In one study, the results were mixed. Russian students were found to be more likely to cheat, believe that giving answers to exam questions to a student in another section of the course was appropriate, and believe that cheating on one exam is not wrong than American students. However, American students were found to be more likely to use exams from a prior term to study for current exams and use information gathered by another student from the library to avoid having to do the work themselves than Russian students (Lupton and Chapman 2002).

At least five studies examined academic dishonesty in Central Asian and Eastern European countries. One study compared American students with Lebanese students from universities utilizing the American education model (McCabe et al. 2008). The findings of the study indicated that Lebanese students committed almost 48 percent more incidents of academic dishonesty than American students. Lebanese students were about six times more likely to help others cheat on exams. The findings suggest that Lebanese students were highly influenced by the norms of the collectivist society where they were raised and to transfer those norms to the academic setting. Another study compared American students with students from eight transitional countries, six of which were part of the former Union of Soviet Socialist Republics (USSR) and two of which were closely allied dependent states (Grimes 2004). The results of the study indicated that student cheating is socially acceptable and not considered ethically wrong. Students in the eight transitional countries were found to have relatively lower standards of academic honesty than American Students. A study of academic dishonesty among Romanian college students found that only four percent of the students would report another student who cheated on an exam (Teodorescu and Andrei 2008). It was concluded that Romanian students are influenced by their peers, do not want to get involved, and tend to accept and protect the status quo, in this case academic dishonesty. A comprehensive cross-country study of students in 42 universities in 21 countries found that

students in Western European, and Eastern European countries in particular, had a high propensity to be academically dishonest (Teixeira and Rocha 2010). The same study also found that students in Southern European countries were more likely to be academically dishonest than students from the United States, the United Kingdom, and Scandinavian countries. Another study explored corruption, which includes academic dishonesty as a component, among university students in six Central Asian and Eastern European Countries, one of which was Bulgaria (Heyneman et al. 2008). The results indicated that corruption is prevalent in the countries studied, that students would tend not to report cheating they observed, would cheat if they could get away with it, and would not feel guilty about cheating. Although academic dishonesty appears to be high in universities around the world, collectively, these studies show that academic dishonesty is more pervasive and considered less troublesome among university students in Central Asia and the former communist nations of Eastern Europe.

## **Purpose**

Since the emergence of pro-democracy movements and the subsequent fall of Communism in the early 1990s, an American-style liberal arts orientation in higher education has appeared in some Eastern European universities. However, the older traditional approach to higher education where students specialize in courses in only one academic area is still prominent in most Eastern European schools. Further, education in Eastern European countries emerges from a collectivity philosophy of education and has a history of academic dishonesty. Academic integrity tends to be stressed in those institutions where the American style of education is employed, and codes of academic conduct are enforced. As the studies cited previously have shown, in the cultures of Eastern Europe and Central Asia, students tend to have less concern about academically dishonest behavior than students in the American culture.

As the citizens of these post-communist and developing countries become greater participants in the global economy and take their roles in multi-national organizations, they will be faced with increasing demands for ethical and honest behavior. Therefore, understanding how students from Eastern European and Central Asian countries are affected when confronted by a different approach to academic dishonesty will be extremely important to know. With this in mind, the purpose of this study is to determine what beliefs students at a Bulgarian university with an American-style liberal arts orientation have about participating in academically dishonest behaviors.

## **METHODOLOGY**

Because only one American-style university exists in Bulgaria, this study was confined to that institution. However, because students are enrolled from 40 different countries, mostly Eastern European and Central Asian, the results are expected to represent the beliefs of students from those areas as well as Bulgaria.

### **The Sample and Data Collection**

Data were obtained from a convenience sample of 260 students at a university in Bulgaria where an American-style educational program is employed. The sample size was calculated mathematically to provide 95 percent confidence and insure precision of  $\pm 3$  percent error. A convenience sample was employed to speed data collection, minimize costs, and facilitate the interviewing process. Since a convenience sample is a non-probability sampling method, care was taken to assure the sample would be as representative of the population as possible. Interviews were conducted in all campus facilities and locations to increase the likelihood that members from all segments of the student body were represented fairly in the sample. The characteristics of the respondents included in the sample are similar to those of the students attending the study institution. Also, the sample is large and represents approximately 24 percent of the student body. Therefore, the sample is expected to be as representative of all students as a probability sample would be.

### **Questionnaire Design**

The questionnaire consisted of value-scaled questions to measure basic information about academic dishonesty and dichotomous and multiple-category questions for classifying respondents. The four areas of academic dishonesty that were examined in the study were identified after searching the definition of academic dishonesty at 10 randomly selected colleges and universities. What constitutes academic dishonesty differed from school to school. However, a common aspect was that being academically dishonest can include anything associated with a student's attempt to gain an advantage on any academic activity through unethical and inappropriate means. Also stressed was the idea that dishonesty requires the inappropriate behavior to be done deliberately, intentionally, and knowingly. Therefore, to be academically dishonest, students must know that a behavior is inappropriate but decide to engage in it anyway.

Since an honor code is in place and rigorously enforced, academic integrity is stressed at the study university. By means of first-year student orientation and distribution of policies and standards related to academic behavior, all students have been informed and know what constitutes inappropriate academic behavior. Thus, students should know that the following four areas identified from the 10 randomly examined schools are associated with academically dishonest behavior:

- Cheating – misrepresenting one's true knowledge by accessing unauthorized sources of information or using inappropriate technical means to enhance what one knows.
- Deceit – fraudulent use of materials by incorrect or inappropriate representation.
- Plagiarism – taking credit for the work of another person in whole or in part as though the material is the student's own effort.
- Unauthorized collaboration – giving or obtaining inappropriate assistance from others.

Examining constructs associated with these four areas of concern is an appropriate way to determine students' beliefs about academic dishonesty. Thus, considering these four areas in light of the university's academic environment, the following 10 constructs of academic dishonesty were identified for inclusion in the study:

- Looking for answers on another student's paper during an exam. (Cheating)
- Submitting a homework paper containing material copied from another student's paper. (Plagiarism)
- Submitting the same term paper in two or more classes without permission. (Deceit)
- Providing another student with information from your homework paper for inclusion in that student's homework paper. (Unauthorized collaboration)
- Submitting an assignment containing content copied word-for-word from another published source without a citation. (Plagiarism)
- Using previously prepared concealed notes to improve answers on an exam. (Cheating)
- Asking another student who has already completed the exam in another section of the course about what questions were on the exam. (Unauthorized collaboration)
- Working with classmates as a group on a project assigned to be done individually. (Unauthorized collaboration)
- Submitting an assignment containing material from another published source that is rewritten in your own words without a citation. (Plagiarism)
- Submitting a term paper that was purchased from a term-paper writing firm. (Deceit)

Each of the 10 constructs was reworded into a statement that would permit a person's beliefs about the appropriateness of that construct to be measured. These statements were written so respondents could indicate how appropriate or inappropriate they believe each construct is.

Seven-interval semantic differential scales were employed to quantify responses to the 10 statements. For statistical purposes, the intervals were numbered from 1 = extremely inappropriate to 7 = extremely appropriate for each statement.

## **Analytical Procedures**

Values for each respondent's assessment of the 10 statements regarding academic dishonesty along with classification data were entered into an SPSS spreadsheet. When respondents did not answer a question on the questionnaire, the question was ignored for statistical purposes for those individuals. As a result, the sample size

for those questions is less than 260 by the number of non-responses. The data were subjected to various statistical analyses for analytical purposes. Descriptive statistics were used to understand the nature of the collective responses for each measured construct of academic dishonesty and for comparisons among constructs. Chi Square tests for goodness of fit were conducted to determine if the frequencies observed were different than what would be expected to occur by chance. The t-test for two independent samples was employed to determine if statistically significant differences existed within the academic dishonesty constructs when grouped in various ways.

## FINDINGS

Exhibit 1 shows descriptive statistics for the respondents' responses about how appropriate or inappropriate they believe the 10 constructs of academic dishonestly measured are.

**Exhibit 1: Beliefs about the appropriateness of the constructs of academic dishonesty**

Construct	n	Mean	Mode
Copy word-for-word	259	1.98	1
Use previously prepared notes on an exam	259	2.15	1
Look on another student's paper	260	2.41	1
Purchase a term paper	259	2.70	1
Copy another student's homework	260	2.71	1
Submit same term paper twice	260	3.60	3
Reword a published source	259	4.11	4
Provide your work to another student	260	4.12	4
Work as a group on an individual assignment	260	4.63	4
Ask about exam questions	258	4.69	7

n = sample size (the number of respondents answering the question)

Values used to quantify beliefs: 1 = Extremely inappropriate, 2 = Very inappropriate, 3 = Inappropriate,

4 = Neither appropriate nor inappropriate, 5 = Appropriate, 6 = Very appropriate, 7 = Extremely appropriate

The higher the number the more appropriate the construct behavior is considered to be by the respondents and the lower the number the less appropriate. The data in Exhibit 1 indicate, on average, respondents believe the following five activities or behaviors are inappropriate to very inappropriate (between intervals 2 and 3):

- copying material word-for-word from another published source,
- using previously prepared concealed notes to improve exam answers,
- looking on another student's paper to improve their own exam answers,
- submitting a term paper that was purchased from a term paper-writing firm, and
- copying another student's homework and submitting it as their own.

The mode for all five of the constructs was interval 1 (extremely inappropriate).

Respondents are unsure about how appropriate or inappropriate is the construct, submitting the same term paper to more than one class. The mean value was in the inappropriate to neither appropriate nor inappropriate range (between intervals 3 and 4).

On average, respondents indicate uncertainty about how appropriate or inappropriate the remaining four constructs are. Mean values were in the neither appropriate nor inappropriate range (in the vicinity of interval 4).

- rewording material from a published source in their own words,
- providing their work for a graded assignment to another student requesting it,
- working as a group on a project assigned to be done individually, and
- asking about answers on an exam from students in a different section of the class.

Modal values are about the same as means except for asking about answers on an exam from students in a different section of the class. In this case, the interval selected most frequently was 7 (extremely appropriate).

If the degree of appropriateness and inappropriateness is disregarded, the sample can be conveniently divided into three groups. The percentage of respondents believing each construct as inappropriate can be found by adding the percentages selecting intervals 1, 2, and 3. Similarly, the percentage of respondents viewing each construct as appropriate can be found by adding intervals 5, 6, and 7. Those respondents selecting interval 4 believe the construct is neither appropriate nor inappropriate. These numbers are shown in Exhibit 2.

**Exhibit 2: Percentage of respondents believing that each construct of academic dishonesty is appropriate or inappropriate**

Construct	Inappropriate Percent	Neither/Nor Percent	Appropriate Percent
Copy word-for-word*	89.2	2.7	8.1
Use previously prepared notes on an exam*	84.5	6.6	8.9
Look on another student's paper*	80.7	9.2	10.1
Copy another student's homework*	73.0	13.1	13.9
Purchase a term paper*	70.3	12.0	17.7
Submit same term paper twice*	52.3	17.3	30.4
Reword a published source	38.6	20.8	40.6
Provide your work to another student	35.4	27.3	37.3
Ask about exam questions*	25.2	19.0	55.8
Work as a group on an individual assignment*	12.2	23.5	52.3

Inappropriate = the sum of the percent of respondents selecting intervals 1, 2, and 3.

Neither/Nor = the percent of respondents selecting interval 4.

Appropriate = the sum of the percent of respondents selecting intervals 5, 6, and 7.

\* =  $\chi^2$  test of differences between the frequency of respondents with inappropriate and appropriate beliefs is significant at  $p < 0.000$ .

The results indicate respondents believe the following six activities or behaviors are inappropriate:

- copying material word-for-word from another published source,
- using previously prepared concealed notes to improve exam answers,
- looking on another student's paper to improve their own exam answers,
- copying another student's homework and submitting it as their own,
- submitting a term paper that was purchased from a term-paper writing firm, and
- submitting the same term paper to more than one class.

Over 50 percent of the respondents reported that these constructs are inappropriate. For all six of these constructs, anywhere from one to three respondents in 10 believe these behaviors are appropriate.

For the following two constructs, the percentage of respondents that believe the behaviors are appropriate is not statistically different than those that believe the behaviors are inappropriate.

- rewording material from a published source in their own words, and
- providing their work for a graded assignment to another student requesting it.

The number of respondents that believe these two behaviors are appropriate is approximately four in 10. The percentage of respondents that believe these constructs are neither appropriate nor inappropriate (selecting interval 4) was also substantial. As many as 20 to 30 percent of the respondents are not sure whether these behaviors are appropriate.

The percentage of respondents that believe the following two constructs are appropriate is larger than the percentages that believe they are inappropriate:

- asking about answers on an exam from students in a different section of the class, and
- working as a group on a project assigned to be done individually.

Just over half of the respondents believe these two behaviors are appropriate. Only about two respondents in 10 indicated that they believe these two behaviors are inappropriate. Approximately two respondents in 10 are unsure about the appropriateness of the behaviors and selected interval 4.

## T-tests

T-tests for independent samples were conducted to determine if gender, class standing, grade point average (GPA), and country of citizenship had any impact on beliefs about engaging in academically dishonest behavior. Differences were found to exist in the areas of gender, class standing, and grade point average. Country of citizenship (Bulgarian or non-Bulgarian) had no influence on beliefs about any of the 10 constructs.

## Gender

The results of the t-tests for gender are shown in Exhibit 3.

**Exhibit 3: Beliefs Compared by Gender**

Construct	Gender	n	Mean	df	t	p
Look on another student's paper	Female	113	2.36	257	-.530	.597
	Male	146	2.46			
Copy another student's homework	Female	113	2.42	257	-2.669	.008*
	Male	146	2.94			
Submit same term paper twice	Female	113	3.03	257	-4.012	.000*
	Male	146	4.00			
Provide your work to another student	Female	113	3.96	257	-1.381	.168
	Male	146	4.25			
Copy word-for-word	Female	112	1.66	256	-2.933	.004*
	Male	146	2.23			
Use previously prepared notes on an exam	Female	113	1.98	256	-1.674	.095
	Male	145	2.29			
Ask about exam questions	Female	112	4.58	255	-.858	.392
	Male	145	4.78			
Work as a group on an individual assignment	Female	113	4.45	257	-1.492	.137
	Male	146	4.77			
Reword a published source	Female	112	4.23	256	.903	.367
	Male	146	4.03			
Purchase a term paper	Female	112	2.25	256	-3.476	.001*
	Male	146	3.03			

\* =  $p < .05$

Statistically significant differences between the means of male and female respondents occurred for four of the 10 constructs of academic dishonesty. The following constructs showed t-values that are significant beyond the  $\alpha = .05$  level for a 2-tailed test assuming equal variances.

- copying another student's homework and submitting it as their own,
- submitting the same term paper to more than one class,
- copying material word-for-word from another published source, and
- submitting a term paper that was purchased from a term-paper writing firm.

The differences observed between women and men for these constructs are unlikely to occur by chance only. This claim can be made with 95 percent confidence. In all four instances, the mean score for the women was lower than the mean score for men. This means that, on average, men tend to believe that these four academically dishonest behaviors are more appropriate than women.

## Class Standing

Respondents were also grouped according to the number of credit hours completed and classified as underclassmen (Freshmen and Sophomores) or upperclassmen (Juniors and Seniors). See Exhibit 4 for the results of the t-tests for class standing.

**Exhibit 4: Beliefs Compared by Class Standing**

Construct	Class Standing	n	Mean	df	t	p
Look on another student's paper	Underclassmen	111	2.55	257	1.280	.202
	Upperclassmen	148	2.32			
Copy another student's homework	Underclassmen	111	2.70	257	.000	1.000
	Upperclassmen	148	2.70			
Submit same term paper twice	Underclassmen	111	3.53	257	-.471	.638
	Upperclassmen	148	3.64			
Provide your work to another student	Underclassmen	111	3.97	257	-1.184	.237
	Upperclassmen	148	4.22			
Copy word-for-word	Underclassmen	111	1.99	256	.197	.844
	Upperclassmen	147	1.95			
Use previously prepared notes on an exam	Underclassmen	111	2.33	256	1.737	.084
	Upperclassmen	147	2.01			
Ask about exam questions	Underclassmen	110	4.29	255	-3.074	.002*
	Upperclassmen	147	4.99			
Work as a group on an individual assignment	Underclassmen	111	4.66	257	.104	.917
	Upperclassmen	148	4.64			
Reword a published source	Underclassmen	110	3.75	256	-2.942	.004*
	Upperclassmen	148	4.39			
Purchase a term paper	Underclassmen	111	2.77	256	.585	.559
	Upperclassmen	147	2.64			

\* =  $p < .05$

Statistically significant differences in means were found between upperclassmen and underclassmen in only two of the 10 constructs of academic dishonesty. The following constructs show mean differences that are statistically different beyond the  $\alpha = .05$  level for a 2-tailed test assuming equal variances:

- asking about answers on an exam from students in a different section of the class, and
- rewording material from a published source in their own words.

In both instances, the mean score for the underclassmen was lower than the mean score for upperclassmen. This means that, on average, upperclassmen tend to believe these two behaviors are more appropriate than underclassmen.

## Grade Point Average

Respondents were arbitrarily divided into two groups based on GPA for analytical purposes. One group included respondents with the highest GPAs (3.5 or above on a 4.0 scale). The other group contained respondents with lower GPAs (below 3.5). Five respondents had completed no coursework and, therefore, had no GPA. Thus  $n = 255$  of which 83 (32.5 percent) had GPAs of 3.5 or above and 172 (67.5 percent) had GPAs below 3.5. The results of the t-tests for GPA are shown in Exhibit 5.

Statistically significant differences between the means of the highest and lower GPA respondents occurred for two of the 10 constructs of academic dishonesty. The following constructs exhibited statistically significant differences in means beyond the  $\alpha = .05$  level for a 2-tailed test assuming equal variances:

- submitting the same term paper to more than one class, and
- submitting a term paper that was purchased from a term-paper writing firm.

In both instances, the mean score for respondents with lower GPAs was higher than the mean score for respondents with the highest GPAs. This means that, on average, respondents with lower GPAs tend to believe these two behaviors are more appropriate than respondents with the highest GPAs.

### Exhibit 5: Beliefs Compared by Grade Point Average

Construct	GPA	n	Mean	df	t	p
Look on another student's paper	Lower GPA	172	2.34	253	-.641	.522
	Highest GPA	83	2.46			
Copy another student's homework	Lower GPA	172	2.76	253	1.102	.272
	Highest GPA	83	2.53			
Submit same term paper twice	Lower GPA	172	3.82	253	2.722	.007*
	Highest GPA	83	3.14			
Provide your work to another student	Lower GPA	172	4.20	253	1.280	.202
	Highest GPA	83	3.92			
Copy word-for-word	Lower GPA	171	1.99	252	.174	.862
	Highest GPA	83	1.95			
Use previously prepared notes on an exam	Lower GPA	171	2.22	252	1.718	.087
	Highest GPA	83	1.89			
Ask about exam questions	Lower GPA	171	4.69	251	.077	.938
	Highest GPA	82	4.67			
Work as a group on an individual assignment	Lower GPA	172	4.66	253	.442	.659
	Highest GPA	83	4.55			
Reword a published source	Lower GPA	171	4.12	252	.342	.732
	Highest GPA	83	4.04			
Purchase a term paper	Lower GPA	171	2.89	252	2.478	.014*
	Highest GPA	83	2.29			

\* = p < .05

## CONCLUSIONS AND RECOMMENDATIONS

Of the 10 constructs of academic dishonesty examined, those that the respondents believe are most inappropriate are:

- copying material word-for-word from another published source,
- using previously prepared concealed notes to improve exam answers,
- looking on another student's paper to improve their own exam answers,
- copying another student's homework and submitting it as their own,
- submitting a term paper that was purchased from a term-paper writing firm, and
- submitting the same term paper to more than one class.

At least 50 percent and as much as 90 percent of the respondents reported that these six behaviors are believed to be inappropriate.

The academically dishonest behaviors that respondents believe are most appropriate include:

- rewording material from a published source in their own words,
- providing their work for a graded assignment to another student requesting it,
- asking about answers on an exam from students in a different section of the class, and
- working as a group on a project assigned to be done individually.

Between 40 and 50 percent of the respondents indicated that they believe these four behaviors are appropriate. Three of these four constructs of academic dishonesty just happen to be in the same area of academic dishonesty - unauthorized collaboration. Respondents were less likely to believe that academically dishonest behaviors in the other three areas of concern (cheating, plagiarism, and deceit) are appropriate. Therefore, issues associated with unauthorized collaboration seem to present significant belief challenges.

Why do respondents believe this category of academically dishonest behavior is more appropriate? Perhaps this aspect of the students' training in academic integrity is deficient in some way. Perhaps instruction about what constitutes unauthorized collaboration may be inadequate or emphasis on not engaging in unauthorized collaboration may be insufficient. Possibly, students may simply decide to ignore this aspect of academic integrity for some purpose. A more likely explanation, however is that Bulgaria is a collectivist

society. The norms and societal forces of collectivist societies have been shown to cause students to be prone to engage in academically dishonest behaviors (McCabe et al. 2008 p. 464). Thus, students' beliefs are likely to be guided by the norms that shaped their childhood, and therefore, think that unauthorized collaboration is appropriate.

Respondents were most likely to believe submitting an assignment containing material copied word-for-word from another published source is inappropriate. Students may be less inclined to participate in this academically dishonest behavior because of the existence of academic tracking tools such as Turnitin.com. Such tools increase the chances that the dishonest behaviors will be discovered, and the students will be punished for engaging in plagiarism. This logic presents another possible reason why students may tend to believe that engaging in unauthorized forms of collaboration is appropriate. Students may perceive that such behaviors are less likely to be tracked or are harder to verify, and therefore, they are relatively safe from being detected.

In spite of the fact that a larger percentage of the respondents believe more of the constructs are appropriate than inappropriate (i.e. they are more likely to be academically honest than dishonest), other less gratifying conditions are also implied. The percentage of respondents that believe that participating in the other seven constructs associated with cheating, plagiarism, and deceit is appropriate is substantial enough to be troubling.

- copying material word-for-word from another published source,
- submitting a term paper that was purchased from a term-paper writing firm,
- using previously prepared concealed notes to improve exam answers,
- submitting the same term paper to more than one class,
- copying another student's homework and submitting it as their own,
- looking on another student's paper to improve their own exam answers, and
- rewording material from a published source in their own words.

Anywhere from 8 to 30 percent of the respondents believe that these academically dishonest behaviors are appropriate. Why so many respondents believe these behaviors are appropriate is a concern.

Respondents' beliefs about providing their work for a graded assignment to another student requesting it and copying another student's homework and submitting it as their own appears to be a paradox. The respondents believe submitting material copied from another student as their own is inappropriate, but believe permitting classmates to copy their work when asked is appropriate. Thus, providing assistance is considered to be acceptable, but receiving assistance is not. Assistance cannot be given without being received and therein lays the paradox. However, the paradox can be explained. A few students may be receiving the inappropriate assistance from a number of different people supplying it. Perhaps, the old adage that it is better to give than to receive is the motivation. Perhaps, the student giving the aid does not believe doing so is dishonest because whatever grade that student receives is earned. Only the student that receives the aid is viewed as behaving dishonestly. The proclivity to provide unauthorized collaboration when asked may be strengthened further by the obligations inherent in a collectivist culture. These factors may work together to permit students to believe that providing unauthorized assistance is justified.

The results tend to support gender as being an influence of beliefs about the appropriateness of academically dishonest behaviors. This finding is consistent with those of previous international studies (Teixeira and Rocha 2010, Crittenden et al. 2009). For four of the 10 academically dishonest behaviors examined, men had statistically significantly higher appropriateness belief scores than women. This may simply be the result of the physiological and psychological differences in men and women. For example, research has shown that men and women differ in the way problems are viewed and approached, and differ in their sensitivity and thinking processes (Conner 1999). Also, gender differences have been reported to be caused by biological factors (sex chromosomes and hormones), socialization processes (cultural concerns and differences in how boys and girls are raised), and information usage (selectivity and processing procedures) (Putrevu 2001).

Although not as substantial as for gender, class standing and GPA were also found to influence beliefs about the constructs of academic dishonesty. For both variables, significant differences were found for two constructs. Regarding class standing, the results of this study are consistent with those of previous studies that found upperclassmen more likely to be dishonest than underclassmen (Jordan 2001 and Teixeira and Rocha

2010). However, other studies have shown just the opposite to be true (Dawkins 2004 and Chun-Hua and Ling-Yu 2007). Perhaps, the fact that only two constructs showed differences is indicative of the inconsistency in results found in previous studies. The findings for GPA are consistent with those of most previous studies (McCabe and Trevino 1997 p. 392, Crittenden et al. 2009 p. 345, and Teodorescu and Andrei 2009 p. 278). Respondents with the highest GPAs (3.5 and above) tend to believe both of the behaviors are less appropriate than respondents with lower GPAs (below 3.5). One implication is that academically stronger students are less likely to believe that these unethical behaviors are appropriate. Another explanation may be that academically strong students are less likely to need to engage in academically dishonest behaviors to obtain good grades.

Country of citizenship did not influence beliefs about the appropriateness of the academically dishonest behaviors. The reason that no significant differences were found between Bulgarian students and students from other countries may be that students from Eastern Europe and Central Asia are similar in how they view academic dishonesty. Countries in these areas tend to possess collectivist societies (McCabe et al. 2008 p. 464). Therefore, students from these countries are likely to hold comparable beliefs.

The overall results of this study are consistent with the findings from previous studies examining academic dishonesty in Central and Eastern Europe (Heyneman et al. 2008, McCabe et al. 2008, Teodorescu and Andrei 2008, Crittenden et al. 2009, and Teixeira and Rocha 2010). This study tends to substantiate or reinforce the findings of the previous studies. Although the beliefs that respondents reported about the appropriateness of academically dishonest behaviors produced somewhat lower scores than were found in previous studies, the levels are still high and disconcerting. The reason the beliefs about the academically dishonest behaviors are lower might be attributed in part to the study university's academic integrity or honor code. The existence and enforcement of an honor code has been found to be significantly related to the reduced incidence of cheating (McCabe and Trevino 1993, May and Loyd 1993, and McCabe et al. 1999). The attention placed on academic integrity and enforcement penalties may have an influence on shaping students' beliefs about the topic. Another reason that may also be contributing is that students sometimes behave differently than they believe. For example, students that are relativists or existentialists may not always do what they believe. Even though a behavior may be believed to be academically dishonest, the relativist may behave dishonestly if the situation is perceived to be conducive to not getting caught. The existentialist may engage in a dishonest behavior even if the behavior is believed to be academically dishonest because existentialists are only concerned about making free and independent decisions. The possible consequences of the decision to the existentialist or anyone else are discounted or ignored. Thus, behaviors could deviate from beliefs resulting in increased incidents of academic dishonesty actually being committed.

Strengthening efforts to instill the virtues of behaving with academic integrity in students remains important to the objective of developing well-rounded liberally-educated students. The findings of this study indicate that attention to this aspect of a student's education may help improve students' beliefs about what is academically dishonest behavior. Hopefully, improvements in beliefs about behaving with academic integrity resulting from a student's education will be applied beyond the academic experience also.

## **CONCLUDING REMARKS**

Since only one university offering an American style education exists in Bulgaria and the student body is small, some may want to consider this study exploratory in nature or as a case study. Although empirical in nature, the results cannot be used to explain why the relationships observed exist. The study should serve as the basis and beginning for further discussion and formal research. In this way, a clearer understanding of the relationships found can be assessed. In particular, this study shows the need for additional research such as the following:

- Determine how the constructs examined interact and impact each other.
- Determine what training procedures will help improve students' beliefs about academic integrity.
- Determine how the content used to educate students about academic dishonesty affects students' beliefs about academic integrity.
- Determine how students' beliefs about providing another student with assistance relate to beliefs about receiving assistance from another student.

- Determine whether including information and specific prohibitions about unauthorized peer collaboration in academic dishonesty/honor codes and training improves students' beliefs about the inappropriateness of engaging in this method of academic dishonesty.
- Determine how academic dishonesty/honor codes influence and change students' beliefs about academic integrity.
- Determine why and how various personal and situational (contextual) variables impact beliefs about academic integrity.
- Determine how beliefs about academic integrity correlate with behavior.

Only beliefs about academic dishonesty were described in this study. No attempt was made to predict behavior. Describing students' beliefs may or may not accurately explain how students will react to a given situation. Other factors including, but not limited to, strength of moral character, ethical sensitivity, religious values, social norms, peer pressure, increased competition for post-graduate educational programs and jobs, and perception of alternatives can also influence behavior. As a result, nothing can be said with absolute certainty about how students will behave when actually confronted with a situation requiring a decision involving academic integrity.

## REFERENCES

- Birchard, K., "Cheating is Rampant at Canadian Colleges," *Chronicle of Higher Education*, Vol. 53, Iss. 8, (October 13, 2006): 46.
- Blankenship, K. L., & Whitley, Jr., B. E., "Relation of General Deviance to Academic Dishonesty," *Ethics & Behavior*, Vol. 10, No. 1, (2000): 1-12.
- Bowers, W. J., *Student Dishonesty and Its Control in College*, New York: Bureau of Applied Social Research, Columbia University, 1964.
- Brown, B. S., & McInerney, M., "The Academic Ethics of Business Management Students: A Lesson for Professors," *International Journal of Business Disciplines*, Vol. 11, No. 3, (2001): 79-88.
- Brown, B. S., & Abramson, J., "The Academic Ethics of Undergraduate Marketing Majors," *Academy of Marketing Studies Journal*, Vol. 3, No. 1, (1999): 62-71.
- Brown, B. S., & McInerney, M., "Changes in Academic Dishonesty among Business Students in the United States, 1999-2006," *International Journal of Management*, Vol. 25, No. 3, (2008): 621-632.
- Brown, B. S., & Emmett, D., "Explaining Variations in the Level of Academic Dishonesty in Studies of College Students: Some New Evidence," *College Student Journal*, Vol. 35, Iss. 4, (2001): 529-538
- Brownell, H. C., "Mental Traits of College Cribbers," *School and Society*, Vol. 27, (1928): 764.
- Chapman, K. F., & Lupton, R. A., "Academic Dishonesty in a Global Educational Market: A Comparison of Hong Kong and American University Business Students," *The International Journal of Educational Management*, Vol. 18, Iss. 7, (2004): 425-475.
- Chun-Hua, S. L., & Ling-Yu, M. W., "Academic Dishonesty in Higher Education—a Nationwide Study in Taiwan," *Higher Education*, Vol. 54, No. 1, (2007): 85-97.
- Cole, S., & McCabe, D. L., "Issues of Academic Integrity," *New Directions for Student Services*, Vol. 73, (1996): 66-67.
- Conner, M. G., "Understanding the Differences between Men and Women," Retrieved February 8, 2011, Web site: <http://www.oregoncounseling.org/ArticlesPapers/Documents/DifferencesMenWomen.htm>

- Crittenden, V. L., Hanna, R. C., & Peterson, R. A., "The Cheating Culture: A Global Societal Phenomenon," *Business Horizons*, Vol. 52, (2009): 337-346.
- Dawkins, Russell L., "Attributes and Statuses of College Students Associated with Classroom Cheating on a Small-Sized Campus," *College Student Journal*, Vol. 38, No. 1, (2004): 116-129.
- Diekhoff, G. M., LaBeff, E. E., Shinohara, K., & Yasukawa, H., "College Cheating in Japan and the United States," *Research in Higher Education*, Vol. 40, No. 3, (1999): 343-353.
- Genereux, R. L., & McLeod, B. A., "Circumstances Surrounding Cheating: A Questionnaire Study for College Students," *Research in Higher Education*, Vol. 36, No. 6, (1995): 687-704.
- Gitanjali, B., "Academic Dishonesty in Indian Medical Colleges," *Journal of Postgraduate Medicine*, Vol. 50, Iss. 4, (2004): 281-284.
- Grimes, P. W., "Dishonesty in Academics and Business: A Cross-Cultural Evaluation of Student Attitudes," *Journal of Business Ethics*, Vol. 49, No. 3, (2004): 273-290.
- Haines, V. J., & Diekhoff, G. M., "College Cheating: Immaturity, Lack of Commitment, and the Neutralizing Attitude," *Research in Higher Education*, Vol. 25, No. 4, (1986): 342-354.
- Harding, T. S., Carpenter, D. D., Finelli, C. J., & Passow, H. J., "Does Academic Dishonesty Relate to Unethical Behavior in Professional Practice? An Exploratory Study," *Science and Engineering Ethics*, Vol. 10, (2004): 311-324.
- Heyneman, S. P., Anderson, K. H., & Nuraliyeva, N., "The Cost of Corruption in Higher Education," *Comparative Education Review*, Vol. 52, No. 1, (2008): 1-25.
- Lambert, E. G., Hogan, N. L., & Barton, S. M., "Collegiate Academic Dishonesty Revisited: What Have They Done, How Often Have They Done It, Who Does It, and Why Did They Do It?," *Electronic Journal of Sociology*, Vol. 7, No. 4, (2003): online.
- Lawson, R. A., "Is Classroom Cheating Related to Business Students' Propensity to Cheat in the "Real World"?", *Journal of Business Ethics*, Vol. 49, No. 2, (2004): 189-199.
- Lupton, R. A., & Chapman, K. J., "Russian and American College Students' Attitudes, Perceptions and Tendencies Towards Cheating," *Educational Research*, Vol. 44, No. 1, (2002): 17-27.
- Lupton, R. A., Chapman, K. J., & Weiss, J. E., "A Cross-National Exploration of Business Students' Attitudes, Perceptions, and Tendencies toward Academic Dishonesty," *Journal of Education for Business*, (March/April 2000): 231-235.
- May, K. M., & Loyd, B. H., "Academic Dishonesty: The Honor System and Students' Attitudes," *Journal of College Student Development*, Vol. 34, No. 2, (1993): 125-129.
- McCabe, D. L., & Bowers, W. J., "Academic Dishonesty among College Males in College: A Thirty Year Perspective," *Journal of College Student Development*, Vol. 35, (1994): 5-10.
- McCabe, D. L., Feghali, T., & Abdallah, H., "Academic Dishonesty in the Middle East: Individual and Contextual Factors," *Research in Higher Education*, Vol. 49, No. 5, (2008): 451-467.
- McCabe, D. L., & Trevino, L. K., "Academic Dishonesty: Honor Codes and other Contextual Influences," *The Journal of Higher Education*, Vol. 64, No. 5, (1993): 522-538.
- McCabe, D. L., & Trevino, L. K., "What We Know about Cheating in College," *Change*, (January/February 1996): 29-33.

- McCabe, D. L., & Trevino, L. K., "Individual and Contextual Influences on Academic Dishonesty: A Multicampus Investigation," *Research in Higher Education*, Vol. 38, No. 3, (1997): 379-396.
- Meade, J., "Cheating: Is Academic Dishonesty Par for the Course?," *Prism*, Vol. 1, No. 7, (1992): 30-32.
- Miller, A., Shoptaugh, C., & Parkerson, A., "Under Reporting of Cheating in Research Using Volunteer College Students," *College Student Journal*, Vol. 42, Iss. 2, (2008): online.
- Monzani Da Rocha, M., Andrade Da Silva, G., Nascimento, L., De Oliveira Siqueira, J., & Otta, E., "Cheating on College Examinations," *Psychological Reports*, Vol. 100, Iss. 2, (2007): 379-386.
- Nonis, S., & Swift, C. O., "An Examination of the Relationship Between Academic Dishonesty and Workplace Dishonesty: A Multicampus Investigation," *Journal of Education for Business*, Vol. 77, Iss. 2, (2001): 69-77.
- Poltorak, Y., "Cheating Behavior among Students of Four Moscow Institutes," *Higher Education*, Vol. 30, No. 2, (1995): 225-46.
- Putrevu, S., "Exploring the Origins and Information Processing Differences Between Men and Women: Implications for Advertisers," *Academy of Marketing Science Review*, (2001): 1-14.
- Salter, S. B., Guffey, D. M., & McMillan, J. J., "Truth, Consequences and Culture: A Comparative Examination of Cheating and Attitudes about Cheating among U.S. and U. K. Students," *Journal of Business Ethics*, Vol. 31, No. 1, (2001): 37-50.
- Sims, R. L., "The Relationship between Academic Dishonesty and Unethical Business Practices," *Journal of Education for Business*, Vol. 68, Iss. 4, (1993): 207-211.
- Spiller, S., & Crown, D., "Changes Over Time in Academic Dishonesty at the Collegiate Level," *Psychological Reports*, Vol. 76, (1995): 763-768.
- Teixeira, A., & Rocha, M., "Cheating by Economics and Business Undergraduate Students: An Exploratory International Assessment," *Higher Education*, Vol. 59, No. 6, (2010): 663-701.
- Teodorescu, D., & Andrei, T., "Faculty and Peer Influences on Academic Integrity: College Cheating in Romania," *Higher Education*, Vol. 57, No. 3, (2009): 267-282.
- Trost, K., "Psst, Have You Ever Cheated? A Study of Academic Dishonesty in Sweden," *Assessment and Evaluation in Higher Education*, Vol. 34, Iss. 4, (2009): 367-376.
- Whitley, Jr., B. E., "Factors Associated with Cheating among College Students: A Review," *Research in Higher Education*, Vol. 39, No. 3, (1998): 235-274.

# ROLE OF NETWORKING FOR MULTINATIONAL CORPORATIONS

**Ekaterina Buzulukova, Higher School of Economics, Russia**

## ABSTRACT

*The present paper analyzes the advantages of networking for multinational corporations' (MNC) activity in modern life. Globalization has led to increase of world competition, and financial crisis intensifies the marketing wars and sharpen problems of future development opportunities. In this complicated situation, multinational corporations should look for new tracks in order to survive in the global market. One opportunity is to develop network relationships with suppliers and customers which could supply MNC with new possibilities, resources and improve performance. More precisely, network advantages and circumstances that influence on MNCs' network success will be discussed.*

## INTRODUCTION

The number of MNC has grown rapidly. According to estimations of UNCTAD (World investment report, 2010) the quantity of MNC comes to 82000 and number of foreign subsidiary is close to 810000. But in spite of this fact only 12% of corporations have remained their position in the ranking of Financial Times 'Fortune 500' since year 1955. This means that big companies despite the holding outstanding resources also suffered heavily from environmental changes and have to transform their organizational forms to overcome difficulties and strengthen their market position. In modern life such transformations are closely connected with network organizations. Many MNC are looking for reliable partners to develop long term relationships. This signifies that in some circumstances networking forms are more effective than even vertical or horizontal integration.

In addition to that transformation modern marketing concepts also focused on development of relationship-based approach, such as relationship marketing or customer relationship management (CRM), and, of course, "network" organizations. The discovery that value can be created by cooperation has led marketing managers to search for "win-win" positions as a way to enhance profitability through collaborative network integration. The industrial network approach (for details, see e.g. Johanson *et al.*, 1994) suggests that specific actors, e.g. firms, organizations, possess specific resources and perform specific activities which create exchange relationships among them. In that sense, the activities of one actor are always, more or less, dependent on the outcome of those of certain others. Hence, e.g. the competitiveness of a company lies in its long-term exchange relationships with others in a network, and the changes in different companies' role and position in a network. (Johanson and Mattsson, 1987).

The role of networking has become of significant importance in last decades. At the end of the 1980s, network organizations were already the part of business environment. Besides some of the networks may span several continents and combine corporations from different business fields. In short, they were seen as a powerful tool for strengthening company's positions in the global economy (Drucker, 1989; Halal, 1986; Johnston&Lawrence, 1988). Many authors concern of advantages of such interactions for Small and Medium sized enterprises (SME) but network form of cooperation could also improve competitive advantages for multinational corporations. Conducted researches shown that instead of being diversified and integrated, in some circumstances it is better for MNC to become more flexible, to develop network and specialize on core competences (Kanter, 1989). The success of companies like Dell, Nike, or Cisco, and other such companies with similar business models based on the integration of value "networks" (Anderson & Narus, 1998 and Peppers, D.

and Rogers, M., 2001). Also commonly known partnerships of General Electric and Toyota in car industry, America On-line and Time Warner in mass communication media, Canon and Kodak in copier industry, Thompson and JVC in videotape recording, Delta and Air France in air lines.

Since 90<sup>s</sup> the amount of interorganizational interactions has increased significantly. The interactions are carried out in two forms: financial including mergers and acquisitions and non-financial forms like strategic alliances, creating network organizations, supply chains ant others. If in 1990s amount of transnational mergers and acquisitions was about 99 billion dollars, in 2008 this quantity was close to 707 billion dollars. With the beginning of world financial crises the number of M&A dropped to 250 billion dollars (UNCTAD, World Investment Report 2010). However number of strategic alliances is increasing very fast. According to George W. Keeley estimations more than 20,000 new alliances were formed in U.S. between 1987 and 1992, compared with 5100 between 1980 and 1987 and 750 during the 1970s. Nearly 6 percent of the revenue generated from the top 1000 U.S. firms now comes from alliances, a fourfold increase since 1987. Japanese firms are far more experienced and comfortable, with alliances than U.S. firms. A recent survey revealed that 74 percent of Japanese CEOs think alliances are effective, while only 4 percent think they are dangerous; in the U.S. the respective numbers are 17 percent and 31 percent.

Consequently the growth of network relationship is observed now and many Multinational corporations are involved in such interactions. The long term development even for them is closely connected with transformation of their organizational structure and depends on how rapidly corporation could become flexible, effective and customer oriented. Nonetheless networking has its downside relating to partner’s opportunism, risk of knowhow lost and incremental partner’s dependence. In such situation the research of significance of networking for Multinational Corporation has become of vital importance.

## **LITERATURE REVIEW AND PRELIMINARY ANALYSES**

A development of interorganizational relationships is connected with several issues. First of all it is come out from changes in business environment (Kraats, 1998). The following factors could be distinguished: globalization, sharpen competition, increase of world trade, eliminating of trade limitations, development of information and communication technologies, and reduction of product life cycle, rise of R&D importance and also government interest in collaboration of local and multinational companies. Customization as well encourages big companies to collaborate with SME. However, the rapid growth of interorganizational cooperation is also concerned with advantages of network relationships in two options, firstly because of benefits in increasing companies’ value and secondly owing to the fact of cutting costs (Sheresheva, 2009). The first group of factors could be specified as rapid entrance to the new market, stimulation of innovation, acquiring of good reputation, knowhow access, stimulating effective usage of assets, quality improvement and flexibility. Next point of network benefits is reduction of costs. These advantages deal with decreasing in transaction and production costs, risks diversification, allocating of investment, R&D and marketing expenses due to partners’ participation. More precisely these data could be seen in the table below.

**Table 1: The courses of network relationship development**

Criteria	Factors
Environmental changes	Globalization Growing competition Development of world trade Information technologies High R&D costs Customization Internet trade Government support Growth of innovation necessity
Network attractiveness factors:	

<ul style="list-style-type: none"> <li>• Cost reduction</li> </ul>	<ul style="list-style-type: none"> <li>Decreasing in transaction costs</li> <li>Reduction of production costs owing to outsourcing and networking contracts</li> <li>Risks diversification</li> <li>Allocating of investment, R&amp;D and marketing expenses due to partners' participation</li> </ul>
<ul style="list-style-type: none"> <li>• Benefits of increasing companies' value</li> </ul>	<ul style="list-style-type: none"> <li>Knowhow enrichment</li> <li>Access to additional resources</li> <li>Growth of effective usage of assets</li> <li>Quality improvement</li> <li>Flexibility</li> <li>Rapid entrance to the new market</li> <li>Innovation stimulation</li> <li>Reputation increase</li> </ul>

Evidently various relationships objectives could be solved by means of diverse forms of networking. There are different forms of interorganizational deals: mergers and acquisitions, strategic alliances, internal, stable and dynamic network organizations, supply/ demand chain networks, hub networks and some others. Different approaches in network classification could be found (Achrol, 1997; Castells, 1996; de Man 2004; Moller, 2007; Miles, Snow, Coleman, 1992). The most common point of view is issued by Miles, Snow and Coleman who distinguished internal networks, stable networks and dynamic networks. An internal network is way to develop entrepreneurship in corporation without engagement in much outsourcing. This type signifies building internal market within multinationals and setting market prices of subdivision products but not internal transferring prices, which could help analyze efficiency of different affiliates work and stimulates internal competition. e.g. General Motors' components business provides a good example of an internal network where subdivisions could sell their products not only General Electric partners but also to Mitsubishi Motors, Daewoo, Opel corporation. The stable network uses stable partner relationships to increase their flexibility. Often such network organizations are formed near focal company, delivering some materials for it. For instance, in BMW any part of a car is a candidate for outsourcing, and somewhere between 55 and 75 percent of total production costs at BMW come from outsourced parts. The similar situation is in Chrysler and Toyota; there more than 70% of components are made from outsourced details. Dynamic networks often have a focal company that typically rely on core skills such as manufacturing (e.g. Motorola), R&D or design (e.g. Reebok), design & assembly (e.g. Dell Computer).

Moreover the last years' tendency is analyzing MNCs' development according to organizing internal and external networks (Ghoshal, Bartlett, Beamish, 2008; Miles, Snow, Coleman, 1992). What this means is Multinational corporation are trying not only develop external networks but also reorganize their organizational structure and building internal networks in the business areas there they could be appropriate. This can dramatically increase the effectiveness of different division collaboration.

Some authors broaden the meaning of network collaboration and include such forms as strategic alliances into it (Stuart, 1998). Strategic Alliance is an arrangement between two companies who have decided to share resources in a specific project. It is defined as a partnership between firms whereby resources, capabilities, and core competences are combined to pursue mutual interests (Hitt and others, 2001). In the new economy, strategic alliances enable businesses to gain competitive advantage through access to a partner's resources base, including markets, technologies, capital and people. In MNC strategic alliances are widely used. For example, Toshiba's approach is to develop strategic alliances with different partners for different technologies because they believe that a single company cannot dominate in any technology or business by itself. Strategic alliances also help to overcome competition and transform it into cooperation (Tsai, 2002). There are different kinds of strategic alliances: extending range of goods and services (e.g. Nokia & Yahoo alliance), risk diversification (e.g. Alcatel & Zucotto Wireless), innovation and R&D (e.g. GlaxoSmithKline), joint production and marketing (Hyundai&Kia in Russia).

Another widespread MNC's network form is focal supply chains. Focal companies concentrate all significant competences about product, brand, marketing strategy and core competences. They standardize production and quality requirements for all their partners and built relationships according to partner capabilities to comply these rules, e.g. Volkswagen and Siemens. Focal networks usually include several levels of suppliers

in compliance with two characteristics: suppliers' volume and originality of purchased materials. With core suppliers from the first level, which deliver great volume of components or some specific materials MNC builds long term relationships and helps them to launch innovation technologies, optimize business processes and finance quality control measures. While with second level suppliers transactional relationships are realized. Between them strong competition is existing and MNC forces them to lower end prices. For example Siemens have 120,000 suppliers worldwide with nearly 2500 purchasing staff and 1500 frontline buyers in 256 purchasing departments. Twenty thousand of these suppliers are designated first choice and their data is stored in Siemens' internal electronic information system. There are four level of suppliers could be distinguished according to value proposition and volume: High-value/volume products with high technical demand, such as power supplies, coolers for central processing units (CPUs), customized gate arrays, high-value/volume standard products, such as printed circuit boards, memory integrated circuits (ICs), precious metals, zinc-plated tin sheets, low-value/volume products with high technical demand, such as parts for which tooling is necessary, relays, transformers, low-value/volume standard products, such as metals, chemicals, plastics, resistors, capacitors. And only for the first group cooperation and partner relationships' are built.

In fact, not all forms of networking could be applicable to MNCs. For example virtual corporations hardly could become MNC because they connected medium and small sized companies on a temporary basis. Furthermore dynamic focal networks also will be unfavourable to MNCs, because they lead to increase in transaction costs. The analyses of MNC's relationships illustrates that they rarely involved in value creation networks because such forms refer to presence of several equivalent partners but MNC tries to play a leading role in all type of collaboration and achieves its own interests. Furthermore MNCs attempt to form value creation chain internally in order to avoid core competence lost.

In addition it should be added that relationships between MNC and small business enterprises are widely spread. Small businesses have such advantageous as flexibility, easiness of innovation implementing, fast decision making processes, closeness to customer, entrepreneurial organizational structure and broad customization opportunities. Therefore MNC surrounded with many small business enterprises that helps them to raise flexibility and mobility. Theirs relationships are built on the basis of customization standardized MNC's products, innovation technology application and individual services implementing.

Another important partner of MNC's relationships is local and domestic government. This type of relationships could help MNC to enter new markets, reduce risks, organize joint enterprises, cut down taxes and create investment attractive business environment. For the government benefits are: increase in employment rate, bringing new technologies, development of local supporting productions, and of cause growth of taxes earnings. For example Russian government support BP and Rosneft project of oilfield development.

Nevertheless network operations are not appropriate in any situation. For example, KPMG research shows that large number of strategic alliances failure. The share of unsuccessful strategic alliances according to specialists' estimation was about 60-70% (KPMG, 2001). Paris and Casher analysis shows that near 30% of MNCs' relationships are provided with positive effect, 25% with negative effect and 45% neutral one (Parise, Casher, 2003). The subject of network relationships efficiency also was discussed by Thompson (2003), Chan and Kensinger (1997) and Miles&Snow (1992). According to the made review the main reasons of networks failure are: demands the complete utilization of the supplier's or distributor's assets for the benefit of one core firm, high expectations of one of the partners, overspecialization and unhealthy dependence on core firm, corporate executives use "commands" instead of influence to intervene in local operations, extending asset ownership expertise may become too narrow and role in value chain is assumed by another firm, excessive mechanisms to prevent partners' opportunism or exclusive relationships, misguided modification of internal structure, corporate intervention in resource flows or in the determination of transaction prices, antagonisms among whole network goals and individual goals, slowing down the speed of management decisions due to excessive network widening, the decrease of flexibility owing to necessity of coordination between partners, increase in management dependence, difficulties in blurring of network bounds, rise in relation maintenance costs, risks in knowhow losses. Several groups of factors could be highlighted such as: imbalance in group members' interests, complication in management procedures, and invasion into partners' internal affairs, partners' opportunism and risks in core competence losses.

In conclusion some specific aspects of MNC's networking could be summarized in Table 2. Moreover it was showed that in various situations different types of network collaboration will be successful. Above mentioned internal and stable networks are more successful in mature and capital intensive industries, however internal networks are better in industries there number of suppliers is limited and there business units

should be interested in end results. Stable networks help to improve flexibility in material and high-tech intensive industries. Dynamic networks are more appropriate in developing high-tech industries and in short product life cycle branches.

**Table 2: MNC's networking peculiarities**

Relationships types of MNC involvement	<ul style="list-style-type: none"> <li>• Internal networks</li> <li>• Stable networks</li> <li>• Dynamic networks</li> <li>• Strategic alliances</li> <li>• Focal supply chains</li> <li>• Partner's relationships with small business enterprises</li> <li>• Supporting relationships with local and domestic government</li> </ul>
Advantageous of networking for MNCs	<ul style="list-style-type: none"> <li>• Cost reduction: decreasing in transaction costs, reduction of production costs owing to outsourcing and networking contracts, risks diversification, allocating of investment, R&amp;D and marketing expenses due to partners' participation</li> <li>• Benefits for company value: knowhow enrichment, access to additional resources, growth of effective usage of assets, quality improvement, flexibility, rapid entrance to the new market, innovation stimulation, reputation increase</li> </ul>
Networking limitation	<ul style="list-style-type: none"> <li>• Partners' opportunism</li> <li>• Risks in core competence and knowhow losses</li> <li>• Complication in management procedures</li> <li>• Overspecialization and unhealthy dependence on partner</li> <li>• Antagonisms among whole network goals and individual goals</li> <li>• Slowing down the speed of management decisions due to excessive network widening</li> <li>• Difficulties in blurring of network bounds</li> <li>• Rise in relation maintenance costs</li> </ul>

## SUMMARY

To summarize multinational corporations are playing the leading role in modern life, they own most of world assets but in spite of this, corporations are faced with rapid environmental changes and have to be flexible and proactive. Partner's relationships and networking could help MNC solve different range of problems like access to additional resources, effective usage of assets, quality improvement, flexibility, rapid entrance to the new markets, innovation stimulation, knowhow enrichment and costs reduction. The selection of appropriate network model depends on several factors concerning type of industry, MNC's tasks, organizational structure and interaction characteristics between Mother Corporation and its subdivisions. There are many examples of successful long-term relationships between multinationals and small business enterprises, where partners promote each other. Although network collaboration could solve some problems and makes positive impact on company's performance in some situation it brings to unexpected negative results. In short networking and MNC is a complex issue with no simple answers.

## REFERECES

Anderson, J. C., Hakansson, H., & Johanson, J. "Dyadic Business Relationships Within a Business Network Context," *Journal of Marketing*, Vol. 58 (October 1994): 1-15

Anderson, J.C. and Narus, J.A., *Business market management. Understanding, creating, and delivering value*, Prentice-Hall, Upper Saddle River, NJ. 1998

Bartlett C.A., Ghoshal S., Beamish P.W. *Transnational Management: Text, Cases, and Readings in Cross-Border Management*. 5th ed., Irwin / McGraw-Hill, Boston (Mass), 2008.

Drucker P., *The New Realities*. Harper & Row, 1989

Halal, W.E., *The New Capitalism*, Wiley, 1986

Hitt, M.A., Hoskisson, R.E., Ireland, D. *Strategic Management Competitiveness and Globalization Concepts and Cases*, 4th Edition, Thomson South-Western, 2001.

Johnston, R. and Lawrence, P., "Beyond Vertical Integration— the Rise of the Value-Adding Partnership". *Harvard Business Review*, 1988

Kanter, R., *When Giants Learn to Dance*. Simon and Schuster, 1989

Kraatz, M.S. "Learning by association? Interorganizational networks and adaptation to environmental change", *Academy of Management Journal*, №41(6), (1998): 621-643

Miles, R.E. and Snow, C.C. "Causes of failure in network organizations", *California Management Review*, Vol. 34 No. 4, (Summer 1992): 53-72.

Miles, R.E., Snow, C.C., "Network Organizations: New Concepts for New Forms," *California Management Review*, 1986

Parise S., Casher A. *Designing and Managing Your Network of Business-Partner Relationships*. The Academy of Management Executive, vol. 17. №4 (November 2003).

Peppers, D. and Rogers, M., *One to one B2B. Customer development strategies for the business-to-business-world*, Doubleday, New York, 2001.

Rauch, James E., "Networks Versus Markets in International Trade," *Journal of International Economics*, 48:1 (1999): 7–35.

Sheresheva, M.Y. *Network interaction forms*. Moscow, HSE, 2009

Snow C.C., Miles R.E., Coleman H.J., Jr. "Managing 21st century network organizations," *Organizational Dynamics*, Vol.20. N3 (1992): 5-20

Snow, C.C., Miles, R.E., Coleman, Jr. H.J., "Managing 21st century network organizations", *Organizational Dynamics*, 20 (3), (1992): 5-20

Stuart, T.E. "Network positions and propensities to collaborate: An investigation of strategic alliance formation in a high-technology industry," *Administrative Science Quarterly*, 43 (3) (1998): 668-698

Thorelli, H.B., "Networks: Between Markets and Hierarchies," *Strategic Management Journal*, №7, (1986): 37-51.

Tsai, W. "Social Structure of Coopetition within a Multiunit Organization: Coordination, competition and intraorganizational knowledge sharing", *Organization Science*, 13, (2002): 179–190

UNCTAD, *World Investment Report 2010*. [www.unctad.org](http://www.unctad.org)

# ACHIEVING PATIENT SATISFACTION IN A HIGH STRESS HEALTH ENVIRONMENT

**Guy Callender, Catherine Meunier and Itziar Rebollar-Lazaro  
Curtin University and Hollywood Fertility Centre, Australia.**

## ABSTRACT

*The development of in vitro fertilisation (IVF) has created a new branch of medical science that has the potential to bring great happiness to those who achieve successful pregnancies and long periods of misery to those who are unsuccessful. As a part of some wider research into the support needs of clients, this paper addresses some of the challenges of managing patient satisfaction in an area of health sciences that is associated with high levels of patient uncertainty and also high aspiration for positive outcomes. The authors have used the literature of the business sector, especially retailing and marketing, to explore the key parameters of patient satisfaction and the outcomes have relevance for both medical practice and customer service.*

## INTRODUCTION

Assisted Reproduction Therapy (ART) embraces a number of therapies, the best known being in vitro fertilisation (IVF), a treatment which offers a potential solution for women and men who are unable to achieve reproduction without some form of intervention by medical science. IVF was first successfully demonstrated by Steptoe and Edwards in 1978. The treatment, for which research had started many years earlier, was highly controversial (Inge, Brinsden and Elder, 2005) and did not achieve formal recognition until 2010 when Edwards was awarded the Nobel Prize for Medicine (Nobel Foundation, 2011).

The incidence of reproductive difficulties may have been exacerbated by success in another area of medical science: the creation of an effective oral contraceptive. This advance in science created choice about the timing of reproduction. While the medical and social consequences of the oral contraceptive are beyond the scope of this paper, it may not be a coincidence that deferral of pregnancy, permitted by reliable contraception, led to deferral of pregnancies by women, perhaps for too long. As women reach the age of 40, their fertility has reduced significantly (from an 86 per cent likelihood of pregnancy to 36 per cent) and the possibility of infertility has risen from 3 per cent to 32 per cent (Carcio, 1999). The same source suggests that in the ten years between 30 and 40 years, the likelihood of infertility increases approximately four-fold. The reproductive issues for men are not so age-critical. Nevertheless, for males over the age of 45 years, the quality and productive adequacy of semen also declines, so that older age couples (35 years and 45 years for women and men respectively) are more likely to be seeking ART.

The economic imperatives that encourage the deferral of pregnancy beyond the age of 30 years, are quite well established. Paradoxically, it is the post-30 years sector of the population who will be most likely to be seeking treatment. At this stage, the natural decline in fertility is well established, but medical science offers a tempting, but not a guaranteed, 100 per cent successful solution. Indeed the causes of infertility may exist long before age-related conditions exacerbate the possibility of low fertility.

By engaging in ART, a couple seeking IVF treatment are likely to expect success in their endeavours. ART clinics offer a range of services to ensure the possibility of success is maximised. Many of these clinics have arisen in the private sector, because of patient dissatisfaction with delays and uncertainties in the public sector (Rod and Ashill, 2010), but as a consequence, the cost of ART now represents a significant investment by potential participants. A standard treatment may take between 3 months and many years (Meunier and Callender,

2010) and during this time the patients ostensibly remain hopeful as the medical and scientific support services do their best to achieve a successful pregnancy. But this success is sometimes elusive and the body clock continues to tick. There are physical, emotional, psychological barriers that may not be surmountable and yet the parties are locked together by hope and advanced scientific technology that is designed to enhance the possibilities of success.

In this difficult environment, the exchange relationship between the parties looks like a standard services contract. The patients (male and female) are assessed, an estimate of potential success is made and the procedures begin. The service provided by the IVF clinic will not change: the ethical, clinical, medical, administrative procedures will be consistent, but as time goes on the unsuccessful clients can be expected to seek a point of blame. For the service provider, this is a complex relationship: on the one hand the client is not satisfied, but on the other success could never be guaranteed.

In this paper the authors have sought to apply some business-related literature to a worst-case customer service situation. A literature review of the relevant service management literature will lead into parts two and three which are case studies outlining the role and service requirements of clinical scientists and clinicians in an ART facility. The discussion of the issues arising from the cases will be linked to the outcomes of the literature review and the implications for the client requirement exposed by the case studies, leading to the final discussion and some views on the direction of future research in this area.

## LITERATURE REVIEW

The traditional organisation-centric view was discussed by Levitt (1960) in a study which argued that focusing on the firm and ignoring the needs of customers led to sub-optimal outcomes for both the organisation and its customers. This theme was taken up by Drucker (1974), as noted by Heinonen et al. (2010) and later by Parasuraman, Zeithaml and Berry (1985), who expressed the view that organisational performance could be predicated on its ability to conceptualise and operate a particular business according to the needs of its customers.

In terms of medical research, Henderson, Caplan and Daniel (2003, p. 73) observed that while "patient satisfaction research has been conducted for decades, several issues exist ... an absence of theoretical discussion about the phenomenon of 'patient satisfaction', no standardised approach, few comparative studies, and a lack of consensus my medical staff that satisfaction is an assessment of the quality of care". Of course, there has been some research into these areas in subsequent research, but studies addressing this entire scope are not found in the literature. Indeed, in this paper, the authors have restricted themselves to addressing the "phenomenon of 'patient satisfaction'", the provision of two cases and contributing some arguments that support the view that patient satisfaction is closely linked to the patients assessment of the quality of care.

The search for performance measures that attempt to better describe the nature of service quality in the 1980s led to the identification of five dimensions of SERVQUAL identified by Parasuraman, Zeithaml, and Berry (1985), who initially labelled them as: Tangibles, Reliability, Responsiveness, Assurance and Empathy. These attributes of service quality provide some guidance for the description and measurement of service contract terms and conditions can be developed.

The description of tangibles, reliability and responsiveness are comparatively straightforward. "Tangibles" describe physical goods, for example, documents and web-based information available to patients. "Reliability" relates to delivery where the clinic "promises to do something by a certain time, it does so ... performs the service right first time ... provides services at the time it promises to do so ... insists on error free records" (Parasuraman et al, 1991, pp. 446-447). "Responsiveness" refers to the willingness of clinic staff to help patients promptly. For instance, the staff will "tell you exactly when services will be performed ... prompt service ... [are] always willing to help ... never be too busy to respond to customer requests" (Parasuraman et al, 1991, p. 447).

The less tangible element, "assurance", could be defined as "instils confidence ... [you] feel safe in their transactions ... consistently courteous ... [and] have the knowledge to answer customer questions" (Parasuraman

et al, 1991, p. 447). The final attribute, "empathy", could be defined in terms of the supplier providing the buyer with "individual attention ... have operating hours convenient to all their customers ... employees who give customers personal attention ... have customers' best interests at heart ... [and] understand the specific needs of their customers" (Parasuraman et al, 1991, p. 447). These five elements provide a starting point for the understanding, analysis and propagation of service quality awareness and development of techniques to better address the service issues identified by Levitt (1960) and Drucker (1974).

However, these are not the only approaches. Carman (2000) reported on the 1995 research by Gronroos (in Carman, 2000, p. 337) that split service quality attributes into functional (provider attentiveness and ambiance) and technical ("the quality of what is delivered"). This view sits quite well with the growing trend to describe many tangible activities in terms of their outcomes rather than attributes, but such an approach makes the role of an ART clinic more difficult to analyse because of the complex links between the clinic and the principal physicians involved in the practice. This element is examined more closely in the later discussion, where it is suggested that the existence of both an independent physician, who also works within an ART clinic, adds a social and operating complexity to service performance and its perception by the patient.

The customer service focus has grown in popularity since then, but not so much in the medical discipline and has not been accompanied by a large amount of detailed research into customer service needs or managerial responses to these needs (Rod & Ashill, 2010). Fortunately for IVF clinics, there have been calls for a better understanding of customer satisfaction in the wake of service failure (Hart, Heskett & Sasser, 1990; Schneider & Bowen, 1999; Liao, 2007), which is one of the key ways in which we might be able to understand the dilemmas facing service delivery in a IVF clinic. The pervasive growth of services also reflects major changes in the structure and sophistication of societies, both in terms of the types of services being offered and the demand for these services by more informed consumers. As a consequence, consumers have come to have much higher levels of service-level agreements, both explicitly (in the case of common consumer services such as hairstyling, plastic surgery, dental treatment) and implicitly (in the case of the provision of government services such as health care and infrastructure).

The reward for organisations which seek to better understand the needs of customers and the range of their responses to the failure of service delivery (an inherent feature of ART that will be discussed later in this paper) can be found in the "service delivery paradox" (Hart, Heskett and Sasser, 1990) which demonstrates that "customer satisfaction and patronage intentions increase above prefailure (sic) levels when customers are very satisfied with the recovery efforts" (Liao, 2007, p. 475). Recognising the existence of service recovery performance (SRP) (Liao, 2007) may be critical to articulating the needs of patients undergoing ART. It is likely that patients undertaking ART carry an inherent sense of injustice that they are unable to reproduce the same way "as other people". This abiding sense of injustice also affects patients interactions with the frontline staff (physicians, administration, laboratory staff and nurses) in a service environment filled with hidden dissatisfaction which makes service delivery more difficult to achieve.

In framing the research, Liao (2007, pp. 476-477) took that view that "several types of justice are relevant for customers ... and ... customer evaluations of justice are likely to be highly correlated with each other ... conceptualizing customer perceived justice as a latent, higher order factor driving the four first-order dimensions of procedural, distributive, informational and interpersonal justice". Using this framework, the results of the research showed that justice was a core element of customer perceptions and that a number of service delivery issues were highly relevant to recovery from service delivery failure: "prompt handling of customer complaint, effective problem solving, making an apology, and being courteous play a pivotal role in shaping customers' justice perceptions (Liao, 2007, p. 487).

In addition to the issue of justice, is the element of "past experience". As Senti and LeMire (2011, p. 179) "satisfaction is affected by the degree of agreement between the patient's preconceived expectation ... and perceptions of actual care". While this research was undertaken in the context of hospital admission, the clinic subject of this research is embedded in a large hospital precinct suggesting that patients may not distinguish between admission and attendance.

The strength of the emotional response has also been discussed by Amyx, Mowen and Hamm (2000, p. 560) who, in a literature review noted that Attribution Theory provides some explanation of the high level of dissatisfaction expressed by consumers in the service environment because "where negative outcomes occur ...

individuals tend to be more motivated to seek causality ... [compared to situations where] failure is attributable to chance or the actions of the consumer". Indeed, it may be more appropriate to view the ART relationship as actually beginning in service recovery mode; requiring much higher levels of service delivery and actions to instinctively respond to patients' latent dissatisfaction.

The clinic used as the case study in this paper, applies an ART model that harnesses collaboration between four distinct disciplines: physicians, administration, laboratory services and nursing services. The literature demonstrates there are a range of patient care issues likely to manifest themselves during ART. These problems and challenges will vary in intensity over the life of the treatment, but may be more prevalent amongst those whose chances of success are compromised by age, state of health and the overall duration of treatment (which can range from months to years). The multiple roles of the Laboratory and the Nursing teams, both owned and operated by the Clinic and integral to its operations appears below followed by a discussion of the service management issues affecting patients at the clinic and the four inter-disciplinary units.

## **CASE STUDY ON ART LABORATORY SERVICES**

The ART Laboratory team is composed of two different departments; Andrology and Embryology. Both are under the general supervision of a Laboratory Manager who has an s-level Master degree in Science. All laboratory staff have a minimum qualification of a Bachelors degree in Science. All Embryologists are members of the relevant Fertility Society of Australia group, SIRT (Scientists in Reproductive Technology).

### **Communication with the male patient**

The Andrology Laboratory gives both diagnostic and clinical services to ART patients. Following their initial consultation, the Andrologists are the second and main point of contact for the male partner with the clinic, as every couple will need to have the male's fertility assessed through a Semen Analysis. The results of each Semen Analysis are reviewed by a physician and are accounted for by the specialist at the moment of deciding on a treatment regime for the couple. The Andrologists and Senior Scientists are available for the patients to clarify questions and concerns regarding the results and the laboratory procedures used. A qualified Andrologist should be able to liaise compassionately yet honestly and specifically with the patient, especially when an adverse result is reported.

### **Communication with the female patient**

The staff of the Embryology Laboratory have a short yet constant contact with the patient – usually the female partner, mainly from the moment when the oocytes (a human egg before maturation) are ready to be retrieved by trans-vaginal oocyte aspiration (TVOA) until the last day of embryo culture: a total of 7 days.

#### **a. Pre TVOA Consultation**

Patients are called the day before egg retrieval to make sure they and the laboratory is prepared for their forthcoming IVF treatment. During this phone call the embryologist will confirm all important aspects with the patient and can answer questions or concerns that the patient may have at this stage. All consents have to be reviewed and confirmed verbally with the patient to ensure the IVF Clinic complies with patient wishes and needs. With this activity, the laboratory staff assist all other departments by acting as a final confirmation and filtering point to ensure that the patient has received all relevant information and that their treatment corresponds with what the doctor and the nurses have requested. This opportunity is also used to confirm the patient's current address to ensure that we have the most current contact details for all patients.

#### **b. TVOA**

Even if the role of the embryologist during TVOA is mainly technical, the patient often has concerns or questions to be answered before being sedated. It is important for the scientist to be able to liaise empathically with the patient during this very emotional moment and communicate effectively with her. Scarcely a patient

will request to see an embryologist after the procedure. However, in some instances when there is a large discrepancy between the expected and real outcome of the procedure (that is, the number of oocytes retrieved) the scientist will explain the situation to the couple.

In some occasions the sperm on the day of insemination will be unexpectedly of worse quality than during the initial assessment. In these circumstances it is important to communicate this to the couple and inform them that the treatment might need to be changed; that is adapted to respond to the new situation. This can often cause distress in the couple, add to pressure on the male partner who might have to come back to the clinic for further semen collection, surgical intervention or just for clarification. Having a suboptimal semen sample on the day of TVOA is one of the most stressful situations that the male patient can face during treatment in an IVF clinic.

#### **c. From “FERT CHECK” to Embryo Development Phone Calls**

The day after TVOA, often called “day 1”, the oocytes are assessed to confirm if they were successfully fertilized. The patients are then informed by a phone call about this first outcome. Patients will be contacted every time the embryos are assessed to ensure that the couple is well aware of the progress and development of their embryos. This will allow the couple to be well prepared for the embryo transfer, which is the moment when the embryos are put back into the uterus of the patient.

The “fert check” call is mostly a moment of delivering good news, given that the expectation is to obtain at least 70 per cent fertilized eggs. However, 5 per cent of the cases fail to fertilise. It is also possible to have a lower fertilization rate than expected and the patients have to be informed of these adverse outcomes or bad news. Similarly, embryos may fail to satisfactorily divide or reach specific morphological milestones, in which case the chances of pregnancy are minimal, or even nil. In this latter situation the embryos would not be transferred to the patient and the couple would have their cycle cancelled.

At this time it is important to communicate effectively with all other departments in the clinic including nursing, counselling and administration, as the patient will be distressed, disappointed and may require psychological support, adaptation of the treatment to the circumstances and extra clinical care. In many cases it will be time for the doctor to review or modify the treatment of the patient. The whole impression of the quality of the service from the clinic will greatly depend on the way all departments liaise together with the couple. It is important to ensure thorough and accurate communication of the possible causes of this outcome and the possibilities for future treatment.

The role of the scientist, besides being informative, includes being compassionate, not being patronizing and offering future alternatives to patients. The technical jargon has to be translated for the patient to clearly understand the situation and know the steps that will follow. One of the most common occurrences of poor patient satisfaction regarding the laboratory performance is not only related to technically bad outcomes, but also the communication, clarity and compassion showed during delivering both good and poor results, as will be discussed.

#### **d. Embryo Transfer**

Around 95 per cent of patients having a TVOA will successfully have an embryo suitable for embryo transfer. The couple or the female partner alone will attend to the clinic for this procedure. The embryologist will see the patient prior to the embryo transfer to discuss in more detail the embryo development, freezing of any embryos and what the following embryo transfer procedure involves. This interview summarizes all the information given to the patient during the previous days, so it is necessary for all scientists to be able to deliver consistent information to the couple. Patients can also ask any other question they have at this time.

#### **e. “Day 6” call – final phone-call**

This is the last point of contact between the couple and the scientists. The patients are informed of the number of embryos that were suitable to be frozen as this is the last day of embryo culture. All embryos not suitable for freezing are to be discarded. It is important for the scientist to be aware of previous communications

with the patient; in order to deliver consistent information and any relevant explanations, if for any reason the outcome is worse than expected.

## CASE STUDY ON NURSING

The nursing team is led by a Nurse Manager whose staff comprise a Deputy Nurse Manager, a number of Senior Clinical Nurse Coordinators and Nurse Coordinators and some Nurses' Assistants. Overall there are at least seven nursing staff, mostly occupying full-time positions. The nursing staff must possess formal nursing and midwifery qualifications and experience to be employed in the Clinic. Typical qualifications include a Bachelors degree in Health Sciences (Nursing) or its equivalent and postgraduate qualifications in Midwifery or Assisted Reproduction. Some staff hold qualifications at Masters level. Mandatory annual professional development ensures that all nurse clinicians maintain the currency of their qualifications (a condition of continuing employment).

The nursing team provides multifunctional support across this ART practice. The main areas include the provision of support for the physicians involved in the practice. The nursing team, along with the physician are the main interface between patients and the clinic. At the commencement of ART, patients will be interviewed by a nurse who will translate the physician's agreement with the patients into an active treatment cycle. This interview also links to the administrative side of the relationship, including issues such as patient consent which also followed up by the laboratory scientists. The nurse interview ensures patients are clear about all aspects of their treatment cycle and understand their rights.

During a treatment cycle, a patient may present at the clinic with a particular problem. The nurse on duty will triage the patient and direct them to the appropriate care regimen. This process may also include a level of patient counselling, which while not formal, provides patients with emotional support at the clinic level (which is both by an appointment or by necessity system, including a 24/7 direct contact with the assigned physician or nurse manager).

In providing support to physicians the nursing role extends to overall facilitation of patient care, in particular the management of patients' treatment cycles, arranging operational procedures and ensuring patients have necessary access to support services such as a dietician, counsellor, psychiatrist, endocrinologist and acupuncturist. There are detailed procedures that take place during a treatment cycle that may not involve all patients. For example, nurses will take blood samples and, once analysed by the laboratory, will communicate the results to the patients. Nurses will be involved in technical tasks such as phlebotomy, pap smears, suture removal, IUIs, ETs and will also assist physicians during invitro insertion, *abdo paracentesis* (removal of fluid from the abdominal cavity) and similar treatments.

In addition, it is the nurses who will talk new patients through their entire treatment, a process that takes between 30 and 60 minutes. This type of interaction will continue regularly throughout the cycle, resulting in the nurses offering an informal counselling and support service on behalf of the Clinic. The medical details need to be maintained in a highly organised and completely reliable basis. The nurses will also complete all the paper work for the commencement of the treatment cycle, including the completion of a comprehensive set of consent forms and responding to detailed questions about drug dosages, blood tests and cycle dates. The nurses therefore handle the day-to-day management of patient care. This starts with blood tests, consent form completion, patient-nurse interviews, completion of procedures (in conjunction with physicians and the laboratory), interviews of patients that have recently completed a trans vaginal oocyte aspiration (TVOA), handling on-going patient questions, organising theatre cases and giving patients comprehensive advice on the next stages of their treatment.

In summary, in this fertility clinic, the nurses provide a direct link between the clinic and the patient. While the patient may see their physician from time to time, they are likely to visit the clinic more regularly to monitor progress, especially when approaching TVOA and post-TVOA. It is worth mentioning that this close relationship between nurses and patients creates a working relationship which, while supportive of the role of the physician, also creates an additional patient-clinic relationship which is subject to the vicissitudes of treatment.

## DISCUSSION OF THE SERVICE QUALITY ISSUES

If ART progresses smoothly and a successful outcome occurs within a few months, then the potential for a positive relationship is enhanced. The laboratory and nursing roles do not operate in isolation. As is apparent from the separate discussion of the two cases, the existence of different specialisations where practitioners interact with patients in a mutually supportive but different role extends to a range of internal customers, some of whom are integral to the clinic and others who are commercial providers.

The primary internal clients include the clinic's physicians (who also operate private practices in gynaecology and obstetrics), the laboratory team, the nursing team, the ultrasound technicians, employed counsellors and the administrative team. Beyond these internal customers are a range of related providers such as blood analysis laboratories, operating theatres, drug companies, anaesthetists, theatre nurses, accreditation agents, professional bodies, ethicists and researchers. In addition, enrolled nurses and trainee doctors spend time with the clinic as part of their education program. How are the needs of these diverse service relationships managed?

The academic literature of the past two decades demonstrates the significant awareness of the complex demands placed on the health sector. In Australia, patients with private health insurance have a vast range of complex choices to make in relation to their chosen physician. The choice of physician will also determine choice of clinic, so that the patient choice has business ramifications for the clinic, making the issue of service quality of prime importance. However, the lack of choice of clinic may create inherent dissatisfaction with patients if they are unable to duplicate the type of relationship they have with their physician with the staff of the clinic too (Amyx, Mowen & Hamm, 2000). An outstanding physician will attract patients to the ART clinic, and the performance of the physician and her or his relationship with the patient will also be influenced by the patient's experiences with the remainder of the clinic. Furthermore, there are status issues to be considered.

The physician occupies a high status role, supported by education, continuing professional development and high levels of skill. The social status of the clinic is an adjunct to the physician, but it has a separate corporate identity that differentiates itself increasingly from the physician. This may be a mistake: from a service perspective it may be better to maintain a very close, almost invisible relationship between the lead physicians and the clinic. Once the clinic becomes separate from the physician, its social status in the mind of the patient becomes different and the attribution of success or absence of success may slip from physician to clinic and a new outlet for patient dissatisfaction (warranted or unwarranted) becomes created. The patients' unhappiness about their progress, especially those who have been engaged in the process for more than six months, an arbitrary estimate, creates a source to which unsuccessful patients can attribute perceived services failure.

In summary, the opportunity to participate in ART is voluntary, it involves significant personal expense, the patient has a choice of physician but that choice also pre-selects the ART clinic (a decision over which the patient has no influence). Once treatment begins, the interactions between the physician and patient occur within the physician's surgery and within the clinic. There is not one party interacting with the patient, but multiple individuals and groups. These groups have different roles and responsibilities, but for the patient there remains a single, immutable goal: a successful pregnancy. This situation creates some unique issues for all service providers.

First, while success rates have improved dramatically since the first successful use of ART in 1978, the outcomes of ART still remain uncertain – especially for older patients. It is evident that a multitude of factors will influence the outcomes of treatment that are beyond the control and skills of all the clinical parties to the treatment. In some cases, while particular IVF candidates may be advised that successful treatment is unlikely, that is not a barrier to attempting ART. Second, the laws in different jurisdictions (even within the same country) permit various options for potential patients in relation to surrogacy, donor sperm, donor eggs and other more complex arrangements. This has the effect of widening the options for those who can afford to travel in pursuit of more radical options, and limits choices for those who live in more conservative locations and are unable to seek alternative possibilities. The variation in legal rules in relation to assisted reproduction mean that the legal system determines the possibilities available under existing laws, and these may increase or reduce the range of possible treatments available to IVF candidates. In some cases, better outcomes may be achieved by

going to another country. These variations have existed ever since IVF became a practical possibility. Such are the ethical dimensions of IVF. So, while freedom of choice of physician may be a significant issue (Amyx; Mowen & Hamm, 2000), the medical options, as prescribed by law, remain a significant restriction on the scope of treatment available. These limitations, which are beyond the control of any of the parties to the ART, may have a negative effect upon patient's perceptions of their treatment and its potential for success.

Third, the service provision in the ART environment can be described as both medical and psychosocial (Schmidt, Holstein, Boivin, Tjornhoj-Thomsen, Blaabjerg, Hald, Rasmussend and Andersen, 2003). This is a significant feature, as will be discussed in the next paragraph. It is evident from the two cases studies that, in addition to the physician, the clinical and laboratory staff of the clinic (and to a certain extent the administrative staff) all provide ion-going psychosocial support for patients – ongoing activities, especially listening to patients. Fourth, the social juxtaposition of physician and clinic staff means that a patient may not be willing to complain to their physician about their perceptions of the service delivery they have received from either the doctor or the clinic. However, they may feel they have a master-servant (sic) relationship with clinical staff in either the laboratory, the nursing group or administration, which permits complaints to be aired. So even if the problem lies with the human condition and the impact of age, health disposition, innate fertility, the patient may feel they can attribute the failure of their IVF treatment to one or more of the service delivery groups.

Fifth, as the clinic is housed within a hospital, it is likely that patient's perceptions may be influenced by their past experience of hospital admission, creating the possibility of both positive and negative impressions of their treatment. One of the challenges here is to shape patients' expectations (Schneider and Bowen, 1999) in ways that aim to overcome the power of past experience. In this regard, a focus on exceeding the basic SERVQUAL requirements may be a worthwhile approach to bringing patients' perceptions to align more closely with the objectives of both the laboratory and nursing staff. Finally, in an ART clinic, as compared to the relationship with a single medical practitioner, there are many "targets" available for the expression of satisfaction or dissatisfaction. The laboratory provides services that aim to deliver to the patient a perfect, fertilized embryo to commence gestation within its mother. This embryo is, like every naturally formed embryo, microscopic in size. Its successful gestation depends upon many factors – not the least being the genetic quality of the sperm and egg. These have been brought together in the laboratory, in accord with existing scientific best-practice and international standards of laboratory and clinical performance, in circumstances that satisfy all the legal and ethical standards of the jurisdiction in which the ART is taking place. But there remains the element of chance, and research evidence shows that patient vulnerability rises with the number of unsuccessful treatments (Schmidt et al, 2003) and with this, patient stress.

## CONCLUSIONS

The basic challenges inherent in ART, in particular, the likelihood of success and the potential for long periods of treatment provide a fundamentally negative outlook for some patients. This discussion paper is a precursor to a research activity aimed at understanding more about the nature of patient perceptions and their impact on their views of service delivery. Despite the fact that successful ART leads to the emergence of a healthy baby, the path to such success is littered with problematic situations. For laboratory and nursing staff – the focus of this paper – the potential for patient dissatisfaction is high. Older patients or those with known reproductive problems will commence treatment with both high expectations and uncertainty. Others may share the same expectations but this is not known at this stage. Patients will arrive at the clinic because of the choice their physician has made, rather than an independent choice they have made. This may create an unspecified negative at the start of the relationship. As the treatment progresses, the psychosocial interaction between patients and the laboratory and nursing staff will unfold. As the cases make apparent, some of these interactions are face-to-face but many are by telephone. Because there are multiple staff members, patients may be dealing with a different laboratory scientist or nurse every time they visit the clinic. The relationship between the clinic staff and the patient is not of the social nature of doctor-to-patient, rather it is almost a commercial transaction with psychosocial overtones which may not be well understood by the parties – especially the patient.

While the literature provides some guidance on the focus points of the service interaction in these circumstances – especially the fact that patients may well arrive at ART with an underlying sense of injustice which will be heightened by any breakdown in the service relationship. As the literature shows, the fact that ART

is largely an intangible service with, in successful cases – a tangible outcome, during treatment, the issue is all about service and the patients' perception of that service. As Liao (2007) has emphasised, for the laboratory and nursing staff, who carry a highly technical as well as a psychosocial role, the service requirements appear to be certain: a need to handle patient complaints promptly, to focus on problem solving, of apologising and maintaining courtesy are key elements for handling complaints. It should also be recognised that in the case of ART, all staff are likely to be dealing with many patients who arrive at the service point, the clinic, with an abiding sense of injustice (why can't we have a child easily? Like "everybody else?"). This situation really means that laboratory, nursing and administrative staff are in service recovery mode from the start of their relationship with many patients.

## REFERENCES

- Amyx, D., Mowen, J. C., & Hamm, R. Patient satisfaction: a matter of choice. *The Journal of Services Marketing*, Vol.14, No. 7, (2000): 557-572.
- Carcio, H. *Management of the Infertile Woman*. Lippincott: Philadelphia, MA, 1999.
- Carman, J. M. Theoretical papers: Patient perceptions of service quality: Combining the dimensions. *Journal of Management in Medicine*, Vol. 14, no. 5/6, (2000): 339-356.
- Drucker, P.F. *Management: Tasks, Responsibilities, Practices*, Heinemann: London, 1974.
- Fottler M, D., Dickson,D., Ford, R., Bradley, K. & Johnson, L. Comparing hospital staff and patient perceptions of customer service: a pilot study utilizing survey and focus group data. *Health Services Management Research*, Vol. 19, No. 1, (2006): 52-66.
- Hart, C., Heskett, J. & Sasser, W. *The Service Management Course*. Free Press: New York, NY, 1990.
- Heinonen, K., Strandvik, T., Mickelsson, K-J., Edvardsson, B., Sundstrom, E. & Andersson, P. A customer-dominant logic of service. *Journal of Service Management*, Vol. 21, No. 4, (2010); 531-548.
- Henderson, A. Caplan, G & Daniel, A. Patient satisfaction: the Australian patient perspective. *Australian Health Review*, Vol. 27, No. 1, (2004): 73-83.
- Liao, H. Do It Right This Time: The Role of Employee Service Recovery Performance in Customer-Perceived Justice & Customer Loyalty After Service Failures. *Journal of Applied Psychology*. Vol. 92, No. 2,(2007):475-89.
- Levitt, T. "Marketing myopia", *Harvard Business Review*, Vol. 38, No. 4, (1960): 45-56.
- Meunier, C & Callender, G. Developing a demographic picture of patients attending an assisted reproductive technologies practice: the results of a lifestyle survey, *Human Reproduction*, Vol. 25, Supp.1,(2010):i21.
- Nobel Foundation. The 2010 Nobel Prize in Physiology or Medicine - Press Release. Nobelprize.org. 1 May 2011 [http://nobelprize.org/nobel\\_prizes/medicine/laureates/2010/press.html](http://nobelprize.org/nobel_prizes/medicine/laureates/2010/press.html)
- Parasuraman, A, Berry, L. & Zeithaml, V. Refinement and Reassessment of the SERVQUAL Scale. *Journal of Retailing*. Vol. 67, No. 4 (1991): 420-450.
- Parasuraman, A., Zeithaml,V. & Berry, L. A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*. Vol. 49, Fall, (1985): 41-50.
- Rod , M. & Ashill, N. J., Management commitment to service quality and service recovery performance: A study of frontline employees in public and private hospitals. [\*International Journal of Pharmaceutical and Healthcare Marketing\*](#), Vol. 4, [\*Iss. 1\*](#), (2010): 84-103.

Schmidt, L., Holstein, B., Boivin, J. Tjornhoj-Thomsen, T., Blaabjerg, J., Hald, F., Rasmussen, P. & Andersen, A. High ratings of satisfaction with fertility treatment are common: findings from the Copenhagen Multi-centre Psychosocial Infertility (COMPI) Research Programme. *Human Reproduction* Vol. 18, No. 12, (2003): 2638-2646.

Schneider, B., Bowen, D.E. Understanding customer delight and outrage, *Sloan Management Review*, Vol. 41 No.1, (1999): 35-46.

Senti, J., & LeMire, S. Patient Satisfaction With birthing center nursing care and factors associated with likelihood to recommend institution. *Journal of Nursing Care Quality*, Vol. 26, No. 22, (2011): 178–185.

[Steptoe P.C.](#) & [Edwards R.G.](#) Birth after the reimplantation of a human embryo. [Lancet](#). Vol. 312. Issue 8085, (1978): 366.

# COUNTERFEITING AS A MEANS OF TECHNOLOGICAL CAPABILITY DEVELOPMENT

Hanni Candelin-Palmqvist and Mari Ketolainen  
University of Turku, Finland

## ABSTRACT

*The aim of this conceptual paper is to discuss counterfeiting as a means of technological capability development. The themes of counterfeiting and capability development are discussed widely in previous literature but so far the number of studies combining these two themes is limited. In the counterfeiting companies, the technological capability development seems to be a result of reverse engineering or, in the case the counterfeiter is also an original equipment manufacturer (OEM), through the acquisition of technology and/or design blueprints. Thus, unlike in many other companies, in counterfeiting firms the capability development starts from the product, and occurs more as a side product of reverse engineering or illegal production. The improved technological capabilities of a counterfeiting company may lead both, directly or indirectly, to an increased number of innovations and new products, improved products and processes, an increase in R&D, and an increased number of patents.*

## INTRODUCTION

“Copying to catch up is the only way to catch up.” – Thurow 1997

Throughout human history, various nations have imitated products of others in the hopes of offering even better products. The histories of many nowadays developed countries, such as Japan, Korea and the US, include stories on imitations and reverse engineering (cf. Kim 1980, Thurow 1997; Kim 1997; Hobday et al. 2004; Church 1999; Thurow 1997; Yamamura, Sonobe & Otsuka 2005). A more recent example is China, whose strategy of acquiring foreign technologies is underpinned by reverse engineering activities including imitating, copying and improving foreign products (Trott & Hoecht 2007).

However, the issue of imitation is not only a national level phenomenon pertaining to the development of a nation’s capabilities. Companies imitate the products of other manufacturers and infringe upon intellectual property rights only to end up intentionally or unintentionally developing their own capabilities. In some companies counterfeiting may be seen as a strategy to home-grown innovation (McDonald & Roberts 1994) and sometimes, even the only way to develop one’s capabilities. This question of intentionality is also one of the central ones in understanding capability development (cf. Bakhru 2007). It seems that counterfeiting may be done with the intention of developing one’s capabilities but capability development may also occur as an unintentional outcome of counterfeiting. However, this paper does not differentiate between unintentional and intentional capability development.

The aim of this paper is to discuss counterfeiting as a means of developing a company’s technological capabilities<sup>1</sup>. Technological capabilities are important for the performance of the company and for the survival in the industrial competition. In addition to this, technological capabilities of the local firms are also central features of the national systems of innovation (cf. Bell & Pavitt 1995; Coombs & Bierly 2006). The themes of counterfeiting and capability development<sup>ii</sup> are discussed widely in the previous literature (cf. Bakhru 2007; Chaudhry, Zimmerman, Peters & Cordell 2009; Chaudhry & Walsh 1996; Coff 2010; Jacobs, Samli & Jedlik 2001; Kaikati & LaGarce 1980; Laamanen & Wallin 2009; Nielsen 2010; Winter 2000) but so far the number of researches combining these two themes is limited, and for example the impact of counterfeiting on the

development of counterfeit producers and organizational learning has not been studied (Staake, Thiessen & Fleisch 2009). Most of the existing firm-level studies of learning and capability development focus on the most innovative firms at the technological frontier aiming at sustaining, deepening and renewing their existing innovative capabilities. However, latecomer firms, such as counterfeiters, move into a business on the basis of the technology they have acquired from other firms in other countries. During their start-up time they lack even the basic technological capability (Figueiredo 2003). For this reason some emerging countries such as China require that all multinational corporations operating in the country transfer technology into the country (Thurrow 1997).

This paper is structured as follows: first, the phenomenon of counterfeiting is discussed. This is followed by the discussion of organizational capabilities and capability development. In the final chapter discussion and concluding remarks are provided. It should be stressed that the authors do not in any way condone counterfeit activities. Instead the authors feel that the immensity of the counterfeiting activities calls for an increased understanding of the multiplicity of the phenomenon.

## COUNTERFEITING AS A BUSINESS PHENOMENON

Intellectual property infringements<sup>iii</sup> are not a new phenomenon, but the large-scale manufacturing of counterfeit goods has occurred post-industrially (OECD 1998). The number of counterfeit products has increased steadily in the world, however the past few decades have witnessed an explosion in the levels of counterfeiting, the widening of the counterfeit product range as well as the integration of pirate markets into one global market (cf. OECD 2008).

The negative effects counterfeits have on companies range from financial losses to forced withdrawals from markets; from brand devaluations to destructions of whole product categories; from decreases in technological investments to even greater investments in technology (cf. Globerman 1988; Harvey & Ronkainen 1985; McDonalds & Roberts 1994; Shultz II & Saporito 1996; Wilke & Zaichkowsky 1999; Grossman & Shapiro 1988). Counterfeiting may also have an impact on society as a whole (cf. Globerman 1988; Nill & Shultz II 1996; OECD 1998). A country may suffer a loss in output and jobs to the extent that imported counterfeits displace local sales of genuine goods or foreign exports decrease. Counterfeiting activity may also lead to a reduction in the inflow of new foreign direct investment in cases where producers of original products perceive off-shore production to be more susceptible to piracy and cannot rely on the enforcement of their intellectual property rights (Globerman 1988).

On the other hand, it has also been argued by some that piracy encourages the creation of local industry by supplying local producers with the financial capital, the experience and the trained labor force required to become legitimate producers in the future. Some authors have suggested that counterfeiting or piracy may be seen as a strategy on the road to homegrown innovation (e.g. McDonald & Roberts 1994) especially in developing economies, as emerging, lower income countries are often a source of counterfeits (cf. Bosworth & Yang 2002, Nill & Shultz II 1996, Shultz II & Saporito 1996). Imitation and piracy may provide a prospect of an alternative to craft industry and an economy tied to primary resources to newly industrializing countries and transition economies (McDonald & Roberts 1994).

Counterfeiting and piracy have had their share in the development of countries such as Singapore, Japan, Korea and Taiwan (McDonald & Roberts 1994). Numerous studies (cf. Kim 1997; Hobday et al. 2004; Church 1999; Thurrow 1997; Yamamura, Sonobe & Otsuka 2005) report on the important role of imitation, reverse engineering and copy-and-develop technological learning strategies in the development of once emerging nations such as Japan, Korea and the United States. And it is these same activities of imitation, copying and improving of foreign products that are the reasons for China's strategy of acquiring foreign technologies (Minagawa et al. 2007).

Minagawa et al. (2007) report of three Chinese packaging machinery manufacturers whose counterfeiting and precise product imitation practices, along with the companies' original equipment manufacturing (OEM) business, was used as a strategy to develop their business as whole and become a legitimate firm in this industry as well. The imitation activities of the companies resulted in technological

capability developments in the manufacturing process – one of the companies was able to provide the same products as the original but for a cheaper price. Direct imitations in the case of another of the companies lead to the development of new products. In the case improvements were made to counterfeit products, the new products were instantaneously protected by the appropriate intellectual property rights and anti-counterfeiting strategies (Minagawa et al. 2007), despite the seemingly lacking respect toward the IPRs of the original manufacturer. The profits generated from the counterfeiting activities were in all three cases used to develop the technological capabilities of the counterfeiter, e.g. research and development activities (Minagawa et al. 2007). These activities resemble those highlighted by Hobday et al. (2004) – some companies are able to develop their technological capabilities in such a way that they become successful legitimate players in specialist and niche markets from a “copy-and develop” phase. According to Trott & Hoecht (2007) especially those counterfeiting companies which are legitimate manufacturers of the genuine products as well may be interested in new product development through counterfeiting. Another way in which a counterfeiting company may become a legitimate player in the field is through acquisitions – when a legitimate OEM acquires the counterfeiters in the hopes of getting rid of the illicit activities (cf. Yang et al. 2004; Shultz & Saporito 1996; Jacobs et al. 2001; Bosworth & Yang 2004). The following section takes a closer look at capability development.

## **DEVELOPMENT OF TECHNOLOGICAL CAPABILITIES**

No matter whether a company is producing products legally or not, the responsiveness to the rapid changes in the turbulent business environment has become a major source of obtaining and sustaining competitive advantage. (cf. Kyläheiko, Jantunen & Sandström 2008.) Hsu and Chen (2009) and Bell and Pavitt (1995) state that capability development is an essential element in the evolutionary development of these sustainable advantages, and in creating new bundles of resources. This is why, today, the continuous development of organizational capabilities is more important than ever before (Hsu & Chen 2009).

As Penrose (1959) and Amit and Schoemaker (1993, 35) state, capability is a firm’s ability to deploy its resources. Resources include for example human capital (including managers), technological capital, knowledge-based capital, and tangible-asset-based capital (Easterby-Smith, Lyles & Peteraf 2009). Organizational capabilities, then again, are considered as the firm’s ability to perform repeatedly a productive task which relates either directly or indirectly to a firm’s capacity for creating value through effecting the transformation of inputs into outputs (Grant 1996; Winter 2000).

One of the relevant organizational capabilities for companies is technological capability. According to Bell and Pavitt (1995) technological capability can be defined as the resources needed to generate and manage technological change, including skills, knowledge, experience and organizational systems. Each firm has certain firm-specific technological resources (e.g. patents and knowledgeable engineers) that it uses to offer products with desirable characteristics. Technological capability can be also considered as an ability to combine these resources (Afuah 2002). Figueiredo (2003) has extended the aforementioned definitions, and states that in the context of the latecomer firms, such as many counterfeiter are, technological capability refers to the firm’s abilities to carry out in-house improvements in process and production organization, products, equipment, and project engineering.

To become competitive and catch up with the technological frontier, the latecomers, such as the counterfeiting firms, have to engage in technological learning process in order to build their own capabilities (cf. Figueiredo 2003). However, this learning process is not the only way to develop or build organizational capabilities. Every firm acquires many capabilities that enable it to carry out activities necessary to move its products and services through the value chain (Day 1994). However, before implementing a particular means of obtaining new capabilities, a firm must select the suitable mode, and choose between internal development, e.g. training, and external sourcing, e.g. hiring new personnel (Capron & Mitchell 2009; Lacetera, Cockburn & Henderson 2004). Even though recruiting new personnel may be a somewhat faster way of advancing an organization’s capabilities, it certainly is not a shortcut to success. It takes some time and money before the skills of the individual yield benefits to the organization.

Also developing capabilities internally is very costly for the firm, and this has been recognized e.g. by Sapienza, Autio, George and Zahra (2006). Capron and Mitchell (2009) argue that firms that take into account

constraints based on their capabilities and internal social contexts when choosing between internal development and external sourcing, will be more effective at developing new capabilities, and in turn, will survive longer than firms that assess those constraints poorly. In the case of counterfeiting firms, the traditional means of obtaining new capabilities are not necessarily the most topical ones, as for these companies the product is the key in developing capabilities, instead of human resources.

Capabilities, especially technological ones, can also be developed or obtained through cooperation, networking with partners or even through mergers and acquisitions. (cf. Capron & Mitchell 2009; Rosenkopf & Nerkar 2001) This allows companies to either develop or obtain completely new capabilities or to develop further the existing ones. Some of the counterfeiters may even utilize the OEM networks for capability development, but counterfeiters engaged merely in illegal activities may not have the networks with which to develop their capabilities. If a counterfeiter is able to develop its capabilities it may end up as part of the legitimate manufacturer's network as these manufacturers seek collaboration with the counterfeiters (Minagawa et al. 2007). In addition to these ways of developing capabilities, counterfeiters develop their capabilities through reverse engineering and by obtaining design blueprints, which are generally acquired through e.g. joint-ventures (cf. Hobday et al. 2004; Minagawa et al. 2007) or forced transfers of technology.

According to Zhou and Wu (2010) a firm's technological capabilities are developed over time and usually accumulated through its past experiences. Also Grant (1996) and Teece, Pisano and Shuen (1997) have highlighted, that the development of capabilities is usually shaped by company's current market position and past history of developing capabilities. However, if the company is a latecomer in the market like many counterfeiters are, they do not have too many past business experiences to reflect on. Firms also have to make investments in capability development on the basis of the expected changes in their operating environments. The capability development may take a long time, so the capability development process has to be initiated long before new capabilities are actually needed in business. (Kyläheiko et al. 2008) Thus, this requires firms to constantly anticipate the needs for future capabilities (Day 1994). Anticipating future needs requires intentional activities to be taken for the capability development, and as Bakhru (2007) has stated, central to understanding how firms are able to create capabilities is to ascertain the degree to which the development process is an intentional and managed one. For some counterfeiting firms making plans for the future, and anticipating what is going to happen, may be challenging. The long-term planning these companies do is most probably related to the products, not the capabilities the company possesses or would like to develop.

## CONCLUSIONS

The aim of this paper was to discuss counterfeiting as a means of technological capability development. The discussion took the counterfeiter's viewpoint, and pondered whether this activity can bring some improvements to the company's capabilities and activities. Based on the literature, it can be claimed that counterfeiting can act as a means of technological capability development, and this development can be either intentional or unintentional. The discussion as to whether capability development is an unintentional or intentional process is partly attributable to the fact that there has tended to be focus on the development and improvement of existing capabilities rather than on the creation of new capabilities (Bakhru 2007). As Bakhru (2007) has brought up, the issue of intentionality also relates to the managerial input, as intentional capability development requires effort and input from the management. This could be a focus of future research.

Technological capabilities are usually developed through internal operations, such as training, as well as through external sourcing, such as cooperation with a trusted partner. Counterfeiters with OEM activities may benefit from existing partners and networks. However, it is questionable whether these are relevant options in the case of those counterfeiters, whose business does not include legitimate OEM activities and the cooperation networks attained through it. It is more likely that these options apply for counterfeiters with OEM activities, as many of the technology-oriented companies develop their capabilities e.g. in cooperation with their partners.

In the counterfeiting companies, the technological capability development results from e.g. reverse engineering or, in the case the counterfeiter is also a legitimate manufacturer, through the acquisition of technology and/or design blueprints. Counterfeiters use the information acquired to produce infringing copies and it is in this process that technological capabilities may develop. Thus, unlike in many other firms, capability

development in counterfeiting firms starts from the product itself, and occurs more as a by-product of reverse engineering or illegal production.

The improved technological capabilities of a counterfeiting company may lead both, directly or indirectly, to an increased number of innovations and new products, improved products and processes, an increase in R&D, and an increased number of patents. For example Minagawa et al. (2007) report that in the case improvements are made to counterfeit products, the new products are instantaneously protected by the appropriate intellectual property rights and anti-counterfeiting strategies. The development of technological capabilities through counterfeiting may also result in an overall development of a nation in case the counterfeiter is able to become part of the formal economy, as stated by e.g. Minagawa et al. (2007). Becoming a part of the formal economy by transforming into a legitimate actor in the field may be a result of the development of technological capabilities during counterfeiting activities. The question thus arises: what do these counterfeiting companies do after their technological capabilities have been developed? The companies seem to have two options: namely to continue copying and producing counterfeits; or to start developing products of their own and become a part of the formal economy. In case they go for the development and production of own products, can these companies become first-movers instead of latecomers? This is a question that future research could tackle.

This paper has shown that counterfeiting can act as a means of capability development. This adds to the current research on counterfeiting activities, as the impact of counterfeiting on the development of counterfeit producers and organizational learning has not been studied (Staake, Thiessen & Fleisch 2009). Both managers and researchers need to realize the multiplicity of the phenomenon and its implications on legitimate business. Capability development can and should be seen as an additional and important motive for counterfeiting as well as an outcome. As a result of capability development the counterfeiters of today may be the competitors of tomorrow. Managers of legitimate manufacturing companies need to take into consideration the fact that in the future the threat of counterfeiters is even greater as a result of developed capabilities and improved R&D processes.

Like any research paper, also this one has certain limitations. This study is purely conceptual, and thus, it lacks empirical data to support the existing literature. In the future this paper could be expanded with a more extensive literature review and by collecting empirical data to support the developed ideas. This paper also focused only on technological capabilities and in the future the focus could be extended to other relevant capabilities.

## REFERENCES

- Afuah, A., "Mapping technological capabilities into product markets and competitive advantage: the case of cholesterol drugs," *Strategic Management Journal*, Vol. 23, No. 2, (2002): 171-179.
- Amit, R. and Schoemaker, P.J.H., "Strategic assets and organizational rent," *Strategic Management Journal*, Vol. 14, No. 1, (1993): 33-46.
- Anand, J. and Kogut, B., "Technological Capabilities of Countries, Firm Rivalry and Foreign Direct Investment," *Journal of International Business Studies*, Vol. 28, No. 3 (1997): 445-465.
- Bakhru, A., "Creating and developing organizational capabilities – do we know more than we can say?," *International Journal of Learning and Intellectual Capital*, Vol. 4, No: ½, (2007):174-186.
- Bell, M. and Pavitt, K., "The development of Technological capabilities" in *Trade, technology and international competitiveness*, ed. I.U. Haque, Washington, DC: World Bank, 1995: 69-102.
- Bosworth, D. and Yang, D., "The Economics and Management of Global Counterfeiting", <[http://www.ulb.ac.be/cours/solvay/vanpottelsberghe/resources/resources/rsem\\_39.pdf](http://www.ulb.ac.be/cours/solvay/vanpottelsberghe/resources/resources/rsem_39.pdf)>, (2002), retrieved 13.11.2009.

- Bosworth, D. and Yang, D. "Corporate Management of IP and Enforcement of IPRs", <[http://www.lukebosworth.co.uk/derekbosworth/Management% 20of% 20infringement.pdf](http://www.lukebosworth.co.uk/derekbosworth/Management%20of%20infringement.pdf)>, (2004), retrieved 23.11.2005.
- Capron, L. and Mitchell, W., "Selection capability: How capability gaps and internal social frictions affect internal and external strategic renewal," *Organization Science*, Vol. 20, No. 2 (2009): 294-312.
- Chaudhry, P.E. and Walsh, M.G., "An Assessment of the Impact of Counterfeiting in International Markets: The Piracy Paradox Persists," *Columbia Journal of World Business*, Vol. 31, No. 3 (1996): 34-48.
- Chaudhry, P., Zimmerman, A., Peters, J.R. and Cordell, V.V., "Preserving intellectual property rights: Managerial insight into the escalating counterfeit market quandary," *Business Horizons*, Vol. 52, No. 1 (2009): 57-66.
- Church, R., "New perspectives on the history of products, firms, marketing, and consumers in Britain and the United States since the mid-nineteenth century," *Economic History Review*, Vol. 52, No. 3 (1999): 405-435.
- Coff, R.W., "The Coevolution of rent appropriation and capability development," *Strategic Management Journal*, Vol. 31, No. 7, (2010): 711-733.
- Coombs, J.E. and Bierly, P.E., "Measuring technological capability and performance," *R & D Management*, Vol. 36, No. 4 (2006): 421-438.
- Day, G.S., "The capabilities of market-driven organizations," *Journal of Marketing*, Vol. 58, No. 4 (1994): 37-52.
- Easterby-Smith, M., Lyles, M.A. and Peteraf, M.A., "Dynamic capabilities: Current debates and future directions," *British Journal of Management*, Vol. 20, No. s1 (2009): S1-S8.
- Figueiredo, P.N., "Learning, capability accumulation and firms differences: evidence from latecomer steel," *Industrial and Corporate Change*, Vol. 12, No: 3, (2003): 607-643.
- Globerman, S., "Addressing International product Piracy," *Journal of International Business Studies*, Vol. 19, No. 3, (1988): 497-504.
- Grant, R.M., "Prospering in dynamically-competitive environments: Organizational capability as knowledge integration," *Organization Science*, Vol. 7, No. 4 (1996): 375-387.
- Grossman, G.M. and Shapiro, C., "Counterfeit-Product Trade," *The American Economic Review*, Vol. 78, No. 1 (1988): 59-75.
- Harvey, M.G. and Ronkainen, I.A., "International Counterfeiters: Marketing Success Without the Cost and the Risk," *Columbia Journal of World Business*, Vol. 20, No. 3 (1985): 37-45.
- Hobday, M., Rush, H. and Bessant, J., "Approaching the innovation frontier in Korea: the transition phase to leadership," *Research Policy*, Vol. 33, No. 10 (2004): 1433-1457.
- Hsu, C. and Chen, H., "Foreign Direct Investment and Capability Development. A Dynamic Capabilities Perspective," *Management International Review*, Vol. 49, No:5 (2009): 585-605.
- Jacobs, L., Samli, A.C. and Jedlik, T., "The Nightmare of International Product Piracy," *Industrial Marketing Management*, Vol. 30, No. 6 (2001): 499-509.
- Kaikati, J.G. and LaGarce, R., "Beware of international brand piracy," *Harvard Business Review*, Vol. 58, No.2 (1980): 52-58.

- Kim, L., "Stages of development of industrial technology in a developing country: a model," *Research Policy*, Vol. 9, No. 3 (1980): 254–277.
- Kim, L., *Imitation to Innovation*. USA: Harvard Business School Press, 1997.
- Kogut, B. and Chang, S.J., "Technological Capabilities and Japanese Foreign Direct Investment in the United States," *The Review of Economics and Statistics*, Vol. 73, No. 3 (1991): 401-413.
- Kyläheiko, K., Jantunen, A. and Sandström, J., "Valuing technological capabilities - The strategic options perspective," *International Journal of Business Excellence*, Vol. 1, No. 1/2 (2008): 71-91.
- Laamanen, T. and Wallin, J., "Cognitive Dynamics of Capability Development Paths," *Journal of Management Studies*, Vol. 46, No. 6 (2009): 950-981.
- Lacetera, N., Cockburn, I.M. and Henderson, R. "Do firms change capabilities by hiring new people? A study of the adoption of science-based drug discovery," *Advances in Strategic Management*, Vol. 21, (2004):133-159.
- McDonald, G. and Roberts, C., "Product Piracy," *Journal of Product and Brand Management*, Vol. 3, No. 4 (1994): 55–65.
- Minagawa, T.Jr., Trott, P., and Hoecht, A., "Counterfeit, imitation, reverse engineering and learning: reflections from Chinese manufacturing firms," *R&D Management*, Vol. 37, No. 5 (2007): 455-467.
- Nielsen, A.P., "Developing organizational capability: dimensions, situations and managerial challenges," *International Journal of Technology Management*, Vol. 50, No. 1 (2010): 23-42.
- Nil, A. and Shultz II, C., "The Scourge of Global Counterfeiting," *Business Horizons*, Vol. 39, No. 6 (1996): 37–42.
- OECD (2008) *The Economic Impact of Counterfeiting and Piracy*. OECD.
- OECD (1998) *The Economic Impact of Counterfeiting*. OECD.  
<<http://www.oecd.org/dataoecd/11/11/2090589.pdf>>, retrieved 13.11.2009.
- Penrose, E., *The theory of the growth of the firm*. Oxford: Oxford University Press, 1959.
- Rosenkopf, L. and Nerkar, A., "Beyond local search: Boundary-spanning, exploration, and impact in the optimal disk industry," *Strategic Management Journal*, Vol. 22, No. 4 (2001): 287-306.
- Sapienza, H.J., Autio, E., George, G. and Zahra, S.E., "A Capabilities perspective on the effects of early internationalization of firm survival and growth," *Academy of Management Review*, Vol. 31, No. 4 (2006): 914-933.
- Shultz II, C.J. and Saporito, B., "Protecting Intellectual Property: Strategies and Recommendations to Deter Counterfeiting and Brand Piracy in Global Markets," *Columbia Journal of World Business*, Vol. 31, No. 1 (1996): 18–27.
- Staake, T., Thiesse, F., and Fleisch, E., "The emergence of counterfeit trade: a literature review," *European Journal of Marketing*, Vol. 43, No. 3/4 (2009): 320–349.
- Teece, D.J., Pisano, G. and Shuen, A., "Dynamic capabilities and strategic management," *Strategic Management Journal*, Vol. 18, No. 7 (1997): 509-533.
- Thurow, L.C., "Needed: A new system of intellectual property rights," *Harvard Business Review*, Vol. 75, No. 5 (1997): 93–103.

Trott, P. and Hoecht, A., "Product counterfeiting, non-consensual acquisition of technology and new product development – An innovation perspective," *European Journal of Innovation Management*, Vol. 10, No. 1 (2007): 126–143.

Wilke, R. and Zaichkowsky, J.L., "Brand Imitation and Its Effects on Innovation, Competition and Brand Equity," *Business Horizons*, Vol. 42, No. 6 (1999): 9–18.

Winter, S.G., "The satisficing principle in capability learning," *Strategic Management Journal*, Vol. 21, No. 10/11 (2000): 981-996.

Yamamura, E., Sonobe, T. and Otsuka, K., "Time path in innovation, imitation, and growth: the case of the motorcycle industry in postwar Japan," *The Journal of Evolutionary Economics*, Vol. 15, No.12 (2005): 169–186.

Yang, D., Sonmez, M. and Bosworth, D., "Intellectual Property Abuses: How should Multinational Respond?" *Long Range Planning*, Vol. 37, No. 5 (2004): 459–475.

Zhou, K.Z. and Wu, F., "Technological capability, strategic flexibility, and product innovation," *Strategic Management Journal*, Vol. 31, No. 5 (2010): 547-561.

<sup>i</sup> Technological capabilities can be also researched on national level, see for example Kogut and Chang (1991) and Anand and Kogut (1997).

<sup>ii</sup> In the literature capability development has been also referred for example as capability building (Keil, Autio & George 2008; Zhou & Wu 2010), capability accumulation (cf. Figueiredo 2008) and capability learning (cf. Winter 2000). However, this study utilizes the concept of capability development.

<sup>iii</sup> Intellectual property infringements comprise of infringements on the intellectual property rights (IPR) such as trademarks, patents, copyrights, geographical indications, and industrial designs. Intellectual property infringements tend to come in two main forms: counterfeiting and piracy (Europe's Product Piracy Challenge 2002, 1). The two terms are used loosely, especially in business literature, maybe due to their sometimes inseparable nature: pirate software, for example, may carry counterfeit packaging and authentication labels (Europe's Product Piracy Challenge 2002, 1). For the purpose of this paper the terms counterfeiting, piracy and intellectual property infringement, are used synonymously. The terms are used interchangeably to explain any type of infringement of intellectual property as well as to describe any kind of unauthorized use of intellectual property, may it be trademarks, patents, copyrights or something else, either with or without the intent to deceive consumers or steal sales from the original producer.

# **ADDRESSING DIALECTICAL TENSIONS FOR STAKEHOLDER DIALOGUE IN CSR DECISION MAKING: A CASE OF SUGAR PROCESSING CONGLOMERATE AND SUGAR CANE FARMERS IN THAILAND**

**Suwichit Chaidaroon**  
**Nanyang Technological University, Singapore**

**Prapai Jantrasakul**  
**King Mongkut's University of Technology, Thailand**

## **ABSTRACT**

*Thailand, one of the leading sugar producers, has tried to increase its level of sugar production by persuading farmers of competitive crops to grow sugar canes. Therefore, this research seeks to examine sugar cane farmer's decision to grow sugar canes vs. competitive crops (cassava, rubber, and eucalyptus) by examining four independent factors: cane price, competitive crop price, sugar mill support, and community support. Conjoint analysis with data from Thai farmers indicates that the first three factors significantly influence the farmer's choice of crops to grow (sugar canes vs. competitive crop).*

## **INTRODUCTION**

In recent years, it is almost undeniable that corporate social responsibilities (CSR) have gained interests among business sectors and their stakeholders. Yet, many organizations treat their CSR efforts as a systemic organizational activity in response to social and environmental impact, rather than a process through which moral values and concern are genuinely articulated and negotiated among stakeholders (Maclagan, 1999). This systemic approach may allow organizations to meet fundamental social reporting requirements but it does not lead to a long-term citizenship mentality among corporations (Hess, 2008).

To create a genuine dialogue with stakeholders, van de Kerkhof (2006) argues that all perceived constraints and opportunities must be articulated so that needs and concerns are addressed honestly (Kaptein & van Tulder, 2003). Any deliberation or assumed CSR needs singly from the organizational perspective does not suffice (van de Kerkhof, 2006) and the organizational motives behind CSR will be scrutinized (Burchell & Cook, 2008).

To reinforce the participatory nature of stakeholder dialogues in CSR decision making (O'Rordan & Fairbrass, 2008), this paper reports a case on perceived discrepancies between a sugar processing conglomerate and sugar cane farmers in Thailand as the company attempted to develop their CSR efforts. Based on the assumption that once the perception gaps are identified a genuine dialogue can be created, the paper uses this case as an illustration to develop a typology of dialectical tensions (Baxter, 1988), or opposing points, in CSR decision making. It is hoped that this framework of dialectical tensions can be taken into consideration by organizations as they conduct stakeholder dialogues to develop their CSR programs in the future.

## RESEARCH METHOD AND DATA COLLECTION

The present research employed a qualitative case study approach to investigate the interested phenomenon in a real-life setting (Yin, 2009). Among the various uses of case studies, this project studied the bounded phenomenon faced by the selected organization and their stakeholder as an instrumental case to illustrate the ways in which a corporation struggled to develop their CSR efforts by engaging the relevant stakeholder (Stake, 1995).

A major sugar processing conglomerate with its more-than-half-a-decade establishment in Thailand was chosen as a case in this study. The site for this project covered the northeastern part of Thailand, the country that was ranked as the sixth largest sugar producer and second largest sugar exporter in the world (Suksawat, Piewthongngam, & Tenglolai, 2008). This sugar company has set up various factories around the region to process sugar and to allow convenience for sugar cane farmers to distribute their canes to the company as transportation could be a major obstacle among them.

Given a fierce competition in the sugar industry in this region, sugar cane farmers had several options to sell their harvest to other companies via several outlets. Therefore, the selected sugar processing company in this study attempted to conduct their CSR programs directed towards sugar cane farmers in order to improve the quality of sugar farming and processing as well as to establish the sense of loyalty among sugar cane farmer to their company at the same time. Their dual goals in CSR activities created some challenges for them to be “good” to the sugar cane communities and to be a successful business enterprise in the region at the same time. Hence this research project studied the CSR efforts of this sugar processing conglomerate and sugar cane farmers as their primary stakeholder in this case to address the following questions:

**RQ1:** How did the sugar cane processing company and sugar cane farmers perceive each other’s roles in their business transactions?

**RQ2:** What communication challenges in CSR efforts were perceived by the sugar processing company and the sugar cane farmers?

Data were collected through two group discussion sessions with mid and high levels managers of the company to explore past CSR efforts with sugar cane farmers as well as the organizational needs and motivations in developing CSR programs with this group of stakeholder. In addition, eight in-depth interviews were conducted with sugar cane farmers in eight different villages in northeastern part of Thailand. Based on the assumption of naturalistic inquiry (Potter, 1996), these farmers were purposively selected as they appeared to be opinion leaders who were willing to share their needs and concerns about sugar farming and industry (Frey, Botan, & Kreps, 2000). Based on the grounded theory procedure, interviews and filed notes were transcribed and coded inductively to respond to the research questions until saturation was reached (Strauss & Corbin, 1990).

## FINDINGS

Consistent with previous research, both sugar cane farmers and the company indicated explicitly that their relationships would be strengthened if the corporate social responsibility initiatives were mutually beneficial to both parties (Bhattacharya, Korchun, & Sankar, 2009). However, when asked about the discrepancies or challenges in CSR efforts, all participants revealed these challenges subtly through their unmet needs. Specifically, these challenges can be categorized into two dialectical tensions (Baxter, 1988), or opposing points that both parties struggled to balance as they articulated their needs for CSR initiatives.

First, the both parties wrestled with the goal to be successful in their business while becoming a good citizen of the community. As both farmers and the company relied on each other in their business transactions, they hoped to maintain good relationships with each other. However, when asked how they communicated the way they balanced these two goals, company appeared to employ traditional business tactics such as asking farmers to sign written contract when offering certain agricultural assistance to them while the farmers. At the same time, the farmers tended to see the company mainly from their entrepreneurial side and yet still relied on

the company for most assistance. These perceptions responded to the first research question regarding their perceived roles. They both hoped to work with each other on an equal partnership basis but their communication appeared to perpetuate the imbalanced roles.

Second, when asked to discuss the previous CSR initiatives they hope to have received and provided, both parties struggled with the balance between material and intellectual assistance. Both parties saw the value in providing material assistance such as fertilizers, insecticides, or irrigation while how-to knowledge in sugar cane farming was also important. However, the way these assistances were presented led to some unintended consequences and misperceptions between the two parties. For example, while the company attempted to provide effective fertilizers and insecticides, farmers expressed their heartened fear for using chemical substances that will affect their health and environment.

In summary, this paper reported preliminary findings of a study to identify communication and role discrepancies between a sugar processing company and sugar cane farmers. Two dialectical themes were identified through qualitative data including (1) balancing business goals and becoming a good community citizen and (2) intellectual and material CSR initiatives. While these two themes are based on data from this sugar cane industry case, they seem useful for other organizations to consider as they engage in a dialogue with stakeholders to make a decision for their CSR initiatives.

## REFERENCES

- Baxter, L. A. (1988). A dialectical perspective of communication strategies in relationship development. In S. Duck, *Handbook of personal relationships* (pp. 257-273). New York: Wiley.
- Bhattacharya, C. B., Korchun, D., & Sankar, S. (2009). Strengthening stakeholder-company relationships through mutually beneficial corporate social responsibility initiatives. *Journal of Business Ethics*, 85, 257-272.
- Burchell, J., & Cook, J. (2008). Stakeholder dialogue and organisational learning: Changing relationships between companies and NGOs. *Business Ethics: A European Perspective*, 17, 35- 46.
- Frey, L. R., Botan, C. H., & Kreps, G. L. (2000). *Investigating communication: An introduction to research methods* (2nd ed.). Needham Heights, MA: Allyn and Bacon.
- Hess, D. (2008). The three pillars of corporate social reporting as new governance regulation: Disclosure, dialogue, and development. *Business Ethics Quarterly*, 18, 447-482.
- Kaptein, M., & van Tulder, R. (2003). Toward effective stakeholder dialogue. *Business and Society Review*, 108, 203-224.
- MacLagan, P. (1999). Corporate social responsibility as a participative process. *Business Ethics: A European Review*, 8, 43-49.
- O'Rordan, L., & Fairbrass, J. (2008). Corporate social responsibility (CSR), Models and theories in stakeholder dialogue. *Journal of Business Ethics*, 83, 745-758.
- Potter, W. (1996). *An analysis of thinking and research about qualitative methods*. Mahwah, NJ: Lawrence Erlbaum.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedure and techniques*. Newbury Park, CA: Sage.

Suksawat, J., Piewthongngam, K., & Tenglolai, A. (2008). The use of multi-criteria approach to select cane growers for supplier development program. *Proceeding of the Global Business and Technology Associations Tenth Annual International Conference* (pp. 1232-1239). Madrid, Spain: The Global Business and Technology Association.

van de Kerkhof, M. (2006). Making difference: On the constraints of consensus building and the relevance of deliberation in stakeholder dialogue. *Policy Sciences* , 39, 279-299.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.

# MANAGERIAL ISSUES FOR ADOPTING DIGITAL BOOKS--A PRELIMINARY STUDY

**Chiang-nan Chao, Leonora Fuxman, and Ibrahim Elifoglu**  
**St. John's University, USA**

## ABSTRACT

*The digital books are emerging, as more and more consumers are adopting or moving to adoption of digital books, given the availability of digital books and the instruments, i.e. PCs (including tablet PCs) and specially designed digital book readers, i.e. Amazon's Kindles. However, the data show that the total market share of digital books is still small in comparison to the printed books. This study, through an empirical survey to explore, from the consumers' standpoints, some managerial issues about adopting digital books. Those managerial issues are both strategic and technical aspects, both environmental and personal aspects. The study finds digital books have significant advantages over the printed books. Although digital book downloading is growing rapidly, in some ways, it still lacks some of the advantages printed books, e.g. it is time consuming to download some books, and the consumers do not need to concern of copyright for printed books. The findings suggest that publishers need to more aggressively promote digital books as it is a way to preserve our environment.*

## INTRODUCTION

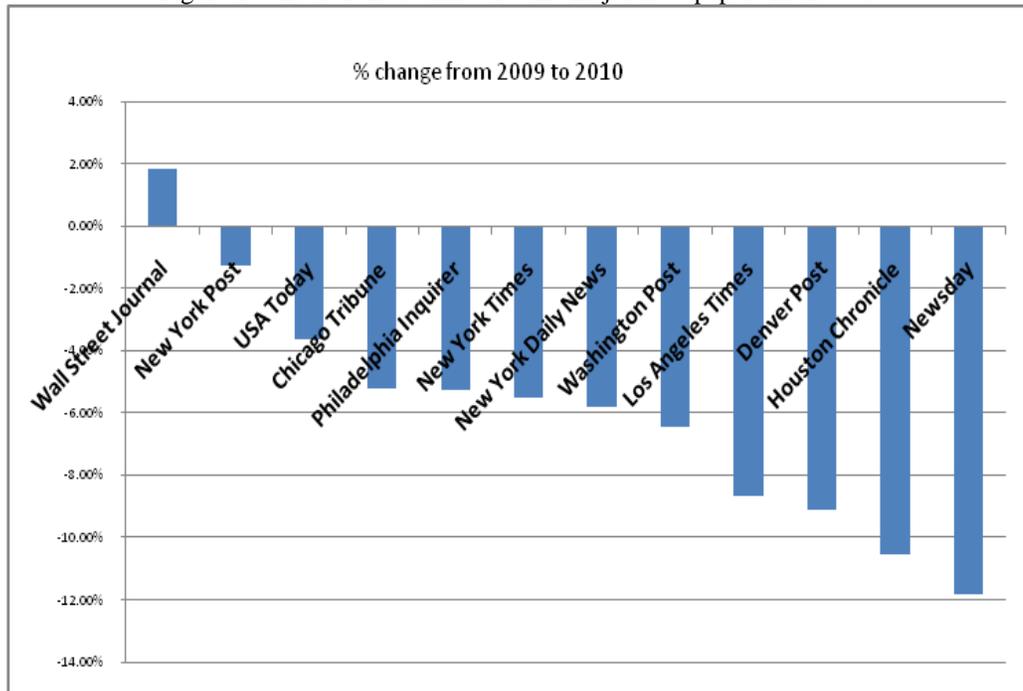
In the past few years, a growing number of digital book readers have enabled readers to purchase digital books rather than printed books, e.g. Amazon's Kindles, Sony's eReaders, Barnes and Noble's Nook, the hot Apple's iPad, RIM's playbook, Samsung's Galaxy, and HP'Slates. Apple's iPad2 hit the market on March 11, 2011 with over 14 millions of its predecessor of iPad sold around the world, and predicted of 33 million unit sales in 2011 [Kim, 2011]. Digital book readers have enabled book readers an alternative way to read books that provides them with lower cost, and more convenience to read and to carry around. Book publishers and retailers have found an option to reach their customers and market in a hope to improve their bottom lines in this very competitive publishing world. The digital book market is far smaller than the traditional printed book market; however, the growth rate is phenomenal [Rich, 2010].

The emergence of digital books is challenging the traditional way of publishing, however, digital books make up just under 3 percent of textbook sales, although the share to grow to 10 percent to 15 percent by 2012 as more titles are made available as digital books, and the market share of digital books in comparison to the overall printed books, including newspapers and magazines is only slightly above 5% [Foderaro, 2010; Wilhelm, 2010]. The academic research is still quite limited due to this emerging nature of digital books. This study, in an empirical experiment setting, examines from the book readers' points of views and their preferences, in order to provide some managerial insights of this digital book market: what consumers prefer and how they make purchasing decisions. The focus is mainly on the digital books and digital publishing related issues.

## REVIEW OF LITERATURE

In the recent years, the traditional printed publishing industry is facing an emerging challenge from digital publishing, quite resembling the competition between filmed cameras and digital cameras, even though the digital publishing represents only a small fraction of the total publishing industry's sales. However, some of the printed publishing, i.e. newspapers, have experienced a sharp decline recently. Figure 1 documents the decline of some major newspapers in the U.S. [Peters, 2010].

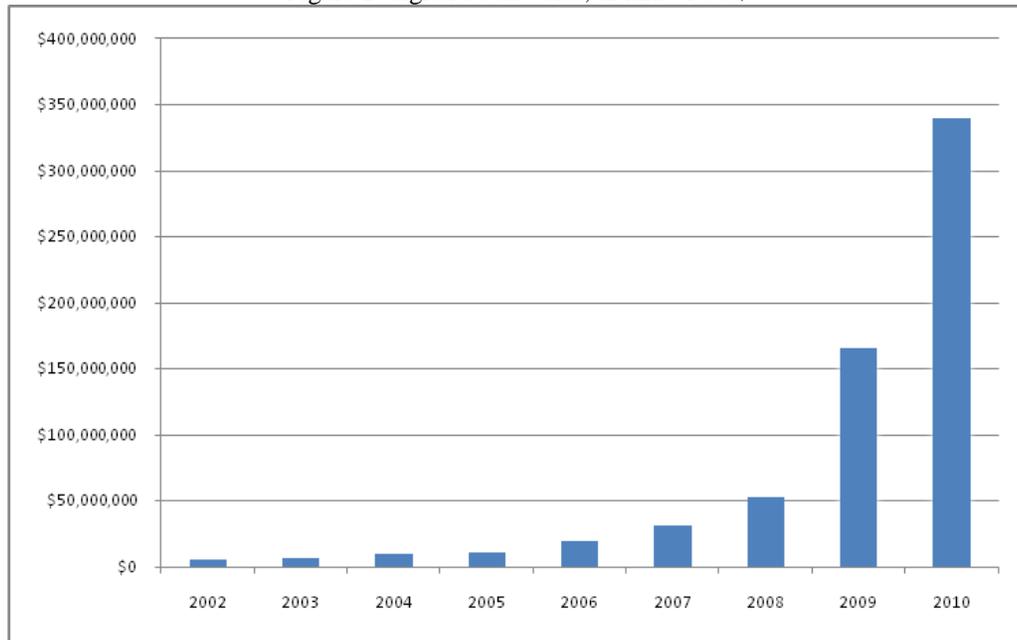
Figure 1. Circulations decline of some major newspapers in the U.S.



Amazon's information provides a glimpse of the digital book market, the International Digital Publishing Forum (IDPF) provides more detailed information about digital publishing. Figure 2 presents the digital publishing sales from 2002 to 2009 [Sherr and Clark, 2010; Source: [http://www.opendigitalbook.org/doc\\_library/industrystats.htm](http://www.opendigitalbook.org/doc_library/industrystats.htm)].

Contrary to traditional printed publishing, the digital publishing market needs both digital gadgets and digital books. As far as the selection of digital gadgets, consumers have quite a number to choose from, from tiny gadgets, such as iTunes, Blackberry, iPod touch, and iPhones, to specially manufactured digital book readers, i.e. Amazon's Kindles, Sony's eReaders, Barnes and Noble's Nooks, Samsung's Galaxy, etc, to generic tablets like Apple's iPad and iPad2, netbooks and laptops, and desktop computers. While for the digital books, there is no universal standard, just like with printed books which have a variety of type settings. For many people, the problem with digital books is that they come loaded with just many limits. Digital books bought today from Amazon.com, for example, can be read only on Amazon's Kindle device or its iPhone software. Some restrictions on the use of digital books are likely to remain a fact of life. Because of this, some potential digital book customers shy away from jumping on the band wagons of digital book. On the other hand, there is no single technology standard for digital books, while the early comers like Amazon tend to dominate in the nascent market. Many publishers are concerned about what gadgets will eventually become dominant, since it will have profound impacts if they select wrong formats. Some developers believe that there is a limit to people's appetite for new digital media. The dominant operating systems are currently either Apple's or Android of Google, with Apple's system is a dominant position [Warner, 2011].

Figure 2. digital books sales, in mil. of US\$



Source: <http://idpf.org/about-us/industry-statistics>. idpf is the International Digital Publishing Forum.

To make the situation more complicated, often digital gadget makers, publishers, and book retailers disagree with one another so it is difficult to develop new business models for profit/cost sharing. Dominant players often pressure others to go along with their terms. Amazon has tussled with publishers recently over digital book prices, but a new pricing model that is emerging could improve Amazon's profit margin on digital books for any e-readers. Publishers will set prices for many digital books, with retailers such as Amazon and Apple taking 30% of the revenue. This guarantees a profit on every sale. Amazon's previous policy of discounting new digital book best sellers at \$9.99 typically resulted in losses, since it paid more than \$9.99 for those books. What's more, Amazon is years ahead of Apple in building relations with the publishing industry, being one of the biggest print-book retailers in the nation. Amazon now offers more than 450,000 digital books, and has access to more than 1.8 million free out-of-copyright titles. Apple has said it will start with 60,000 titles from five of the largest publishing houses. A new approach proposed by Apple intends to let every player in the distribution channel to collect a fee or commission. Apple's app stores enable the company to collect commission on every book or magazine sold, and the stores generated over \$1.1 billion in eighteen months to February 2011. Apple is now requiring publishers that conduct sales of content—which includes books as well subscriptions—to offer a way to do so within apps, which will be handled by the iTunes billing system. The policy, which the company says isn't new, was cited in Apple's rejection of a Sony Corp. app for reading digital books earlier this week [Kane, 2010; Trachtenberg, 2010; Fowler and Trachtenberg, 2010; Kane, et al, 3, 2011; Checkler, et al, 2011].

Barnes & Noble Inc. has stepped onto the nascent digital-book battleground with Amazon.com Inc. and Sony Corp., saying it would launch its own digital bookstore with bestsellers priced at \$9.99, in line with its rivals. It would offer more than 700,000 titles, including more than 500,000 public domain books from Google Inc., and that it expects to be able to offer more than one million titles by July 2010. Book formats supported by the new Barnes & Noble digital bookstore include those that can be viewed on Apple Inc.'s iPhone and iPod Touch, BlackBerry smartphones and most Windows and Mac computers. However, titles bought through Barnes & Noble's digital bookstore are not compatible with Sony's Reader or Amazon.com's Kindle digital book reader, the two dominant e-readers in the U.S. market [Rich, 2010; Rich and Stone, 2010; Trachtenberg, Fowler, 2010; Bilton, 2011].

Both book resellers and publishers want to provide their customers with an alternative of digital books. In addition to bring about new titles in a digital format, they republish old titles by big-name authors. These approaches further enable the demand growth of digital books [Trachtenberg, and Kane, 2010].

Printed books and magazines on the other hand are in the low technology, but the screens won't go blank, nor would they be transacted virus, and they have been around for thousands of years. However, they are heavy and expensive. For example, college students pay \$700 to \$900 a semester in addition to the already high expenses in tuition and other fees [Foderaro, 2010].

## METHODOLOGY

With the focal questions in mind, this research studied the views of consumers with regards to how they view digital books as compared to the traditional printed books, the books include all books, magazines, newspapers, and other related. A survey was developed to investigate the issues related to the subject of this study, in the consumer preferences on products and their quality, price and promotion, deliveries. The following variables were based on literature reviews.

### Variable Selection

The following variables affect how and where consumers make their purchase decisions.

1. *easy to obtain*
2. *low cost of possession of the reading materials*
3. *easy to read*
4. *attractive prices for possessing contents*
5. *easiness to carry around*
6. *weights*
7. *easy to share with others*
8. *need of special reading instruments, i.e. kindle, eReader, iPad, Galaxy, Nooks, etc.*
9. *free delivery or delivery incentives*
10. *compatibility in the formats*
11. *concern with copyright*

### Hypothesis, test of hypothesis, and sampling

The hypothesis for this research is to find if there is a significant difference from the consumers' standpoint between digital book and printed books. The hypothesis for this study states:

H: There is no significantly different preference from the consumers' standpoint between digital books and printed books.

Alternatively, there is significantly different preference from the consumers' standpoint between digital books and printed books.

Due to the nature of this empirical study, the questionnaires were distributed to college students in a large university campus in the Northeast of the United States for a convenient sampling since students tend to browse on the websites and download digital books. The respondents were asked to evaluate the selected variables in a five point Likert scale, with 5=strong agree, 4=agree, 3=neutral, 2-disagree, and 1=strongly disagree. Since the independent variables were of nominal nature and dependent variables were of ordinal nature, Mann-Whitney nonparametric statistic tests were used to test the hypotheses. Mann-Whitney nonparametric statistic tests were used to test the hypotheses. The Mann-Whitney U (M-W U) test, often referred to as the rank sum test, was applied to test the null hypotheses. If the null hypotheses that the two samples were drawn from the same population were true, the totals of the ranks (or equivalently, the mean ranks) of the two samples would be expected to be about the same [Hamburg, 1977; Conover, 1980; Davis and Cosenza, 1985; SPSS<sup>x</sup>, 2002]. Five percent of the *Mann-Whitney* two-tailed probability level was selected to signify the differences between preferences for digital books vs printed books.

## RESULTS

A total of 341 consumers was surveyed at a college campus in the eastern U.S., with 135 completed responses for analyses, representing 39.6 percent of the total surveyed. Table 1 presents the general information of the respondents. All the respondents had experience in downloading digital articles and/or books from websites. Table 2 presents online activities related to digital books, digital newspapers, and digital magazines.

Table 1: Backgrounds of the respondents

<i>Demographic issues</i>	Groups	Valid %
1. Age 1<18; 2=18-35; 3=36-55; 4>55	<18	1
	18-35	98
	>35	1
2. Your gender, male=1, female=2	Male	61
	Female	39
3. family annual income?	<\$30k	20
	\$30-50k	15
	\$50-75k	25
	>\$75k	40
4. Your highest education	high school	12
	College	80
	graduate	8
5. Your marital status	Married	11
	Not married	89

Table 2. Issues related to reading of digital books, newspapers and magazines.

	Response	Valid %
6a. have you ever read any book, newspapers, and magazines on computer or on any digital form?	Yes	90
	No	10
6b. do you have any e-readers, i.e. Amazon's Kindle, iPad, Nook, Sony's e-readers, or any other brand?	Yes	15
	No	85
7a. each week, how many hours on average do you spend on reading printed books, newspapers, magazines, including textbooks	<5	45
	5-10	37
	11-15	12
	16-20	2
	>20	4
7b. each week, how many hours on average do you spend on reading digital forms of books, newspapers, and magazines, including textbooks	<5	53
	5-10	23
	11-15	12
	16-20	7
	>20	5

Table 3 presents the Mann-Whitney test results. Significant differences are found in eight of the eleven variables: *easiness to carry around*, *low cost of possession of the reading materials*, *easy to share with others*, *easy to read*, *attractive prices for possessing contents*, *easy to obtain*, *free delivery or delivery incentives*, and *concern with copyright*. Therefore the null hypothesis is rejected. These eight variables, seven appear that the respondents prefer digital form vs. printed form, while the variable *easy to read* the respondents prefer printed forms.

Table 3: Mann-Whitney test results for all variables.

	eform, Mean Rank	printed form, Mean Rank	Mann- Whitney U	Z	Asymp. Sig. (2- tailed)
<i>easiness to carry around</i>	164.84	106.16	5152	-6.4386	<b>0.0000</b>

<i>low cost of possession of the reading materials</i>	159.21	111.79	5912	-5.2051	<b>0.0000</b>
<i>easy to share with others</i>	157.69	112.15	5983	-5.0567	<b>0.0000</b>
<i>easy to read</i>	115.91	155.09	6469	-4.2812	<b>0.0000</b>
<i>attractive prices for possessing contents.</i>	147.24	123.76	7527	-2.6244	<b>0.0087</b>
<i>easy to obtain</i>	145.77	125.23	7726	-2.2896	<b>0.0220</b>
<i>free delivery or delivery incentives</i>	144.85	125.07	7715	-2.2125	<b>0.0269</b>
<i>concern with copyright</i>	144.64	125.29	7744	-2.1767	<b>0.0295</b>
<i>Weights</i>	144.21	126.79	7937	-1.9344	0.0531
<i>need of special reading instruments, i.e. kindle, eReader, iPad, Galaxy, Xoom, etc.</i>	143.42	126.51	7908	-1.8868	0.0592
<i>compatibility in the formats</i>	137.14	132.84	8756	-0.4893	0.6246

## MANAGERIAL IMPLICATIONS

The Mann-Whitney test results reject the null hypothesis and conclude that there are statistically significant differences from the consumers' standpoints between digital books vs printed books, as in the eight out of the total eleven variables, the significance levels are less than 5%. These variables are *easiness to carry around, low cost of possession of the reading materials, easy to share with others, easy to read, attractive prices for possessing contents, easy to obtain, free delivery or delivery incentives, and concern with copyright.*

These mean ranks of these variables indicate that seven out eight digital books receive high ranks than printed books. It is noticeable that one variable, *easy to read*, the respondents give higher rank for the printed book against digital book. It may suggest that publishers need to further refine the digital books in order to make them easier to read.

Three variables show there is no statistically significant difference between digital books and printed books: *weights, need of special reading instruments, i.e. kindle, eReader, iPad, Galaxy, Xoom, etc., and compatibility in the formats.* This may suggest, from the users' standpoint, publishers may not need to focus on this issue.

This empirical survey finds that consumers do not prefer special digital reading gadgets, as those usable gadgets have only been introduced in the recent few years. A generic functioned computer, i.e. iPad2 or netbook, or laptop, enable users to enjoy digital books, rather than purchasing specially design digital book readers, i.e. Amazon's Kindle.

Since this research, as it surveyed only college students, and the use of a small convenient sampling, cautions must be made in trying to generalize the outcomes of the research.

## REFERENCES

- Bilton, Nick, A Race Between Digital and Print Magazines, NY Times, February 4, 2011.
- Checkler, Joseph, Eric Morath, and Jeffrey A. Trachtenberg, Borders Files for Chapter 11 Bankruptcy Protection, the Wall Street Journal, February 16, 2011.
- Conover, W. J., *Practical Nonparametric Statistics*, 2nd ed., New York: John Wiley & Sons, 1980: 213-337 & 344-384.
- Davis, D., & R. M. Cosenza, *Business Research for Decision Making*, Boston, Kent Publishing Company, 1985.
- Fowler, Geoffrey A. and Jeffrey A. Trachtenberg, Barnes & Noble Adds Color, Web to Nook, the Wall Street Journal, October 27, 2010.

Foderaro, Lisa W., In a Digital Age, Students Still Cling to Paper Textbooks, NY Times, October 19, 2010.

Hamburg, M. *Statistical Analysis for Decision Making*, 2nd ed., Harcourt Brace Jovanovich, Inc., New York, 1977, pp. 219- 538.

[http://www.opendigitalbook.org/doc\\_library/industrystats.htm](http://www.opendigitalbook.org/doc_library/industrystats.htm)

Kane, Yukari Iwatani, and Geoffrey A. Fowler, For Amazon, Arrival of the iPad Opens Door to More digital book Sales, *the Wall Street Journal*, April 2, 2010.

Kane, Yukari Iwatani, and Jessica E. Vascellaro, Apple to Tighten Control on Content, *the Wall Street Journal*, February 3, 2011.

Kim, Yun-Hee, Asian Suppliers Confront Challenge From Apple's iPad, *the Wall Street Journal*, March 3, 2011.

Peters, Jeremy W., Newspaper Circulation Falls Broadly but at Slower Pace, NY Times, October 25, 2010.

Rich, Motoko, and Brad Stone, Digital book Price Increase May Stir Readers' Passions, *NY Times*, February 11, 2010.

Rich, Motoko, Math of Publishing Meets the Digital book, *NY Times*, March 1, 2010.

Sherr, Ian, and Don Clark, Entrants Flood Race to Rival iPad, *the Wall Street Journal*, December 29, 2010.

SPSS<sup>X</sup>, *Advanced Statistics*, 7.5. Chicago, IL: SPSS Inc. 2002.

Trachtenberg, Jeffrey A., and Geoffrey A. Fowler, Digital book Pricing Put Into Turmoil, *the Wall Street Journal*, January 30, 2010.

Trachtenberg, Jeffrey A., and Yukari Iwatani Kane, Textbook Firms Ink E-Deals For iPad, *the Wall Street Journal*, February 2, 2010.

Trachtenberg, Jeffrey A., New Digital Book Pricing Model Adopted in Fits and Starts, *the Wall Street Journal*, April 1, 2010.

Warner, Melodie, Tablets Sapping PC Demand, Gartner Says, *the Wall Street Journal*, March 3, 2011.

Wilhelm, Alex, How Many Kindles Have Been Sold? How Many Kindles Have Been Sold? posted on the Blogs of *the Wall Street Journal*, July 29th, 2010.

# WHY DO FIRMS MANAGE SECOND-TIER SUPPLIERS?

**Wen-Jan Chang and Dah-Hsian Seetoo**  
**National Chengchi University, Taiwan**

## ABSTRACT

*The triad relationship of '2<sup>nd</sup> tier supplier – 1<sup>st</sup> tier supplier – focal firm' is the basic unit to decompose more complex supply chain management practices. The reasons of 2<sup>nd</sup> tier supplier management of focal firms can further inform why focal firms practice different management methods to players of different tiers along a supply chain. From field observation, we wonder the motives behind do not much agree with traditional system view of supply chain management, but are more related to the theories of dyad inter-organizational relationship. Through case studies of eight companies, we find that the motives of 2<sup>nd</sup> tier supplier management include: curbing the opportunism of 1<sup>st</sup> tier suppliers, exploiting bargaining power of focal firms, and helping 1<sup>st</sup> tier suppliers with weaker position, inferior management skill, or unfulfilled integrator role. This paper also discusses contextual assumptions of these motives.*

## INTRODUCTION

For a focal firm, a 2<sup>nd</sup> tier supplier is the supplier of its direct supplier (1<sup>st</sup> tier supplier). To manage 2<sup>nd</sup> tier suppliers means a focal firm involves in the relationship between 1<sup>st</sup> tier suppliers and 2<sup>nd</sup> tier suppliers to allow some extent of direct flow of goods, money, information, knowledge from 2<sup>nd</sup> tier suppliers to the focal firm. 2<sup>nd</sup> tier supplier management practice includes actions like designating 2<sup>nd</sup> tier suppliers, auditing 2<sup>nd</sup> tier suppliers, transacting with 2<sup>nd</sup> tier suppliers, among others. However, despite of the popularity of this practice, few theories explain why firms manage relationships with upper stream suppliers instead of just interact with adjacent suppliers. Supply chain management related studies try to prove that multiple relationships across the supply chain can improve efficiency. Nevertheless, a micro foundation of this causal relationship is lacking. To fill this research gap, this paper investigates why a focal firm manages its 2<sup>nd</sup> tier suppliers. The triad of '2<sup>nd</sup> tier supplier-1<sup>st</sup> tier supplier-focal firm' is a basic unit to decompose multiple relationship management across the supply chain. Therefore, this paper aims to provide a micro foundation for supply chain management. Besides, the expected findings are also normative in that they suggest certain situations in need of 2<sup>nd</sup> tier supplier management to improve the performance of the focal firm. Especially, nowadays, competition is not between individual firms but between rivalry supply chains (Christopher, 1998).

## THEORY

Few if none research focuses on 2<sup>nd</sup> tier supplier management. In this section, we review two related research streams: supply chain management and triad relationship. Both of them could shed some light on the interrelationship between multiple actors in a supply chain.

### Supply Chain Management

There is no common definition of supply chain management (Burgess, Singh, & Koroglu, 2006). In this paper, we adopt the definition of Christopher (1998). He defines supply chain management as the management of relationships with suppliers and customers from upstream to downstream to provide greater customer value

with lower cost to entire supply chain. Many scholars regard supply chain management as a philosophy (Mentzer et al., 2001). The common features in this philosophy mentioned by scholars are system view, strategic approach, integration, synergy, synchronization, partnership and customer-orientation (Bechtel & Jayaram, 1997; Storey, Emberson, Godsell & Harrison, 2006). In a supply chain, actors with this philosophy must cooperate with each other to implement the supply chain management practices. The practices are various linked operation processes of actors across chain (Lambert and Cooper, 2000). All these processes aim to facilitate the flow of goods, information, resources across chain so that the effectiveness and efficiency of entire supply chain can be improved. To better coordinate these chain-wide processes, companies from up stream to down stream must work together as an integrated organization. Therefore, one important topic in SCM is the management of inter-organizational relationship. Most researches propose that to execute supply chain management, firms must treat each other as partners, build trust and commitment, share risk and reward, and value long-term goals (Mentzer et al., 2001; Storey et al., 2006). However, in practice few companies can implement supply chain management across an entire chain (Storey et al., 2006). It is reasonable to infer that not all actors are willing to cooperate with others. On the other hand, these kinds of actors still selectively establish links with other players of a chain. Except direct linkage, Lambert and Cooper (2000) points out that a focal firm can manage, monitor, or do nothing to any one linkage in a supply chain. The motives behind these management practices might be quite different from supply chain management philosophy, which emphasize integration of whole supply chains.

## Triad Relationship

In a power asymmetry dyad relationship, the less powerful party can involve a third party to lessen its dependence on the powerful one. Emerson (1962) suggests that a dependent party will find substitutes or form alliances with other weak players to fight against the powerful party. Gargiulo (1993) observes another strategy of the weak party to handle the asymmetry situation. A weak party can build link to a third party who holds power over the strong party. Through the influence of the third party, the weak party can lessen its dependency on the strong party. The above researches are all based on the point of view of a weak party. Does a powerful player in a dyad relationship exploit its bargaining power by establishing relationship with a third party? In a supply chain context, focal firms in weak or strong position may develop different strategies to involve third parties. Structural holes theory proposed by Burt (1992) is another way to analyze triad relationship. In the triad of “2<sup>nd</sup> tier supplier – 1<sup>st</sup> tier supplier – focal firm”, the 1<sup>st</sup> tier supplier bridges a structural hole between the 2<sup>nd</sup> tier supplier and the focal firm thus enjoys the benefit of information and control. To share or get the benefit hold by the 1<sup>st</sup> tier supplier, the focal firm may link with the 2<sup>nd</sup> tier supplier directly to close the structural hole. However, the focal firm does not eliminate the role of 1<sup>st</sup> tier supplier entirely. We need to know more about to what extent focal firms will skip 1<sup>st</sup> tier suppliers when linking 2<sup>nd</sup> tier suppliers.

## METHOD

We adopted case studies method developed by Eisenhardt and Graebner (2007) to analyze empirical data and build theory. This paper aims to answer a practical question ‘why firms manage 2<sup>nd</sup> tier suppliers’ which is not found in theories, thus induction is an appropriate method. Among various qualitative inductive methods, we chose case studies method developed by Eisenhardt and Graebner (2007), which is especially suitable for exploring new phenomena with rudiment theoretical schemes.

## Case Selection and Analysis

We selected 8 companies in Taiwan: 6 in electronic industry and 2 in textile industry. Electronic industry and textile industry are chosen because of their significance in Taiwan’s GNP. The composition of the informants is one president, five purchasing manager or staff, and one sales manager. They all experience 2<sup>nd</sup> tier supplier management practice and therefore are qualified to provide information. We conducted interviews with semi-open questionnaires. All interviews are tape-recorded and transcribed. Then we analyzed transcribed texts to extract constructs and propositions. The extracted constructs and propositions in previous cases are modified when we proceeding into later cases until they can accommodate all phenomena of cases. Table 1 summarizes these motives and corresponding management practices of focal firms.

**Table 1 The Motives of 2nd Tier Supplier Management**

<b>Motive</b>		<b>Management Practice</b>
Curb the opportunistic behavior of 1st tier supplier		1. Gaining information of 2nd tier supplier through 1st tier supplier 2. Exchanging information with 2nd tier supplier 3. Auditing 2nd tier supplier before mass production 4. Designating 2nd tier supplier 5. Transacting directly with 2nd tier supplier
Supplement 1st tier supplier's bargaining power		1. Transacting directly with 2nd tier supplier 2. Handling 2nd tier supplier's problem after mass production
Supplement 1st tier supplier's capability		3. Handling 2nd tier supplier's problem after mass production
Substitute 1st tier supplier's integration role	1st tier suppliers do not see the possibility to create greater value by joint development of focal firms and 2nd tier suppliers	Co-development with 2nd tier supplier
	1st tier suppliers cannot translate properly focal firms' request specification to procurement specification to 2nd tier suppliers	1. Designating 2nd tier supplier 2. Transacting directly with 2nd tier supplier 3. Handling 2nd tier supplier's problem after mass production
	When information transferred from 2nd tier suppliers via 1st tier suppliers to focal firms, the value addition of 1st tier supplier is less than the cost of delay and distortion it causes.	Exchanging information with 2nd tier supplier

## Case Analysis Results

The case analysis result shows that there are seven 2<sup>nd</sup> tier supplier management methods. They are not comprehensive representation of all 2<sup>nd</sup> tier supplier management available. One management method might correspond with more than one motive. The seven management methods are listed below.

1. Auditing 2<sup>nd</sup> tier supplier before mass production.
2. Handling a 2<sup>nd</sup> tier supplier's problem after mass production.
3. Transacting directly with 2<sup>nd</sup> tier supplier.
4. Gaining information of 2<sup>nd</sup> tier supplier through 1<sup>st</sup> tier supplier.
5. Designating 2<sup>nd</sup> tier supplier.
6. Exchanging information with 2<sup>nd</sup> tier supplier.
7. Co-development with 2<sup>nd</sup> tier supplier.

## FINDINGS

The analysis of cases indicates that focal firms manage 2<sup>nd</sup> tier suppliers out of two kinds of motives: curbing 1<sup>st</sup> tier supplier's opportunistic behavior and supplementing 1<sup>st</sup> tier supplier's ability in 2<sup>nd</sup> tier supplier management. The inability of 1<sup>st</sup> tier suppliers includes insufficient capabilities, weak bargaining power, and ill-functioned integrator role.

## Curbing the Opportunistic Behavior of 1st Tier Supplier

Barney (1990) argues, not everyone is opportunistic, but focal firms can not verify who is and who is not. In the cases studied, we found that the information asymmetry between 1<sup>st</sup> tier suppliers and focal firms bothers focal firms of possible cheating of 1<sup>st</sup> tier suppliers. Many inter-firm relationship studies have investigated solutions to suppliers' opportunism. Those solutions include replacing suppliers, configuring appropriate governance modes (Williamson, 1985), and intervening in partner's operation (Gulati & Singh, 1998). Nevertheless, these solutions are not feasible in thin markets and for weak focal firms (Heide & John, 1988). In this kind of situation, it is common that firms adopt 2<sup>nd</sup> tier supplier management to regulate 1<sup>st</sup> tier suppliers. By applying Burt (1992)'s structural hole framework, once focal firms link to 2<sup>nd</sup> tier suppliers directly, closing the structural hole, focal firms can capture benefits originally appropriated by 1<sup>st</sup> tier suppliers.

## **Supplementing 1st Tier Supplier's Ability in 2nd Tier Supplier Management**

If a focal firm finds out that a supplier is not qualified to manage its suppliers, the focal firm can simply search for a better supplier. However, in some occasions, focal firms find it necessary to manage 2<sup>nd</sup> tier suppliers. These situations include: (1) all 1<sup>st</sup> tier suppliers are incompetent to manage a certain 2<sup>nd</sup> tier supplier; (2) the relation-specific asset investment traps the focal firm in a thin market; (3) the focal firm intentionally splits purchasing orders to several 1<sup>st</sup> tier suppliers to augment its bargaining power towards each 1<sup>st</sup> tier supplier; (4) the 2<sup>nd</sup> tier supplier is a monopolist, all 1<sup>st</sup> tier suppliers are weak when facing it; (5) though ill performing in managing some 2<sup>nd</sup> tier suppliers, the 1<sup>st</sup> tier supplier as a whole is still better than other alternatives. These five situations lead focal firms to help 1<sup>st</sup> tier suppliers in the parts they perform poorly. The inability of 1<sup>st</sup> tier supplier comprises three types. (1) 1<sup>st</sup> tier supplier's bargaining power towards 2<sup>nd</sup> tier supplier is weak. Powerful focal firms will expand monopoly power to upstream markets (Spulber, 1992). For less powerful focal firms, they will join the negotiation between 1<sup>st</sup> tier supplier and 2<sup>nd</sup> tier supplier to enlarge 1<sup>st</sup> tier supplier's power (Emerson, 1962). (2) 1<sup>st</sup> tier supplier's capability of managing 2<sup>nd</sup> tier supplier is insufficient. Managing 2<sup>nd</sup> tier suppliers out of this motive is generally only temporary for focal firms. Whenever possible, 1<sup>st</sup> tier suppliers will replace the 2<sup>nd</sup> tier suppliers with more reliable ones, otherwise 1<sup>st</sup> tier suppliers will be replaced by focal firms. (3) 1<sup>st</sup> tier supplier does not act the integrator role to bridge a focal firm and 2<sup>nd</sup> tier supplier. The integration role displays in three aspects: channeling information, initiating co-development project, and transforming demand specifications. The first aspect, channeling information, is a supply chain wide phenomenon and is not specific to certain 1<sup>st</sup> tier suppliers. Therefore, the supply chain management studies emphasize the direct information exchange between firms in different tiers (Bechtel & Jayaram, 1997). As for the second and third aspects, sometimes they are caused purposely by focal firms. When focal firms want to keep the profit of integration or want to internalize the activity of 1<sup>st</sup> tier suppliers in the next step, they will strategically choose less capable 1<sup>st</sup> tier suppliers (Chiang, 2007).

## **DISCUSSION**

### **The Imperfection of Market Competition**

In the triad relationship of '2<sup>nd</sup> tier supplier-1<sup>st</sup> tier supplier-focal firm', if the market between 2<sup>nd</sup> tier suppliers and 1<sup>st</sup> tier suppliers and the market between 1<sup>st</sup> tier suppliers and focal firms are in perfect competition, neither focal firms nor 1<sup>st</sup> tier suppliers need to manage their suppliers. Furthermore, the focal firms need not to involve the 2<sup>nd</sup> tier supplier market. However, when one of the two markets is imperfect, the focal firms will need to manage 2<sup>nd</sup> tier suppliers. For instance, 1<sup>st</sup> tier suppliers are in a perfect competition market, but 2<sup>nd</sup> tier suppliers are in an imperfect competition market, which means 2<sup>nd</sup> tier suppliers may be opportunistic or monopolistic towards 1<sup>st</sup> tier suppliers. In the cases this paper analyzes, some 1<sup>st</sup> tier suppliers are weak relative to focal firms and 2<sup>nd</sup> tier suppliers. The surplus profit is possessed by 2<sup>nd</sup> tier suppliers and focal firms. If focal firms want to capture a bigger portion of the surplus, they can only bargain with 2<sup>nd</sup> tier suppliers. Secondly, when 2<sup>nd</sup> tier suppliers are in a perfect competition market, but 1<sup>st</sup> tier suppliers are in an imperfect competition market, the surplus profit of the supply chain is possessed by 1<sup>st</sup> tier suppliers. Facing the opportunism and monopoly power of 1<sup>st</sup> tier suppliers, focal firms may contact 2<sup>nd</sup> tier suppliers to confine 1<sup>st</sup> tier suppliers' opportunistic behavior. When both 1<sup>st</sup> tier and 2<sup>nd</sup> tier suppliers are in an imperfect competition market, the incentives of focal firms to manage 2<sup>nd</sup> tier suppliers are even stronger. Generalizing the discussion

to a whole supply chain, we can infer that if one of the markets of supply chains is imperfect, there is surplus that motivates a focal firm to seize it by actively managing the suppliers who hold it.

## The Strategic Intention of 2nd Tier Supplier Management

Focal firms may strategically choose less eligible 1<sup>st</sup> tier suppliers and accordingly involve the 2<sup>nd</sup> tier supplier management. For instance, focal firms split orders to several 1<sup>st</sup> tier suppliers to stimulate competition between them and pool risk. This strategy augments focal firms' power relative to 1<sup>st</sup> tier suppliers but lowers 1<sup>st</sup> tier suppliers' power relative to a common 2<sup>nd</sup> tier supplier. A complementary practice is summing purchase amount of each 1<sup>st</sup> tier suppliers towards a certain 2<sup>nd</sup> tier suppliers. Then the focal firm bargains with the 2<sup>nd</sup> tier supplier by the total amount to get a better deal. When a focal firm's margin is low, it may choose a 1<sup>st</sup> tier supplier not acting integrator role well and do the integration by itself to earn the return of integration.

## The Comparative Advantage of 1st Tier Suppliers

There is an assumption when we argue that focal firms manage 2<sup>nd</sup> tier suppliers to supplement 1<sup>st</sup> tier suppliers' inability. That is focal firms are more capable than 1<sup>st</sup> tier suppliers in managing 2<sup>nd</sup> tier suppliers. This assumption is not a normal situation in a supply chain because 1<sup>st</sup> tier suppliers should be more capable than its suppliers or customers to perform its "in-between" role. We want to elucidate the role and capability of 1<sup>st</sup> tier suppliers and clarify when focal firms will outperform 1<sup>st</sup> tier suppliers.

**Pooling.** A 1<sup>st</sup> tier supplier can pool several customers' orders to generate economy of scale. If a focal firm skips the 1<sup>st</sup> tier supplier to purchase from a 2<sup>nd</sup> tier supplier, the purchasing amount is smaller therefore no price advantage can be achieved. Only when focal firms are big companies and split orders to several 1<sup>st</sup> tier suppliers which do not have other customers would the direct procurement of the focal firms to a 2<sup>nd</sup> tier suppliers justify.

**Bridging.** Between focal firms and 2<sup>nd</sup> tier suppliers, a 1<sup>st</sup> tier supplier can channel information, fill the knowledge gap, and coordinate the linkage of processes. When focal firms are in distance with 2<sup>nd</sup> tier suppliers in geography, mind set, culture, or technology, 1<sup>st</sup> tier supplier is necessary to bridge these two parties. However, if the distance between 2<sup>nd</sup> tier suppliers and focal firms in every aspects is short, and meanwhile 1<sup>st</sup> tier suppliers add little value or cause extra cost in between, focal firms would displace the bridging role of 1<sup>st</sup> tier suppliers.

**Buffering.** 1<sup>st</sup> tier suppliers should buffer focal firms from fluctuations in upper stream markets. Whenever 2<sup>nd</sup> tier suppliers cause problems, 1<sup>st</sup> tier suppliers should try to mitigate or absorb them before pass them to focal firms. If 1<sup>st</sup> tier suppliers perform no buffering function, focal firms are forced to confront with 2<sup>nd</sup> tier suppliers' problems.

Each 1<sup>st</sup> tier supplier acts multiple roles, not all of which are well performed. A focal firm should review carefully how a 1<sup>st</sup> tier supplier functions in each role then adopt proper management methods.

## CONCLUSION

Supply chain management literatures focus on the partnership and the interlinked operation processes between firms across chain. In reality, this cooperation-oriented approach is not the only motive behind all kinds of inter-organizational management practices in a supply chain. This paper finds that a focal firm may manage its 2<sup>nd</sup> tier supplier, an initial step in supply chain management, out of different strategic concerns. From a transaction cost view, 2<sup>nd</sup> tier supplier management can be deemed a hybrid governance mode to curb the opportunism of 1<sup>st</sup> tier supplier. From a power perspective, a strong focal firm manages 2<sup>nd</sup> tier suppliers to further exploit its bargaining power and a weak focal firm manages 2<sup>nd</sup> tier suppliers to help 1<sup>st</sup> tier suppliers to balance the power of 2<sup>nd</sup> tier suppliers. Complying with supplier development research, a focal firm will help its 1<sup>st</sup> tier suppliers to improve operation activities of which 2<sup>nd</sup> tier supplier management is a part. From a vertical integration view, a focal firm may take over the integrator role of 1<sup>st</sup> tier supplier just to earn the return of this integration activity.

This paper contributes to theory in demonstrating that the theories of dyad inter-organizational relationship can be extended to triad relationship of a supply chain. This extension then can supplement the dominant system view of supply chain management research stream. For practitioners, this paper provides a

useful guide to the occasions and methods of 2<sup>nd</sup> tier supplier management to improve a focal firm's performance. However, readers should apply the findings cautiously because they are derived from certain context and thus may not be applicable in other industries or economies. Future research can test the findings in big sample survey to validate their robustness.

## REFERENCES

- Barney, J. B. "The Debate Between Traditional Management Theory And Organizational Economics: Substantive Differences Or Intergroup Conflict?" *Academy of Management Review*, Vol. 15, Iss. 3, (1990): 382-393.
- Bechtel, C. and Jayaram, J. "Supply Chain Management: A Strategic Perspective." *The International Journal of Logistics Management*, Vol. 8, Iss. 1, (1997): 15-34.
- Burgess, K., Singh, P. J., and Koroglu, R. "Supply Chain Management: A Structural Literature Review and Implications For Future Research." *International Journal of Operations & Production Management*, Vol. 26, Iss. 7, (2006): 703-729.
- Burt, R. *The Social Structure of Competition*. Cambridge, MA: Harvard University Press, 1992.
- Chiang, C. T. *The Study Of Job Assign And Linkage Management In The Dynamic Cooperative Network*. Taipei, Taiwan: Unpublished PhD Dissertation, School of Management, National Chengchi University, 2007.
- Christopher, M. *Logistics & Supply Chain Management*. London: Pitman Publishing, 1998.
- Eisenhardt, K. M. And Graebner, M. E. "Theory Building from Cases: Opportunities and Challenges." *Academy of Management Journal*, Vol. 50, Iss. 1, ( 2007): 25-32.
- Emerson, R. M. "Power-Dependence Relations." *American Sociological Review*, Vol. 27, (1962): 31-41.
- Gargiulo, M. "Two-Step Leverage: Managing Constraint in Organizational Politics." *Administrative Science Quarterly*, Vol. 38, (1993): 1-19.
- Gulati, R. and Singh, H. "The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances." *Administrative Science Quarterly*, 43, 4, ( 1998): 781 - 814.
- Heide, J. B. and John, G. "The Role of Dependence Balancing in Safeguarding Transaction-Specific Assets in Conventional Channels." *Journal of Marketing*, Vol. 52, Iss. 1, (1988): 20-35.
- Lambert, D. M. and Cooper, M. C. "Issues in Supply Chain Management." *Industrial Marketing Management*, Vol. 29, (2000): 65-83.
- Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., et al. "Defining Supply Chain Management." *Journal of Business Logistics*, Vol. 22, Iss. 2, ( 2001): 1-25.
- Spulber, D. F. "Economic Analysis and Management Strategy: A Survey." *Journal of Economics & Management Strategy*, Vol. 1, Iss. 3, (1992): 535-574.
- Storey, J., Emberson, C., Godsell, J., and Harrison, A. "Supply Chain Management: Theory, Practice and Future Challenges." *International Journal of Operations & Production Management*, Vol. 26, Iss. 7, (2006): 754-774.
- Williamson, O. E. "The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting." New York: Free Press, 1985.

# INVESTIGATING THE BUYER BEHAVIOUR OF ORGANIC FOOD IN URBAN CHINA

**Jue Chen, Antonio Lobo and Bruno Mascitelli**  
Swinburne University of Technology, Australia

## ABSTRACT

*This paper aims to investigate the dimensions important to consumers in the People's Republic of China associated with their pre-purchase evaluation of organic foods. Data was collected in China in two stages i.e. two hundred valid on-line survey responses were collected for the purpose of the pilot study, and subsequently nine hundred and sixty paper-based responses were obtained from four major Chinese cities. The findings of this study revealed that Chinese consumers' purchase of organic food is influenced by the following dimensions: product-related, regulatory, and lifestyle (variety seeking and self-indulgence). Additionally the above mentioned dimensions had a direct or indirect impact on pre-purchase evaluation and behavioural intentions. Personal attitudes for the purchase of organic food influenced pre-purchase evaluation, and finally pre-purchase evaluation impacted on the behavioural intention.*

## BACKGROUND AND HYPOTHESES

In the last decade or so, there has been a significant increase in the interest of organic foods. Current literature, examining consumers' awareness of organic food has been well developed in North America and Western Europe (Bonti-Ankomah & Yiridoe 2006). Organic foods are perceived as being more nutritious, healthier, safer, and environmentally friendly. They contain less chemical residues and taste better than conventional food hence, consumers are willing to pay a premium price for organic food (Krystallis et al. 2006). Even in newly emerging markets, consumers are still willing to pay a higher price for higher quality, taste, and 'safety' certified foods (Grannis et al. 2001). China has experienced dramatic economic growth in the last twenty years, and is developing an affluent urban middle class for the domestic organic food market. Over the recent period the Chinese organic sector has grown faster than the worldwide average. China has gone well beyond being an adopter of the world organic concepts, and is now an active organic innovator (Paull 2008). Only a handful of studies in relation to organic food consumption have been conducted in Asian countries such as Japan, Taiwan, India and Thailand. As best as can be ascertained, very few studies of this nature have been undertaken in China, a fast growing economy where organic foods are increasingly being marketed. As such little is known or understood about Chinese consumers' attitudes towards organic products or their purchase behaviour.

This research aims to investigate the dimensions influencing consumers' purchase intentions of organic food in urban China. The conceptual model for the purchase intentions of organic food in China was developed based on the theories of reasoned action and planned behaviour (Ajzen 2005; Ajzen & Fishbein 1969) and also the consumer decision making process (Blackwell et al. 2006). These theories have been widely utilised within the food and organic food studies (Drichoutis et al. 2007). The conceptual model relating to consumers' purchase intention of organic food in urban China comprises the following dimensions:

**Product-related:** A study by Steptoe, Pollard, and Wardle (1995) reveals that concern for health, moods, convenience of food preparation and sensory appeal are components in the choice of food. Organic food purchase is motivated by consumers' sensory appeal and concern for health (Arvanitoyannis et al. 2003). However, studies also revealed that some of the reasons for the non-purchase of organic food include consumers' perceptions of it being expensive, lack of perceived value and unsatisfactory in appearance (Sanjuán et al. 2003).

**Regulatory:** There is a relatively poor understanding of the legal use of the term 'organic' on food products including inspection and certification systems (Padel & Foster 2005). Misleading labelling and

certification, low profile distribution channels, limited in availability and choices (Gallagher & McEachern 2003).

**Lifestyle:** For regular organic food buyers, consumption of organic food is part of their lifestyle and they have related interests in nature, society and the environment. A recent trend emanates from the US which is called LOHAS (acronym for Lifestyle of Health and Sustainability). It refers to a new kind of lifestyle and a trend which some consumers practise. This trend is gaining popularity in the affluent cities of China like Shanghai and Beijing (United States Department of Agriculture 2008). Consumers who attempt to pursue a healthy diet and balanced lifestyle have higher intention to purchase organic food products (Magistris & Gracia 2008).

**Ethnocentrism:** Studies demonstrate that country of origin is an important issue for organic food consumers, Norwegian consumers perceive locally produced organic goods as being safer than imported cheaper organic foods (Storstad & Bjørkhaug 2003). From ancient times, Chinese people have valued patriotism. However, Chinese consumers' attitudes toward western luxury goods are generally positive (Lu 2008).

Consumers' purchase of organic food is based on subjective experiences and perception of organic food products (Hughner et al. 2007). It is perceived that organic food is healthier, natural, nutritious and environmentally friendly. Consumers' attitude toward the purchase of organic food is generally assumed to be positive (Chen 2007). It is perceived that organic food has better quality, and consumers with positive attitudes toward organic food are more likely to form positive intentions to purchase organic food (Honkanen et al. 2006). Based on extant literature, the following hypotheses have been elicited:

**Hypothesis one**

*H<sub>1a</sub>: Product related dimension has a positive influence on the individual attitudes of urban Chinese consumer*

*H<sub>1b</sub>: Product related dimension is positively correlated to the pre-purchase evaluation*

*H<sub>1c</sub>: Product related dimension is positively correlated to the Chinese consumers' behavioural / purchase intentions*

**Hypothesis two**

*H<sub>2a</sub>: Regulatory dimension has a positive influence on individual attitudes of urban Chinese consumers*

*H<sub>2b</sub>: Regulatory dimension is positively correlated to the pre-purchase evaluation*

*H<sub>2c</sub>: Regulatory dimension is positively correlated to Chinese consumers' behavioural / purchase intentions*

**Hypothesis three**

*H<sub>3a</sub>: Lifestyle has a positive influence on the individual attitudes of urban Chinese consumers*

*H<sub>3b</sub>: Lifestyle is positively correlated to the pre-purchase evaluation*

*H<sub>3c</sub>: Lifestyle is positively correlated to Chinese consumers' behavioural / purchase intentions*

**Hypothesis four**

*H<sub>4a</sub>: Ethnocentrism has a negative influence on the individual attitudes of urban Chinese consumers*

*H<sub>4b</sub>: Ethnocentrism is negatively correlated to the pre-purchase evaluation*

*H<sub>4c</sub>: Ethnocentrism is negatively correlated to Chinese consumers' behavioural / purchase intentions*

**Hypothesis five**

*H<sub>5</sub>: Chinese consumers' attitudes towards organic food is directly and positively correlated to Pre-purchase evaluation*

**Hypothesis six**

*H<sub>6</sub>: Pre-purchase evaluation is directly and positively related to behavioural / purchase intentions*

## METHODOLOGY

This study is predominantly quantitative in nature. To ensure validity and reliability and of the survey instrument, pre-testing using focus groups was undertaken. Data was collected in China in two stages i.e. 200 valid on-line survey responses were collected for the purpose of the pilot study, and subsequently 960 usable paper-based survey responses were obtained from four major Chinese cities. This data was collected in 2009 and 2010. The English version of the instrument was translated into Chinese by the bilingual researcher. For purposes of verification, all items of the survey were translated back into English to verify the reliability of the translation. The translated versions were also cross-checked by three other bilingual researchers to ensure content and face validity.

The on-line survey was made available via the university's Opinio platform. This Opinio software enables production and reporting of a survey and ensures anonymity, confidentiality and privacy to participant. The web link to the on-line survey was sent to selected Chinese food outlets for onward submission to their customers. The sampling frame was drawn up using the retail food outlets' customer database. Participants were randomly selected from the sampling frame. Care was taken to include a proportionate number of prospective customers. Four hundred and five participants logged onto the web link, and finally a total of two hundred valid on-line responses were collected during one month period.

After the on-line data was analysed, the survey instrument was slightly modified for usage in paper-based survey, which comprised the main study. Organic foods are still relatively new products, primarily available in large supermarkets in major Chinese cities (Li et al. 2005). Previous study indicates that data collected in food outlets of retail chains is an efficient method (Drichoutis et al. 2007). The paper-based survey questionnaires were administered at major supermarkets in four selected Chinese first and second tier cities, namely Beijing, Shanghai, Shenzhen and Chengdu. These cities are geographically dispersed, i.e. they are located in the east, west, north and south of China, and are economically and politically prominent and the main engines of China's phenomenal economic development. Hence consumers are more affluent, and are more likely to be aware of organic foods. All the participating supermarkets had dedicated organic food sections.

Shoppers were approached randomly by trained personnel to participate in self-administered questionnaires at the main entrance of the supermarkets. They were instructed to seek out demographic variation where possible and the questionnaires were presented to consumers entering these supermarkets throughout the day during the trading hours of the stores. Consumers were approached randomly and asked 'Have you ever heard of the term organic food?'. If the respondent answered 'yes', then they were asked 'Would you like to participate in the survey?'. If the consumer answered 'No', the next customer entering the store would be approached and so on. Then, every tenth individual consumer who walked in the supermarket was asked the same questions. A small gift of organic food (eg: nuts, vegetables, milk) was offered in appreciation of their time to answer the questions. Five hundred questionnaires were distributed in each city, hence a total of two thousand questionnaires were administered. Finally, nine hundred and sixty valid surveys were obtained. The paper based data was collected over a period of one month. Both on-line and paper-based survey response rates were as high as 50 percent. This is consistent with extant literature which suggests that the response rates of consumers of specialised goods like organic food products can be as high as 40%-50% (Honkanen et al. 2006).

## RESULTS

SPSS version 18 was used to examine the data for accuracy, missing values, fit between their distributions and the assumption of multivariate analysis. A series of exploratory factor analyses (EFA) was performed on the pilot study data of the 200 on-line surveys to identify the factors and associated latent variables. Data analysis of the pilot study revealed ten factors which were named 'sensory appeal', 'price perception', 'regulatory', 'self-indulgence', 'variety-seeking', 'opinion-leadership', 'ethnocentrism', 'attitudes', 'pre-purchase evaluation', and 'behavioural / purchase intention'. Out of the original 52 statements, seven were deleted in the process of the EFA. Hence 45 statements were retained, and used in the next stage of data collection, i.e. paper-based survey (the main study).

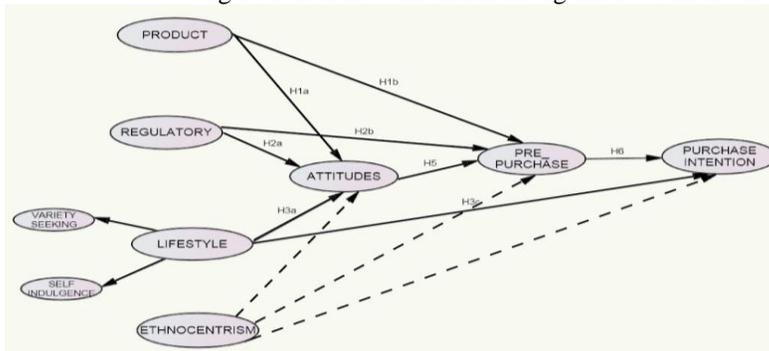
A series of confirmatory factor analyses (CFA) was then conducted on the data from the paper-based surveys to validate the findings from the EFA of the pilot study. Confirmatory factor analysis is like creating a structure and testing an objective against the structure to see how well it fits. To evaluate the measurement models for each dimension, covariance structure analysis was carried out using software called AMOS (Analysis of Moment Structures) version 18. Ten statements were removed due to model fit requirements. Hence 35 statements forming seven measurement models were retained for the final model. All the re-specified measurement models were formed to satisfy most indices (Kline 2010). The reliability of scores of the measurement model ranged from .827 to .570. It is assumed that the internal consistency was acceptable and adequate to be part of the structural equation model.

McEachern & Willock's (2004) study suggests that it would be an advantage to adopt structural equation modelling in future research regarding organic consumers' attitudes and motivations, as it would create the capacity to scrutinise a series of dependent relationships concurrently. 'It allows analysing simultaneously the relationships between dependent and independent variables in the organic food intention to purchase model' (Magistris & Gracia 2008 p.935). A structural model aims to specify which latent variables directly or indirectly influence the other latent variables in a model (Bollen 1989). In this study, all latent variables in the

measurement models were validated, and re-specified models fitted well. The structural model was tested and presented as the final stage. Post hoc model modifications were performed in an attempt to develop a better fitting and possibly more parsimonious model.

The 35 statements of the measurement models were reduced to 28 statements in the final best fit model which is shown in Figure 1. This model explained that 41.3 % of the variance was in ‘individual attitudes’, and that 39.5% of the variance was in ‘pre-purchase evaluation’ while 66.4% of the variance was in the ‘behavioural/purchase intention’.

Figure 1: Purchase intention of organic food in urban China



Note: Chi-square =931.176, df=331,  $p^a$  (Bollen-Stine bootstrap  $p$  value) = .001, CMIN/DF=2.813, GFI=.931, AGFI=.915, TLI=.905, CFI=.916, RMSEA=.044, 90% CI= (.041,.048), SRMR=.0497

Reliability tests were conducted on all the dimensions. The Cronbach’s alpha scores ranged between .715 to .827, except for one dimension, i.e. regulatory. This reading had a Cronbach’s alpha of .609. Ideally the Cronbach’s alpha should be above .700. However the Cronbach alpha values are quite sensitive to the number of items in the scale. With scales fewer than ten items, it is common to find quite low Cronbach values (Pallant 2007). Therefore, the internal consistency of dimensions in the final model was acceptable and adequate. In order to confirm how well the results obtained from the use of measures fitted relevant theories, discriminant validity testing was conducted based on the final model.

Table 1 summarises the results of hypotheses testing. A version of ‘ $t$ ’ test was employed which uses critical ratios from the SEM. Standard errors in the S.E. column, C.R. column stands for Critical Ratio (magnitude > 2 indicates statistical significance at the .05 level).  $P$  value indicates statistical significance at levels of 0.001, 0.01 and 0.05 respectively. The direction and importance of the relationships is determined by the magnitude of Beta weight.

Hypothesis one was partially supported. Product related dimension had a significant relationship with personal attitudes and pre-purchase evaluation, but no significant relationship with behaviour/purchase intentions. However, the results also revealed that the product related dimension had an indirect effect (.371) on behavioural intentions, which means the product related dimension was associated with behavioural/ purchase intentions through the mediatory affect of personal attitudes and pre - purchase evaluation.

Hypothesis two was partially supported. Regulatory dimension had a significant relationship with personal attitudes and pre-purchase evaluation, and no significant relationship with behavioural/purchase intention. However, the results also revealed that the regulatory dimension had an indirect effect (.332) on behavioural intentions, which means that the regulatory dimension was associated with behavioural / purchase intentions through the mediatory affect of personal attitudes and pre - purchase evaluation.

Hypothesis three was partially supported. The lifestyle dimension comprised ‘variety seeking’ and ‘self-indulgence’ factors, both of which had significant influences on personal attitudes and purchase intentions. The results also revealed that the lifestyle dimension had indirect effects (.161) on behavioural/purchase intentions, which means that it was associated with pre-purchase evaluation through the mediatory affect of personal attitudes.

Hypothesis four was rejected. The results indicate that the ethnocentrism dimension did not influence personal attitudes, pre-purchase evaluation or purchase intention.

Hypothesis five and hypothesis six were supported. Personal attitudes dimension had a significant influence on pre-purchase evaluation ( $p$  value was significant), and the pre-purchase evaluation dimension had a significant influence on behavioural / purchase intention ( $p$  value was significant).

Table 1: Summary of hypotheses test (H<sub>1a</sub> - H<sub>6</sub>)

Hypothesis No				Estimate	S.E.	C.R.	P	Accepted / Rejected	Beta
H <sub>1a</sub>	ATTITUDES	<---	PRODUCT_RELATED	.450	.066	6.820	***	Accepted	.383
H <sub>1b</sub>	PRE_PURCHASE	<---	PRODUCT_RELATED	.264	.071	3.695	***	Accepted	.197
H <sub>1c</sub>	BEHAVIOUR INTENTION	<---	PRODUCT_RELATED	-.085	.062	-1.363	.173	Rejected	-.069
H <sub>2a</sub>	ATTITUDES	<---	REGULATORY	.294	.053	5.567	***	Accepted	.274
H <sub>2b</sub>	PRE_PURCHASE	<---	REGULATORY	.464	.066	7.066	***	Accepted	.379
H <sub>2c</sub>	BEHAVIOUR INTENTION	<---	REGULATORY	.075	.061	1.234	.217	Rejected	.067
H <sub>3a</sub>	ATTITUDES	<---	LIFESTYLE	.404	.098	4.111	***	Accepted	.239
H <sub>3b</sub>	PRE_PURCHASE	<---	LIFESTYLE	.119	.105	1.131	.258	Rejected	.062
H <sub>3c</sub>	BEHAVIOUR INTENTION	<---	LIFESTYLE	.222	.095	2.347	*	Accepted	.127
H <sub>4a</sub>	ATTITUDES	<---	ETHNOCENTRISM	.024	.026	.926	.355	Rejected	.038
H <sub>4b</sub>	PRE_PURCHASE	<---	ETHNOCENTRISM	.027	.029	.922	.356	Rejected	.037
H <sub>4c</sub>	BEHAVIOUR INTENTION	<---	ETHNOCENTRISM	.011	.026	.420	.674	Rejected	.016
H <sub>5</sub>	PRE_PURCHASE	<---	ATTITUDES	.223	.068	3.257	**	Accepted	.196
H <sub>6</sub>	BEHAVIOUR INTENTION	<---	PRE_PURCHASE	.566	.058	9.729	***	Accepted	.621

Note: \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$

## CONCLUSION AND LIMITATIONS

Firstly the findings of this study have revealed that consumers' attitudes are positively and directly influenced by the dimension of the product, regulatory and lifestyle (especially variety seeking and self-indulgence) issues. The results also revealed that both product-related and regulatory dimensions had significant influences on pre-purchase evaluation, and both dimensions were associated with behavioural / purchase intentions through the mediatory affect of personal attitudes and pre-purchase evaluation. This affirms that the characteristics of organic food have both direct and indirect effects on consumers' intention to buy organic products (Chen 2007). Interestingly noted, items relating to price were deleted due to model fit requirements. This may provide evidence that price is not as important as is the food safety in a comparative measure. Food safety is the one of most important issues influencing consumers' buyer behaviour of organic food in China. Consumers probably give up purchasing food products unless there are signs of the products quality (Ennis 2007). Labelling seems one of the important issues among organic food purchasers. Confusion still exists among consumers as to what defines 'organic'. An organic logo is the consumer's guarantee that product has been produced organically (McDonald 2001). There is a lot of confusion amongst Chinese consumers and previous food and milk scandals have damaged consumers' confidence. There is a lack of trust in overall organic food quality as consumers are unsure about the enforcement of quality by Chinese authorities. Government agencies and industry need to be aware of the necessity to regulate and provide credible certification to organic food. They also need to enhance the inspection and certification of organic food labelling as well as ensure that the labelling and logos of organic food are a sign of quality. This has severe managerial implications for producers and marketers of organic food products in China. They need to work tirelessly to gain the confidence of the consumers by publicising the overall quality process and associated food safety issues. Additionally they need to enhance the awareness and promote the benefits of organic food, as several potential consumers are ignorant about these facts. They need to make it convenient for consumers to purchase organic food products by streamlining the distribution network and making these products readily available even in the smaller cities.

Changes in lifestyle can have adverse effects on the consumption of organic food. Organic food consumers are being portrayed as 'greenies', 'health nuts' or 'yuppies', who are more interested in fashion than anything else. Hence consumption of organic food reflects a 'green' lifestyle (Lockie et al. 2002). The results of studies on ethnocentrism reveal that consumers in developing countries, buying foreign products is generally considered a social symbol, and also very trendy, particularly those products originating from prestigious countries (Batra et al. 2000). Our analysis reveals that the ethnocentrism dimension of Chinese consumers did not negatively influence their personal attitudes, pre-purchase evaluation or even their final purchase intention. This finding is in line with Wang & Chen (2004) who suggest that the impact of ethnocentrism on consumers willing to buy domestic products tends to be weaker, particularly, when consumers hold higher conspicuous

consumption values, and where they tend to perceive domestic products as lower quality products. This aspect of our findings should motivate and encourage exporters of organic food products to China. Exporters especially from developed countries should leverage on this finding and endeavour to market their organic food products both effectively and efficiently.

This research study is one of the very few associated with consumer buyer behaviour of organic food in urban China. The unique conceptual model used in this study is a combination of three theoretical models, namely, the theory of reasoned action, the theory of planned behaviour and the theory of consumer decision making process. The findings of this research study have important implications for marketers of organic food in China. They should attempt to leverage on these findings by educating their target audience, (both existing and potential customers) and by promoting trials of organic food products. Beneficiaries of this research study include various stakeholders in China and globally such as consumers, vendors both local and international and government agencies.

A number of hypotheses were tested in this study using extensive data obtained from a large sample size. Further analysis using invariance testing will be performed to investigate whether there are significant differences in the data obtained from the four major cities of China. Finally, it would be beneficial to investigate changes in consumers' attitudes and their behavioural intentions over time by conducting a longitudinal study.

## REFERENCES

Ajzen, I 2005, *Attitudes, personality, and behaviour* 2edn., Open University Press, New York.

Ajzen, I & Fishbein, M 1969, 'The prediction of behaviour intentions in a choice situation ', *Journal of experimental social psychology* vol. 5, no., pp. 400-416.

Arvanitoyannis, IS, Krystallis, A & Kapirti, A 2003, 'Health and environmental consciousness: Greek consumers' attitudes toward the organic, HACCP and ISO14000 certifications on food', *Journal of International Food & Agribusiness Marketing*, vol. 15, no. 1/2, p. 93.

Batra, R, Ramaswamy, V, Alden, DL, Steenkamp, J-BEM & Ramachander, S 2000, 'Effects of brand local and nonlocal origin on consumer attitudes in developing countries', *Journal of Consumer Psychology*, vol. 9, no., pp. 83-95.

Blackwell, RD, Miniard, PW & Engel, JF 2006, *Consumer Behavior* 10 edn., Thomson South-Western.

Bollen, KA 1989, *Structural equations with latent variables* John Wiley & Sons, Inc.

Bonti-Ankomah, S & Yiridoe, EK 2006, *Organic and conventional food: a literature review of the economics of consumer perceptions and preference*, Nova Scotia Agriculture College, Organic Agriculture Centre of Canada.

Chen, M-F 2007, 'Consumer attitudes and purchase intentions in relation to organic foods in Taiwan: moderating effects of food-related personality traits', *Food Quality & Preference*, vol. 18, no., pp. 1008-1021.

Drichoutis, AC, Lazaridis, P & Nayga Jr, RM 2007, 'An assessment of product class involvement in food-purchasing behavior', *European Journal of Marketing*, vol. 41, no., pp. 888-914.

Ennis, S 2007, 'Competition and regulation in agriculture: background note ', *OECD Journal of Competition Law and Policy*, vol. 9, no. 2, p. 93.

Gallagher, K & McEachern, M 2003, 'A review of the 'consumer interest' in organic meat', *International Journal of Consumer Studies* vol. 27, no. 5, pp. 381-394.

Grannis, J, Hine, S & Thilmany, D 2001, 'Marketing premium food products in emerging economies: The case of Macedonian cheese', *Journal of International Food & Agribusiness Marketing*, vol. 13, no. 2/3, p. 59.

Honkanen, P, Verplanken, B & Olsen, SO 2006, 'Ethical values and motives driving organic food choice', *Journal of Consumer Behaviour*, vol. 5, no. 5, pp. 420-430.

- Hughner, RS, McDonagh, P, Prothero, A, Shultz, CJ, II & Stanton, J 2007, 'Who are organic food consumers? A compilation and review of why people purchase organic food', *Journal of Consumer Behaviour*, vol. 6, no. 2, pp. 94-110.
- Kline, RB 2010, *Principles and practice of structural equation modeling*, 3 edn., Guilford Press, New York.
- Krystallis, A, Fotopoulos, C & Zotos, Y 2006, 'Organic consumers' profile and their willingness to pay (WTP) for selected organic food products in Greece', *Journal of International Consumer Marketing*, vol. 19, no. 1, pp. 81-106.
- Li, Y, Cheng, L & Ren, G 2005, 'Product differences and purchasing decision making on non-environmental pollution agricultural products: An analysis of consumer survey in Jiaxin', *Zhejiang Statistics* vol. 2 (in Chinese)
- Lockie, S, Lyons, K, Lawrence, G & Mummary, K 2002, 'Eating 'green': motivations behind organic food consumption in Australia', *Sociologia Ruralis*, vol. 42, no. 1, pp. 23-40.
- Lu, PX 2008, *Elite China: luxury consumer behavior in China* John Wiley & Sons (Asia) Pte. Ltd, Singapore.
- Magistris, Td & Gracia, A 2008, 'The decision to buy organic food products in Southern Italy', *British Food Journal*, vol. 110, no. 9, p. 929.
- McDonald, P 2001, *The organic food market in Europe: An overview of Europe's fastest growing niche food market*, Queensland Government Trade & Investment Office Europe.
- McEachern, MG & Willock, J 2004, 'Producers and consumers of organic meat: a focus on attitudes and motivations', *British Food Journal*, vol. 106, no., pp. 534-552.
- Padel, S & Foster, C 2005, 'Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food', *British Food Journal*, vol. 107, no. 8, pp. 606-625.
- Pallant, J 2007, *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows (Version 15)*, 3 edn., Crows Nest, N.S.W. : Allen & Unwin.
- Paull, J 2008, 'The greening of China's food-green food, organic food, and eco-labelling ' Sustainable Consumption and Alternative Agri-Food Systems Conference (SUSCONS), Arlon, Belgium 27-30 May
- Sanjuán, AI, Sánchez, M, Gil, JM, Gracia, A & Soler, F 2003, 'Brakes to organic market enlargement in Spain: consumers' and retailers' attitudes and willingness to pay', *International Journal of Consumer Studies* vol. 27, no. 2, pp. 134-144.
- Steptoe, A, Pollard, TM & Wardle, J 1995, 'Development of a measure of the motives underlying the selection of food: the food choice questionnaire', *Appetite*, vol. 25, no. 3, pp. 267-284.
- Storstad, O & Bjørkhaug, H 2003, 'Foundations of production and consumption of organic food in Norway: common attitudes among farmers and consumers?', *Agriculture and Human Values*, vol. 20, no., p. 151.
- United States Department of Agriculture 2008, *The peoples republic of China, organic products: Shanghai organic retail market profile* no. CH8821. Viewed <http://www.fas.usda.gov/gainfiles/200902/146327266.pdf>
- Wang, CL & Chen, ZX 2004, 'Consumer ethnocentrism and willingness to buy domestic products in a developing country setting: testing moderating effects', *Journal of Consumer Marketing*, vol. 21, no. 6, pp. 391-400.

# **THE MULTIDISCIPLINARY PARADIGM IN THE FIELD OF INNOVATIVE MARKETING – PREREQUISITES FOR BECOMING**

**Marina Chernova National Research University, Russia  
Oleg Klepikov, FOLIO Research Group, Russia**

## **ABSTRACT**

*Inefficiency of classical research methods is attendant by a gradual inversion of transition from quantitative analysis to qualitative or adjacent methods, in particular, for example, semantic differential, etc. and it potentiates also with a syndrome of consumer accustoming and training that is original display of marketing companies activity feedback. Way of marketing research development as a separate direction, was undergoing difficult oscillating motions many times which on a global scale periodically inclined researchers mainly at one moment to a qualitative, at another – a quantitative pole. Meanwhile, many professional researchers, based even on their own competence, not to mention supervision and environment actual, note influence of periodically arising tendency on this or that research type. Each similar tendency has been always mediated by occurrence of a new methodology, or a new view on already existing techniques.*

## **INTRODUCTION**

Fundamental principle of any research complex is communication mediated through the cognitive processes – i.e. relation for information interchange between a researcher and a consumer which assumes the answer of the respondent to any question, or participation in any conscious action. Researches do not supervise directly over consumer unconscious reactions too often.

Certainly, the considered phenomenon is in the level of researcher professional competence, and each competent expert aspires to lower its influence by applying projective techniques and more or less successfully disguising true purposes of his/her researches. These and some other attempts to tilt the balance from time to time in favor of one or another side that leads to efficiency increase in separately taken situations, but do not result in essential efficiency growth of the research process on a global scale.

In this background, as it has already been mentioned earlier, while taking part in researches, the consumer can often realize its purposes, general structure, and formulated hypotheses at level of logic thoughts. In addition, while participating in the consumption process, the respondent can learn new models of analytical support of communications and their implementation process. By gaining the similar experience, people under test show two classic tendencies:

1. Tendency of accustoming to used methodologies;
2. Tendency of manipulation training that results in a form of unconsciously shown behavioral patterns.

As a matter of fact, these tendencies are a negative feedback of a connection between marketing and consumer which, moving to the modern level, unfortunately does not provide any possibility for its complete compensation any more. It turns out that the quality of consumer behavior management decreases with the time and it demands new research paradigms and analytics of researches results to be born, however there has been given no adequate answer to these questions by research environment.

An exception can be a quite limited list of perspective directions which resists described negative phenomena within an existing subject matter:

- So occurrence of new mathematical models for studying the semantic differential as a combination of a qualitative and a quantitative estimation with maximum attention distraction of the respondent from purposes declared for them, already makes a serious contribution to an estimation of perception semiotics of the existing and potential consumer;

- Development of electronics and network technologies led to creation of new forms of behavioral reactions and ethnographic systems of a new type – to large electronic databases with analysis of which dynamics of consumer behavior may be investigated, with simultaneously occurring possibility of an answer implementation for his/her queries and modulation of this answer according to individual patterns of perception;

- A qualitative breakthrough in the area of cognitive sciences with their parallel invasion in various fields of activity that already causes and will cause in the future changes on a larger scale in the research and administrative processes what will be discussed later.

## **MARKET PROSPECTS OF MARKETING RESEARCHES DEVELOPMENT**

Our disappointment would be not fully described without speaking of one more trouble of many allocated processes and systems, and unfortunately the research market in this case is no exception.

The trouble means a large quantity of the diverse techniques of an embodiment of researches for one separate subject. And though a similar diversity reflects a quite high useful competition for any market, nevertheless, taking into account that the economical answer almost directly depends on research and analytical processes, it will be wrong to assert that the developing state of things has a positive impact on the whole economy.

It is possible to investigate any of research areas as an example, including:

1. Researches in the area of brand capital;
2. In the field of consumer satisfaction;
3. Basic researches,

that completely show all correctness of expressed statements (Berger, Heath, 2007).

In the given context a statement of the question would be logical – what the competition on almost operating economy markets will lead to? There is a simple answer – by exceeding a threshold this competition leads to destabilization of economy and to attendant decrease in its efficiency. Incomparability of data as consequence of application of different analysis methodologies is an indisputable result of this competition and is an acute problem not only for the research environment.

How to fight against the built paradigm in the world of marketing researches? In our opinion, everything is both simple and complicated at the same time.

Logical development of a modern paradigm:

1. Development of researcher expertise for example, when researches of the brand capital will not be torn away from researches of commodity appeal that now is deprived of possibility to make a qualitative evaluation of the level of capital use;
2. Working out new methodology, in particular due to growth of Internet and mobile devices invasion.
- 3.

Thereupon, it is extremely necessary to increase researcher expertise that will allow them to receive fuller comprehension not only of tools, but also of the process and global problems it has. Nowadays many existing researches of the brand capital have a perfect answer to the question: "What includes the attributive instrument of "the brand capital" concept? However they do not respond to the question: "How the use of the brand capital and adherence correlate with each other?", while the correlation of these parameters allows to make a real efficiency estimation of capital resources use and expected prospects of a brand. In most cases in modern level we receive "analytics of second level" – and though it is not a descriptive analytics, but also not yet an analytics that directly favors making decisions. Whether conscious or unconscious, research companies and separate professionals are afraid of responsibility during researches since they cannot be completely sure about

their results that is frequently connected not only with insufficient expertise of direct line executives, but also with lack of knowledge of researchers participating in developing of tools and methodology.

Expertise growth will be more helpful in distribution of new technologies connected with network solutions, in particular with the Internet and mobile devices. The penetration level of cellular communication and the Internet, and also technological development of devices of access to these services, already now allow to receive the increasing accessibility of audience, and the providing of research services – a big standardization and synergy of received data.

Transition to a database: Development of a synergetic modeling based on made researches that will allow to see the information more completely. Forming of an information richness paradigm (high penetration level and fullness of databases).

Occurrence of multiservice systems, such as Google, Yahoo, MSN, and others, and also improving feedback mechanisms with consumers (e.g. Amazon company site, where it is possible to find an easy example of this feedback in the form of the books recommended to you) that visually shows possibilities of research development in the field of database processing. In many respects, further evolution of similar systems will define rotation of many modern research procedures of similar database use since the use of it will allow by mathematical modeling of the retrospective data will allow to have an investigation of information that is more detailed and abstractive from uncontrolled cognitive processes in a consumer head and investigation of appropriateness in consumer preferences and their behavior that will lead to:

1. More completeness of received data;
2. Development of multidimensional methods of analysis;
3. More precise segmentation;
4. And to other, not less significant results.
- 5.

It is important that all these processes will have a much bigger efficiency factor, not only because of the extraordinary accuracy, but also because of essential reduction of operational expenses for a research project.

As reinforcement to this rotation can act a creation of the information richness paradigm that means an achievement by memory systems of state, when a stream, volume, and frequency of digitization of the arriving information will reach a certain threshold of efficiency and will allow to obtain as much as possible detailed data as in the field of the objects, subjects, and groups of people under test description, and in prognostication of their behavior based on empirical data.

Birth of a new paradigm: Search for more universal principles of consumer behavior description and structure of consumer motivations.

In addition to databases that by definition are most applicable in work with as much as possible segmented data of commodity and brand consumption, but not less significant prospect of a research process development, there are achievements of cognitive sciences and development of a new doctrine – neuroeconomics.

Nowadays, we can actually ascertain a competence of received experimental proofs of inaccuracy or insufficient validity of the "rational man" concept. By following the way of these proofs, the behavioral economics in the process of its development has come to terms of forming a new discipline – neuroeconomics to study fundamental processes that operate economical behavior of a person in biological system level. Of course, this birth will influence marketing researches with their often straightforward approaches to an estimation of respondents and their basis based on subjective judgment of an analyst which hopelessly become obsolete with the time (Krugman, 1971). Besides, it is possible to predict with confidence that the process of regeneration of an existing research paradigm to a new one will move along the exponent.

At the same time, comprehension of a person behavior not like a calculation system, but like a heuristic process based on universal biological laws and not less universal biochemical processes that occur in his/her brain, will stimulate development of marketing and branding from another point that realizes an essentially big transparency of study and a big predictability by modeling.

In practice, it may be compared with an example, like when we constantly have a dry mouth, we will make an assumption based on only this symptom that we have a diabetes (level of modern marketing researches), or we will go through a biochemical research and after having received results of research, we would learn that there is a really high blood sugar level, and the diagnosis "diabetes" is quite competent (level of neuro-paradigm). If the first conclusion is no more than an assumption, the second is the exact diagnosis based on a fundamental indicator. But you will wonder how it is possible, what about the diagnosis accuracy in the first case? Are we really sure that if we have stopped only having a symptom, instead of having a real indicator, would we have made the right diagnosis? Therefore, a dry mouth can be a symptom of following diseases (not complete, but a significant list): mentioned diabetes, anemia, cystic fibrosis, rheumatic arthritis, hypertension, HIV infection, Sjogren syndrome, infectious parotitis, and many more. Thus, only the objective indicator allows to differentiate a precise diagnosis.

Similar circumstances refer the side of marketing researches, except for the fact that we (researchers) now make the diagnosis mainly by symptoms as doctors in the Middle Ages, and the device of tool and object diagnostics is not completely developed and is used, though the main part of it is already created and somewhat described. As you probably already guess, this instrument is the neuromarketing and the neuroeconomics that refers to the research tools and its analytical procedures: "Neuromarketing in the field of researches is a complex of tool procedures that fixes object neurophysics indicators with the subsequent synthesis of object knowledge of motivation structure and behavior models of consumers based on received indicators using received knowledge by practical implementation of economical relations" (Dolan, 2002).

## **DYNAMICS OF PUBLIC PROCESSES AND MARKETING RESEARCHES**

As we can see, in existing model of a society two tendencies are combined – the increasing segmentation of commodity markets and capital globalization.

Thereby, we receive two models of business that need an essentially different approach not only to management, but also to providing data.

Thus, the part of the market which we conditionally call "commodity" (commodity and brand assortment from the point of branding) will follow the way of the increasing satisfaction of private requirements, while winning consumer heart with possibilities to satisfy more and more individually attributive consumption models.

The second – "the conceptual" part of the market that mainly consists of brands-giants, big parent companies that accumulate capital and administrative mechanisms as it now will aspire to support affiliated brands but since the components of conceptual brands mainly will not have a close connection directly with concrete commodity concepts, their management will be arranged in agreement with requirements of this convergent model.

With reference to marketing researches it will mean following: Commodity brands will need methods, allowing to carry out flexible fine accommodation and forecasting of small groups of individuals, which can be so small that for example, it would contain only one family in its structure, and there absolutely other research concepts for concept brands will be needed, since their problem will be maximization of appeal of the concept in the opinion of the widest audience. And although it stands for reason that mutual penetration of these concepts in opposite concepts is expected, nevertheless the process of polarization will be strongly marked. How can professional researchers respond to this challenge?

Increasing availability of data connected with the increasing virtualization and penetration of network services in our life, leads to consolidation of the market providers of these services, perfection of technology for gathering information, growth of systems productivity and application of allocated calculations.

Therefore, we understand that growth of productivity of calculation systems will increase. Even if all of us in future will reach an efficiency limit of one computing unit, we can easily extend possibilities by using

allocated calculations as they are already applied not only in certain scientific network projects, but also in your modern desktop four core computer. In addition to parallel development of program environments for storage and data processing, it will lead to a possibility that after achieving a high level of synergy and transparency of at first sight diverse information about a single person, we can make a detailed investigation of his/her habits, allocate preferences we need, and study connections between any of accessible data (Zadeh,1983).

It is not a secret for anyone that all these processes are observed already now. Development of CRM and ERP systems is the forerunner of similar developments, and some prototypes of already discussed systems work in service structure of companies like Google, Yahoo, etc.

The corporations built mainly in some other way and hence they do not have those widely allocated information sources, will turn to same providers of services like this, while more and more concentrating the market around them.

Development of universal algorithms that allow to make segmentation processes automatic by creating a more stable platform for a finer CRM systems setup and application distribution score models, data mining systems, calculations based on fuzzy logic and trainable neural networks with subsequent reduction of a classical marketing expert analyst role and his/her primary replacement by mathematicians.

Let's discuss what the development of these systems based on databases will demand from a marketing expert analyst. At first sight it might seem that basically changes are not that essential, but it is not true.

The first obvious consequence will show that not sociological, but exactly mathematical skills are more required. Score models will be more required (already now most software manufacturers for mathematical and statistical data processing offer such options or independent software packages), data mine technologies, and neural network calculations, as optimal systems for estimation and modeling of heuristic thinking of an individual.

As a result, a serious revision of education programs is needed since if not experts that have education irrelevant to requirements of the market will remain out the door that can cause deficiency of professional structure in our sphere and otherwise lead to unreasonable costs from employer side.

Looking further away, it is possible to ascertain that hyper segmentation and other described processes will lead to high economical reasonability of automated computing and analytical processes application which in case of a feedback practically will exclude participation of an analyst during the information processing.

A part of research companies will move to provider systems of consolidated data and analytics supply, based mainly on automatic systems. Scale and popularity of similar processes will not allow the research companies to remain aside of these tendencies. As a result, the considerable share of their business will be based on further service providing of data processing and optimization of computing models.

There will be also a change of the research market paradigm that will invert it. So the largest companies along with development of systems exactly optimized for their business will begin to make an essentially smaller profit, but among small and average business provider support will be required because of high capacity of individual systems.

## **NEUROSCIENCE – CHANGE OF SOCIAL AND ECONOMIC PARADIGMS WITH SIMULTANEOUS UPDATE OF MARKETING TOOLS**

However let's move to other spheres where many things will radically differ from routine of databases. Let's talk about neuro study and its practical perspective.

In last twenty years, cognitive sciences have been strongly stimulated by development and universal distribution of innovative study technologies of the processes occurring in nervous system. This might include occurrence of specific programs on functional visualization of the data received using a magnetic resonance tomograph, positron-emission tomography and infrared spectroscopy, and magnetic encephalography.

All listed and some other methods allowed scientists to approach experiments on brain from some other perspective that makes possible to almost fully exclude invasive procedures.

In this context development of a virtual reality systems is also important that allows you practically to model surrounding space, thereby making the experiment easier and increasing its authenticity (Plassmann, Ambler, Sven, Kenning P, 2002).

This explosive development caused many fundamental discoveries in the studying area of central nervous system functioning principles. Here, it is necessary to mention the study of neuroscientific principles and models of making decision by a person, study of emotional reactions, search of their universal neurobiological correlates, no less than condition correlates such as: trust, pulsive, compulsive and usual demand, etc. In addition to listed concepts, it is necessary to enhance possibilities for a detailed study of complex attributive concepts, for example, quality or price concepts. Researches in the area of studying optimal (fair from the point of view of a potential consumer) price with search and description of factor influence that transforms it are to be especially mentioned (Knutson, Rick, Wimmer, Prelec, Loewenstein, 2007) .

## **BRANDING POLARIZATION TO A CONCEPTUAL AND COMMODITY BRANDING AND TENDENCIES THAT ARE CONNECTED WITH IT IN NEURO RESEARCHES**

As we can see, neuro sciences have a surprise in store for us, have not they? And the problem of each real expert in the area of making researches is to be prepared that neuroprinciples (if we may call them so) will invade in real sphere of economy (Ariely, Gregory, Berns. 2010).

What is the point to begin with? – Perhaps, first we need to have an optimum definition for something that as a matter of fact can be three basic models of neuro searches use:

1. Result study of already made researches referring fundamental subjects and use of received knowledge in the further business practice;
2. Work on commodity markets and optimization of trading space;
3. Work in the area of conceptual branding.

Let's consider each aspect in detail.

*First aspect: Result study of already made fundamental researches.*

Everything here is quite clear. Our key problem is to concentrate on results and to receive knowledge which would have a practical use, without touching the neuroresearch tools. An excellent example, though it is not absolutely refer to the research environment, can be a principle of neural networks functioning, due to which is possible to attract additional attention by optimization of a shown material. (For example, a single multi angle presentation of the same object which due to its large potentiation of separate neuronal mechanisms can theoretically lead to essentially higher speed of perception, i.e. comprehension of shown stimulus that is the for example extremely important for panel board and poster advertising) (Berger, Draganska, Simonson, 2007).

*Second aspect: Work on commodity markets and optimization of trading space.*

Narrow assortment brands – high risk level and not less high potential of return from improvements will allow to count on capacious budgets, so here it is necessary to expect that neuromarketing technologies will be most widely used. Among the purposes of researches can be following enumerated: precise pricing, testing of goods concepts, revealing of the most significant factors of making decisions by purchasing goods, operating these factors, optimization of demand models based on neuroscientific data and many more.

Diversified brands – as in this case the use of expensive neuroscanning technologies usually will be economically unjustified (except for the study of combined reactions of individual categories and product categories), it suppose to be expected to spread most brilliant studies of visual attention and reaction of the vegetative nervous system, which is directly connected with emotional response of a human to one or another stimulus. As an example can be noticed the optimization of arrangement of POS-materials in shop space or the optimization of goods outlay on shelf space in a shop (Ahlert, Kenning, Plassmann, 2006).

*Third aspect: Work in the area of conceptual branding.*

In this point researchers have an opportunity to make researches with a larger budget as well to expand range of researches due to this possibility. Actually the researcher in this area will be practically limited only by a set of accessible concepts and development of research methods (Lee.N., Broderick.A., Chamberlain L.. 2006).

The most demanded purpose of these researches could be testing of the brand concepts (sensing, semiotics, semantics, figurative perceptions, value model, dominant factors of choice etc).

The neuro-paradigm will lead to new requirements in training of analysts and company management. It will give impetus to a renewal of the enterprise staff.

The following important question is, how the popularization of neuroscientific research in management area of economical relations, goods and branding, can impact on staff of research companies, companies themselves and researchers on customer side?

This question is extremely important for all of us. After all, only few people have sufficient knowledge in these complex and highly multidisciplinary areas. The future of a modern classical researcher is extremely vague. Though the full replacement of modern researchers and researches is not to be expected, there likely can be an essential redistribution of forces towards experts with education and knowledge in area of neurosciences or more profile directions: only neuroeconomics or neuromarketing directions are not expected (Fugate, 2007).

The general trend will be a redistribution of budgets in favor of the most objective and efficient methods, which are these last mentioned disciplines. And this will entail change of the research market including birth of new giants and emergence of specialized companies.

Certainly, in this background, the education also can not stay aside. And the immediate task of universities and institutes is to start preparing qualified experts which could understand not only separate disciplines (for example, he is an excellent expert in psychophysiology but has no real knowledge in economy), but also to promote the cross-disciplinary approach in training to these neo-doctrines that will allow to accelerate their development and seriously affect all related areas.

## **MODELING OF A VIRTUAL REALITY AND ITS APPLICATION DURING NEURO RESEARCHERS**

The last innovation in the list, but not the least important in research business is modeling of a virtual reality. In our opinion, if implemented in its full sensory experience framework, it should give a significant breakthrough in experimental researches, which as we all know are heavily affected by a number of inherent negative factors. Moreover, it is possible to expect that exactly the virtual reality will allow to bypass bottlenecks of both field and laboratory experiments.

The symbiosis of the neuroscientific paradigm and the virtual reality will allow to embody the dream of any expert in research area, to receive full and almost completely reliable information about potential or actual consumers, their consumption patterns, preferences and desires of not only awareness level but also of subthreshold level (Bojadziev, Bojadziev, 2007).

## **CONCLUSION AND FUTURE DIRECTIONS**

By summarizing the discussion, it is necessary to list the most significant and interesting moments in the form of theses:

- Modern research paradigm becomes very quickly hopeless obsolete in sociology area as well as in marketing area, and has a very wide range of problems.
- Gradually receding technologies are replaced by innovative and evolutionary global trends: neuro-paradigm of researches and consumer relations management, and marketing based on databases.
- Development of neuroscientific paradigm within marketing researches will allow to improve the reliability for a wide range of tasks, including: description of models of making decisions by a person, studying of emotional reactions, studying of principles and dynamics of trust formation, predicting of pulse, compulsive and habitual demand, detailed studying of multi-attributive concepts, as, for example, quality or price, finding of optimal (from the point of view of the potential consumer) price with definition and description of influence of the factors, that transform it.

- It is most probable, that the spheres of implementation of these directions will be a little polarized by moving the focus of database based on commodity markets with their usual high segmentation, and neuroparadigms – to the conceptual branding and single-commodity brands.
- Invasion of new technologies would entail changes of the structure of marketing research market, largely by changing its form, as well changes of structure of demand for personnel. The high demanded will be people who are educated in mathematics and statistics, as well as in the neuroscientific area, that in turn will lead to a shift of emphasis in the educational processes.
- Neuro-paradigm will not only change the research processes, but also will not claim principles of management, communications, etc.
- Development of modeling technologies of virtual reality, that has the possibility to simulate a full sensory experience, will extend the practice of ethnographic research, will allow to avoid many mistakes during experiments, and when used within the neuro-paradigm it will allow to give a fully completed description of most consumer behavior aspects.

## **REFERENCES**

- Ahlert D, Kenning P, Plassmann H. «A window to the consumer's mind: application of functional brain imaging techniques to advertising research». In *International Advertising and Communication*. (2006): 163–178.
- Bojadziev G., Bojadziev M. *Fuzzy logic for business, finance and management*. 2<sup>nd</sup> Edition, 2007.
- Berger J, Draganska M, Simonson I. «The influence of product variety on brand perception and choice». *Marketing Science* 26, (2007): 460–472.
- Berger J, Heath C. «When consumers diverge from others: identity signaling and product Domains». *Journal of Consumer Research* 34, (2007): 121–134.
- Dan Ariely and Gregory S. Berns. «Neuromarketing: the hope and hype of neuroimaging in business». *Science* 11, (2010): 284 – 292.
- Dolan RJ. «Emotion, cognition, and behavior». *Science* 298, (2002): 1191–1194.
- Fugate.D «Neuromarketing: a layman's look at neuroscience and its potential application to marketing practice». *Journal of Consumer Marketing* 24, (2007): 385-394.
- Lee.N., Broderick.A., Chamberlain L.. «What is neuromarketing? A discussion and agenda for future research». *International Journal of Psychophysiology*. 63, (2006): 199 – 204.
- Knutson B, Rick S, Wimmer GE, Prelec D, Loewenstein G. «Neural predictors of purchases». *Neuron* 53, (2007): 147–156.
- Krugman H. «Brain wave measures of media involvement». *Journal of Advertising Research* 11, (1971): 3–9.
- Plassmann H, Ambler T, Braeutigam S, Kenning P. «What can advertisers learn from neuroscience?» *International Journal of Advertising* 26, (2007): 151–175.
- Plassmann H., Ambler B., Sven B., Kenning P.. «The discovery of cortical relief». *Neuroeconomic research reports* 1, (2002): 1-32.
- Senior C, Smythe H, Cooke R, Shaw RL, Peel E. «Mapping the mind for the modern market researcher». *Qualitative Market Research* 10, (2007): 153–167.
- Zadeh, L. A. *The Role of Fuzzy Logic in the Management of Uncertainty in Expert Systems, Fuzzy Sets and Systems* 11, (1983): 199-227.

# **A STUDY OF MANAGERS' PERCEIVED ENVIRONMENTAL UNCERTAINTY IN ASIA**

**Jeong-Gil Choi, Kyung-Hee University, Korea**

## **ABSTRACT**

*This study tested for differences in the perceived environmental uncertainty (PEU) of hotel general managers in two Asian countries, Korea and Japan. This study also examined whether the level of PEU escalates over time. The data were collected through questionnaires and telephone interviews. PEU was measured using questionnaire items that corresponded to seven major sectors of the industrial environment of the organization. The results are quite different from what was expected, indicating that managerial perceptions did not substantially vary across hotels in different countries or over different time periods. This study provided a picture of hotelier' PEU in different time and international settings.*

## **INTRODUCTION**

It has been argued that firms that follow different strategies will tend to perceive their environments differently (Zahra, 1987). As a result, the same objective environmental attributes may be perceived differently by different organizations (Snow, 1976). The environment one organization perceives as unpredictable, complex, and evanescent, another organization might see as static, and easily understood (Starbuck, 1983). The performance consequences of such differing perceptions were confirmed by Bourgeois (1985), who reported that higher performance was associated with firms that experienced a greater degree of congruence between objectively measured volatility and PEU. In other words, firms that survey their environments with greater perceptual precision tend to achieve higher than average levels of economic performance.

Perceptions of environmental uncertainty have been found to differ significantly across nations (Miller, 1993), and the national culture has been found to influence perceptions of environmental factors, such as crises and threats (Bluedorn, Johnson, Cartwright, & Barringer, 1994; Jogaratnam & Law, 2006). The primary purpose of the present study is to identify the differences in PEU by focusing on hotel managers in Asia. This study tested for differences in the perceived environmental uncertainty (PEU) of hotel general managers in two Asian countries, Korea and Japan. This study also examined whether the level of PEU escalates over time.

## **THEORETICAL BACKGROUND**

### **Business Environment**

The environment is defined as the totality of physical and social factors that are taken into consideration during the decision-making behavior of individuals in the organization (Duncan, 1972). Therefore, organizations need to be knowledgeable the boundaries of the organization. Such knowledge is possible when the firm executives continually scan the environment. The organizational environment consists of two major components: the task (or specific) environment and the remote (or general) environment (Olsen & Roper, 1998). The task environment has a more direct relationship with the day-to-day success of an organization and consists of events involving the customer, supplier, regulator, and competitor segments. Meanwhile, the remote environment is related to such factors as the economic, technological, sociocultural, ecological, and political events. Because these events are so broadly based, it is often difficult to determine how they will influence the organization. This remote environment is especially important to multinational operators because many events can critically impact corporate decisions to enter and operate in international markets (Olsen & Roper, 1998).

Typically, firms cannot control their general environment. Furthermore, many developments in the general environment are difficult to predict with any degree of accuracy. However, some trends in the general environment, such as population distribution by age, ethnicity, and income levels, can be forecast with a high degree of accuracy. With access to clearly defined key environmental risk variables, managers are able to focus on the key variables that have the greatest impact on performance.

## **Perceived Environmental Uncertainty (PEU)**

Perceived environmental uncertainty (PEU) is the difference between the amount of information required to make a decision and the information already at hand (Galbraith, 1977). In effect, PEU exists when managers feel unable to comprehend major events or trends in the environment or when they have little confidence in their ability to reliably assign probabilities to the likelihood that a particular event may transpire (Milliken, 1987; Elenkov, 1997; Freel, 2005). It is not uncommon for managers to be exposed to more information than they are able to perceive (Mintzberg, 1973; Hambrick, 1982; Jogaratnam & Law, 2006). Therefore, managers faced with limited time and capacity for information processing and bounded rationality (the inability to comprehensively understand the environment) must be selective in their approach to scanning (Daft et al., 1988; Hambrick, 1982).

Unfortunately, such an approach may result in the failure of managers to notice changes that turn out to be important and may even cause managers to misinterpret changes (Pfefer & Salancik, 1974). These failures may in turn lead to an inability on the part of the managers to make the necessary changes to organizational strategy, structure and processes in response to environmental conditions, resulting in below average performance (Lawrence & Lorsch, 1967; Lindsay & Rue, 1980; Weick, 1987). Perceived environmental uncertainty is more relevant than the external (objective) environment and is a key input in the strategic management process (Bourgeois, 1980). The growing importance of strategic planning recognizes the need for organizations to establish formal links between the external elements of the organization and the internal decision-making or resource-allocation functions.

## **PROPOSITIONS**

### **Propositions**

This study proposes that a general manager's perceptions of uncertainty in his or her organizational environment are different across countries and time periods. The pertinent propositions are as follows.

**Proposition One:** Managerial perceived environmental uncertainty (PEU) is significantly different across countries.

**Proposition Two:** Managerial perceived environmental uncertainty (PEU) is significantly different across time periods.

## **METHODS**

### **Measurement**

In this study, PEU was measured using questionnaire items that corresponded to seven major sectors of the industrial environment of the organization: (1) relations with suppliers, (2) competitor actions, (3) customer demand, (4) relations with financial/capital markets, (5) relations with governmental regulatory agencies, (6) relations with the labor market, and (7) technological developments. These environmental dimensions were suggested by previous theory and research by Dill (1958), Katz and Kahn (1966), Lawrence and Lorsch (1967) and Thompson (1967). The statistical package software SPSS was used to test the hypotheses. To test the differences between/among observations, a statistical t-test and paired sample difference tests were used.

### **Sample and Data Collection**

This study observed two countries, Korea and Japan. Five-star (the highest level of government rating) and four-star (the second-highest level of government rating) hotels from each country were included. Most of the data were collected through questionnaires and telephone interviews. The questionnaires were mailed to the general managers in each country. Because of the language differences, it was necessary to translate the survey questionnaires into three different languages: Korean, Japanese, and English. To improve the responses to the survey, the researcher provided translated supplemental information for the questionnaires. The researcher contacted the general managers in these countries by faxing and calling to facilitate a fast and appropriate response.

Approximately 100 hotels were initially contacted in the two countries, 63 of which agreed to participate in the study. Data were obtained from 36 hotels in Korea and 24 hotels in Japan. The size of the hotels in Japan ranged from 70 to 750 rooms per hotel, and the size of the hotels in Korea varied from 100 to 700 rooms. In terms of the property type, 75% of the Korean hotels were independently owned and 62.5% of the Japanese hotels were independently owned (Table 1).

**Table 1. Demographic profile**

Ownership Type	Korea		Japan	
	Frequency	Valid Percent	Frequency	Valid Percent
Chain owned	9	25.0	9	37.5
Independently owned	27	75.0	15	62.5
Total	36	100.0	24	100.0
No of rooms	Frequency	Valid Percent	Frequency	Valid Percent
50-149	4	11.1	2	8.3
150-249	6	16.7	2	8.3
250-349	8	22.2	2	8.3
350-449	10	27.8	8	33.3
450-549	4	11.1	5	20.8
550-649	1	2.8	3	12.5
650-749	1	2.8	1	4.2
750 and over	2	5.6	1	4.2
Total	36	100.0	24	100.0

## FINDINGS

### Variations in PEU

The results of the environmental uncertainty questionnaire, presented in Table 2, generally support the view that managerial perceptions vary from organization to organization within an industry. In 2010, the top executives of the Korean hotel industry perceived that government regulatory agency actions (overall mean: 4.01) were the most uncertain aspect of their organizational environments, followed by the actions of labor unions (3.79), financial/capital markets (3.68), raw materials and component suppliers (3.47), customer actions (3.23), competitor actions (3.10), and technological developments (3.02). In the Japanese hotel industry, a similar pattern of managerial perceptions emerged. As in Korea, the top executives perceived government regulatory agency actions (4.14) to be the most uncertain environmental factor, followed by the actions of labor unions (3.33), raw materials and component suppliers (3.28), financial/capital markets (3.61), technological developments (3.29), customer actions (3.10), and competitor actions (2.73).

Therefore, these results corroborated the expectation that the managerial perceptions of the environment would vary across organizations within an industry. However, it was surprising to find that managerial perceptions did not vary more substantially across countries in the expected manner.

**Table 2. Variations in PEU**

Questionnaire item	Year 2006				Year 2010			
	Korea		Japan		Korea		Japan	
	Mean	N	Mean	N	Mean	N	Mean	N
<b>1. Raw materials and components suppliers:</b>								
a. Price changes	3.16	25	2.66	18	3.33	36	2.75	24
b. Quality changes	3.36	25	3.27	18	3.55	36	3.20	24
c. Design changes	3.28	25	3.61	18	3.41	36	3.45	24
d. Introduction of new materials	3.4	25	3.44	18	3.58	36	3.70	24
Overall mean	3.3	25	3.25	18	3.47	36	3.28	24
<b>2. Competitor actions:</b>								
a. Price changes	2.72	25	2.38	18	2.83	36	2.66	24
b. Product quality changes	3.16	25	2.83	18	3.30	36	2.70	24
c. Product design changes	3.08	25	3.0	18	3.16	36	2.83	24
Overall mean	2.99	25	2.74	18	3.10	36	2.73	24
<b>3. Customers:</b>								
a. Demand for existing products	2.92	25	2.94	18	3.05	36	2.91	24
b. Demand for new products	3.44	25	3.16	18	3.41	36	3.29	24
Overall mean	3.18	25	3.05	18	3.23	36	3.10	24
<b>4. Financial/capital market:</b>								
a. Interest rate changes								
1. Short-term debt	3.64	25	3.16	18	3.44	36	3.41	24
2. Long-term debt	3.8	25	3.55	18	3.75	36	3.75	24
b. Changes in financial instruments available								
1. Short-term debt	3.96	25	2.74	18	3.83	36	3.37	24
2. Long-term debt	4.0	25	3.27	18	3.86	36	3.62	24
c. Availability of credit								
1. Short-term debt	3.64	25	3.22	18	3.55	36	3.58	24
2. Long-term debt	3.80	25	3.55	18	3.66	36	3.91	24
Overall mean	3.81	25	3.25	18	3.68	36	3.61	24
<b>5. Government regulatory agencies:</b>								
a. Changes in laws or policies on pricing	4.04	25	4.38	18	4.22	36	4.12	24
b. Changes in laws or policies on product standards or quality	3.88	25	4.5	18	4.19	36	4.25	24
c. Changes in laws or policies on financial practices	4.08	25	4.38	18	4.19	36	4.25	24
d. Changes in labor (personnel) laws or policies	3.92	25	4.33	18	4.22	36	4.08	24
e. Changes in laws or	3.6	25	4.61	18	3.66	36	4.20	24

policies on marketing and distribution methods									
f. Changes in laws or policies on acceptable accounting procedures	4.08	25	4.33	18	3.97	36	4.12	24	
g. Change in laws or policies on the provision of your service	3.68	25	4.22	18	3.66	36	3.95	24	
Overall mean	3.90	25	4.39	18	4.01	36	4.14	24	
<b>6. Actions of labor unions:</b>									
a. Changes in wages, hours, and working conditions	3.36	25	3.83	18	3.75	36	3.70	24	
b. Changes in union security	4.32	25	3.33	18	4.47	36	3.41	24	
c. Changes in grievance procedures	3.0	25	2.72	18	3.16	36	2.87	24	
Overall mean	3.56	25	3.29	18	3.79	36	3.33	24	
<b>7. Technological Developments:</b>									
a. Changes in computers and communication technologies	3.24	25	3.88	18	3.00	36	3.95	24	
b. Changes in expert systems/decision support systems	3.44	25	3.38	18	3.19	36	3.45	24	
c. Changes in reservation systems	2.96	25	2.44	18	2.75	36	2.66	24	
d. Changes in training and development systems	3.16	25	3.05	18	3.16	36	3.08	24	
Overall mean	3.2	25	3.19	18	3.02	36	3.29	24	
<b>Aggregate mean for all items</b>	<b>3.42</b>	<b>25</b>	<b>3.31</b>	<b>18</b>	<b>3.56</b>	<b>36</b>	<b>3.49</b>	<b>24</b>	

If we examine the aggregate means for all the items in the environmental uncertainty questionnaire (Table 2), it is clear that there was almost no difference between the perceptions of Korean and Japanese managers (3.42 versus 3.31 in 2006 and 3.56 versus 3.49 in 2010). Inspection of the overall means for each of the seven major environmental factors also revealed no substantial differences. Thus, it seems clear that these perceptual data do not support the widely held belief that substantial differences exist between the environmental conditions in Korea and Japan. Proposition one was rejected. Table 3 presents more detailed information regarding the differences in the PEU associated with different countries (Pair 1) and different time periods (Pairs 2 and 3).

**Table 3. Paired sample difference tests**

	Paired difference				t	df	Significance. (2-tailed)
	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Mean			

			of the Mean	Lower	Upper				
Pair 1	KPEU 2010- JPEU 2010	.03305	.92323	.18845	-.35680	.42289	.175	23	.862
Pair 2	KPEU 2010- KPEU200 6	.01049	.7583	.15167	-.30254	.32353	.069	24	.945
Pair 3	JPEU 2010- JPEU 2006	.03257	.7671	.18083	-.34895	.41408	.180	17	.859

This study also explored if there is any significant difference of PEU according to different time periods. It was assumed that the current business environment has become more complex (and thus more uncertain) compared with the previous period. In other words, the study assumed that the business environment becomes more uncertain as time passes. But, this proposition was revealed to be false (Table 3). There was no significant difference of PEU according to the different time periods. Proposition two was rejected. Managers perceived similar levels of uncertainty in 2006 and 2010.

## **DISCUSSION AND CONCLUSIONS**

This study proposed that the managerial perceptions of uncertainty in the organizational environment would vary across countries and across time periods. However, the results revealed that there is no significant difference in the managerial perception in different countries. Furthermore, there is no significant difference in the managerial PEU across different time periods.

This result does not support a previous study (Miller, 1993) that concluded that perceptions of environmental uncertainty differed significantly across nations. The underlying reasoning for the first proposition, that organizations operating in ostensibly similar environments may in fact perceive the environment differently, was not accepted. This conclusion can be explained by other studies (May, Stewart, & Sweo et al., 2000; Bluedorn, Johnson, Cartwright, & Barringer, 1994; Jogaratnam & Law, 2006), in which the national culture was found to influence the perception of environmental factors, such as crises and threats. The observed countries have similar national cultures and thus similar business environments. PEU exists when managers feel incapable of comprehending major events or trends in the environment, or when they have little confidence in their ability to reliably assign probabilities to the likelihood that a particular event may transpire (Milliken, 1987; Elenkov, 1997; Freel, 2005). In this sense, it can be said that managers in both countries exercise similar levels of confidence in their business environment changes, and thus perceive the same levels of uncertainty. The PEU across the two countries was quite similar in this study.

Surprisingly, there was no significant difference in PEU across different time periods. Managers in both countries perceived similar levels of uncertainty in both 2006 and 2010. This study rejected the second proposition. This finding can be explained by the following three cases. First, when managers are accustomed to a significant increase in complexity and uncertainty in the business environment, they do not acknowledge it when it occurs. Second, when managers have developed the knowledge and managerial techniques to overcome uncertainty, they do not acknowledge a significant increase of complexity and uncertainty in the business environment. Third, in reality, the business environment is neither complex nor uncertain. Therefore, they do not acknowledge it.

The results of this study imply that hotel managers in both countries share a common business environment in terms of the uncertainty level. Their PEU levels even remain constant across different time periods. Under these conditions, it is obvious that managers in both countries will exercise similar strategies for their businesses.

To be competitive in these markets, it is necessary to improve the predictability and lower the level of uncertainty.

This study attempted to test for a difference in the perceived uncertainty of hotel managers in two countries in Asia. The inclusion of more countries might lead to different conclusions for the propositions raised by this study. Furthermore, a continuous longitudinal study would more thoroughly verify any differences in the perceived environment uncertainty across different time periods. A more concrete explanation of why there is no PEU level escalation as time passes would be articulated in future research.

## REFERENCES

- Bluedorn, A.C., Johnson, R.A., Cartwright, D.K., & Barringer, B.R. (1994), "The interface and convergence of the strategic management and organizational environment domains", *Journal of Management*, Vol. 20 No. 2, pp. 201–262.
- Bourgeois III, L. J., (1980), "Strategy and environment A conceptual integration", *Academy of Management Review*, Vol. 5 No.1, pp. 25–39.
- Bourgeois III, L. J., (1985), "Strategic goals, perceived uncertainty, and economic performance in volatile environments", *Academy of Management Journal*, Vol. 28 No. 3, pp. 548–573.
- Daft, R.L., Sormunen, J., & Parks, D. (1988), "Chief executive scanning, environmental characteristics, and company performance: An empirical study", *Strategic Management Journal*, Vol. 9 No. 2, pp. 123–139.
- Dill, W. R. (1958), "Environment as an influence on managerial autonomy", *Administrative Science Quarterly*, Vol. 2 No. 4, pp. 404–443.
- Duncan, R.B. (1972), "Characteristics of organizational environments and perceived environmental uncertainty", *Administrative Science Quarterly*, Vol. 17 No. 3, pp. 313–327.
- Elenkov, D.S. (1997), "Strategic uncertainty and environmental scanning: The case for institutional influences on scanning behavior", *Strategic Management Journal*, Vol. 18 No. 4, pp. 287–302.
- Freel, M.S. (2005), "Perceived environmental uncertainty and innovation in small Firms", *Small Business Economics*, Vol. 25 No. 1, pp. 49–64.
- Galbraith, J.R., 1977, *Organization Design*, Addison-Wesley, Reading, MA.
- Hambrick, D.C. (1982), "Environmental scanning and organizational strategy", *Strategic Management Journal*, Vol. 3 No. 2, pp. 159–174.
- Jogarathnam, G. & Law, R. (2006), "Environmental scanning and information source utilization: Exploring the behavior of Hong Kong hotel and tourism executives", *Journal of Hospitality and Tourism Research*, Vol. 30 No. 2, pp. 170–190.
- Katz, D. & Kahn, R. (1966), *The social psychology of organizations*, Wiley, New York.
- Lawrence, P.R. & Lorsch, J.W. (1967), *Organization and Environment: Managing Differentiation and Integration*, MA: Harvard University, BSN.
- Lindsay, W, M. & Rue, L.W. (1980), "Impact of the organization environment on the long-range planning process: A contingency view", *Academy of Management Journal*, Vol. 23 No. 3, pp. 385–404.
- May, R.C., Stewart, W.H., & Sweo, R. (2000), "Environmental scanning behavior in a transitional economy:

Evidence from Russia. *Academy of Management Journal*”, Vol. 43 No. 3, pp. 403–427.

Miller, K.D. (1993), “Industry and Country Effects on Managers' Perceptions of Environmental Uncertainties”, *Journal of International Business Studies*, Vol. 24 No. 4, pp. 693–714.

Milliken, F.J. (1987), “Three types of perceived uncertainty about the environment: State, effect, and response uncertainty”, *Academy of Management Review*, Vol.12 No. 1, pp. 133–143.

Mintzberg, H. (1973), *The Nature of Managerial Work*. Harper and Row, NY.

Olsen, M.D., & Roper, A. (1998), “Research in strategic management in the hospitality industry”, *International Journal of Hospitality Management*, Vol. 17 No. 2, pp. 111–124.

Pfeffer, J., & Salancik, G.R. (1974), “Organizational decision making as a political process: the case of a university budget”, *Administrative Science Quarterly*, Vol. 19 No. 2, pp. 135-151.

Snow, C.C. (1976), “The role of managerial perceptions in organizational adaptation: An exploratory study” Working Paper, Graduate School of Business, The Pennsylvania State University, University Park, PA.

Starbuck, W.H. (1976), “Organizations and their environments”, In M.D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology*, Rand McNally, Chicago, IL pp. 1069–1123.

Thompson, J.D. (1967), *Organizations in Action*, McGraw-Hill, NY.

Weick, K.E. (1987), “Organizational culture and high reliability”, *California Management Review*, Vol. 29 No. 2, pp. 112–127.

Zahra, S.A. (1987), “Corporate strategic type, environmental perceptions, managerial philosophies, and goals: an empirical study”, *Akron Business and Economic Review*, Vol. 18, pp. 64–77.

# DOES MONEY REALY MOTIVATE SALES REPRESENTATIVES?

**RL Coetzee and M Wiese**  
**University of Pretoria, South Africa**

## ABSTRACT

*Many organizations invest a great deal of time and money in designing incentive schemes that are failing to achieve their objective of motivating employees. Self-administered questionnaires were completed by a sample of 100 pharmaceutical sales representatives from three South African companies. The questionnaire made use of a four-point Likert scale to rate the importance of various external motivational factors. The study showed that internal competitions and teambuilding were seen as less important among respondents. The respondents also indicated that being well-informed and having strong products and brands were indeed more important than financial incentives. The results of this study could enable management to recognize those factors that might lead to increased performance levels and ultimately to increased sales and a lower turnover of the sales force.*

## INTRODUCTION

Most people get up in the morning, go to work, and behave in ways that are predictably their own. They usually give little thought as to why they work hard, enjoy certain projects, or find some recreational activities so much fun. Yet, all these behaviours are motivated by something. Employee motivation affects productivity, and part of a manager's job is to channel subordinates' motivation toward the accomplishment of the organization's vision or goals (Daft, 2005:294). For their sales managers it is not an easy task to ensure that their sales teams are motivated and performing at their peak, even more so in times when sales are not that good and customers are difficult to call on. Companies need to ensure that their sales forces are highly productive and motivated. As a result, companies consequently try to improve the productivity of their sales force through better selection, training, motivation and compensation. Of these, compensation and incentive schemes play an important role in motivating sales people to perform better (Abratt and Klein, 1999). Incentive schemes as a form of motivation has long been part of compensation plans in the pharmaceutical industry and practised by the majority of pharmaceutical companies operating in South Africa. Behaviour that positively affects performance must be contingently reinforced rather than indiscriminately rewarded. Pay is by far the most recognized reward in human resource management, and pay for performance is closely equated with a reward system (Smith & Rupp, 2003). A survey, performed by Watson Wyatt in the United Kingdom in 2005, indicated that only 38% of employees are motivated by the incentives and performance management systems offered by their organizations (Empey, 2005). Conventional wisdom, supported by considerable research, suggests that, regardless of how well a sales force compensation plan is received, other motivational factors are also important to sales people. Motivators like promotion opportunities, recognition, incentive awards, and fringe benefits are important motivational devices used in sales organizations. Unfortunately, little is known about the relative importance attached to these motivators by sales people (Chonko, Tanner & Weeks, 1992). Although some studies have been done on determining reward preferences of sales people (Lopez, Hopkins & Raymond, 2006; Chonko *et al.*, 1992; and Ingram & Bellenger, 1983) as well as on compensation and incentive schemes in the South African pharmaceutical industry (Abratt & Klein, 1999), there is very little information on how a sales representative interprets the importance of these extrinsic/external motivational factors.

A poorly motivated sales force will be costly to the organisation in terms of lower performance, excessive staff turnover, increased expenses, higher use of the sales manager's time and a negative effect on the morale of colleagues (Jobber & Lee, 1994). Not everyone is motivated by the same thing and sales managers must work towards tailoring the motivational environment to the individual (Chonko *et al.*, 1992).

## Sales management

Sales management is the attainment of sales force goals in an effective and efficient manner through planning, staffing, training, leading, and controlling organizational resources. Miao, Evans and Shaoming (2007) suggest that the use of sales controls have significant consequences in supporting sales people intrinsic and extrinsic motivation. One of the responsibilities of sales management is to understand the needs of employees and to tailor the motivational programme so that satisfaction of those needs can be accomplished by performing desired organizational tasks. Thus, to manage successfully presupposes that sales managers understand the needs of the sales force (Jobber & Lee, 1994). Target setting, the compensation of sales people, and the impact of the leadership style of the sales manager form a very important part of sales management and more specifically the motivation of sales representatives.

The behaviour and performance of sales people are mainly influenced by the compensation and reward structures applied in an organisation. Rajagopd (2010) argues that compensation as well as sales territory design influences the effectiveness of the sales forces. These compensation systems may also affect the satisfaction and retention of sales people. A key challenge for sales managers would therefore be to identify rewards that will motivate their sales people but will also develop a quality sales force (Lopez *et al.*, 2006). Sales managers must be knowledgeable about the elements of compensation, balancing compensation and using unexpected rewards. Despite the variety of creative names used to describe parts of the compensation plan, it consists of salary and commissions. Bonuses based on sales goals, prizes given as rewards for sales contests, and commission increases based on tonnage are all examples of commissions (Smith & Rupp, 2003). Guaranteed minimums and Christmas bonuses are part of salaries. The distribution of money between salary and commission is the key to its positive or negative influence on motivation (Smith & Rupp, 2003). Abratt and Klein (1999) are of the opinion that the incentive proportion of the sales compensation plan has increased over the last 30 years. They state that the majority of sales representatives prefer a combination plan consisting of base salary plus a form of incentive (Abratt & Klein, 1999). According to Smith and Rupp (2003), money can either motivate or de-motivate, depending on its eventual distribution. Compensation plans must have a balance of salary and commission to motivate, while maintaining some level of control and ethics. Ideally, a salesperson should have a long-term view including survival and prosperity of the company (motivated by salary), coupled with a short-term view of higher earnings (motivated by commission), without conflicts between the two. Lopez *et al.* (2006) are of the opinion that there is no doubt that employing commissions as a reward, motivates sales people in some situations. However, heavy reliance on commissions to reward sales people may cause concern about high-pressure sales techniques, coercive selling, ethical selling issues, and salesperson behaviours. Organizations (and specifically sales managers) are therefore often faced with the issue of designing commission reward structures and also mitigating the risk of any negative aspects around commissions. According to Smith and Rupp (2003), prizes have become so common; they are a form of commission that sales people expect. Expected rewards decrease the intrinsic motivation for the rewarded activity. Unexpected rewards, in the context of the same activity, increase motivation. Self-determination of rewards (picking your own prizes) could be expected to increase motivation (Smith & Rupp, 2003).

There is little research to guide sales managers in understanding which forms of compensation and rewards are most preferred by sales people. Lopez *et al.* (2006) contributed to this knowledge by performing a study to identify the extent to which sales people prefer particular rewards. Although Lopez *et al.* (2006) argue that financial incentives (or commissions) are preferred over pay raises and other types of rewards, they also report findings that age, as well as other internal factors could influence reward preferences and they also suggest a need for further research on how different career stages might influence preferences for different rewards.

## Motivation

Motivation refers to the forces, either internal or external, to a person that arouses enthusiasm and persistence to pursue a certain course of action (Daft, 2005). According to Daft (2005), intrinsic rewards are the internal satisfactions a person receives in the process of performing a particular action, while extrinsic rewards (the focus of this study) are given by another person, typically a supervisor, and include promotions and pay increases. The specific nature of the sales job together with the personality of the sales person, the diversity of

the company goals, and the changing character of market conditions greatly influence the motivation level and therefore the performance of sales representatives (Abratt & Klein, 1999).

To increase motivation, marketers and sales managers reinforce intrinsic and extrinsic rewards of all types. Previous research has shown that the reward with the highest value was pay, followed by promotion, personal growth, and sense of accomplishment (Chowdury, 1993; Chu, Gerstner and Hess, 1995; Krafft, 1999). Malik and Nadeem (2009) found in study under pharmaceutical representatives in Pakistan that the three top motivators were pay and fringe benefits followed by job security and promotional opportunities. Liao (2009) also states that an increase in financial incentives reinforces the motivation of sales representatives. The least-valued rewards were liking and respect, security, and recognition. In other words, sales people are highly motivated by pay and the chance to get ahead and satisfy their intrinsic needs, and less motivated by compliments and security. However, researchers also found that the importance of motivators varied with demographic characteristics; financial rewards were mostly valued by older, longer tenured people and those who had large families whereas higher-order rewards (recognition, liking and respect, sense of accomplishment) were more valued by young sales people who were unmarried or had small families and usually more formal education (Kotler & Keller, 2006).

## **Incentive schemes**

Organizations utilize incentive schemes to motivate their employees. In the pharmaceutical industry this is no different and often a lot of emphasis is placed on the design and structure of incentive schemes. Incentive schemes can include various components, such as commissions, incentive trips, and special awards (e.g. “rep of the year”, medals). Successful incentive payment or reward scheme will encourage staff to go the extra mile. But to be a truly effective “carrot”, an incentive scheme requires careful planning, good design, and excellent communication (Gray, 2002). In a study performed by Abratt and Klein (1999), the most important measure used for incentive payments was *sales above target*. In there study, Abratt and Klein also identified other measures such as *company performance* and *different rates by product category*. Very few companies used *market information* as a basis for incentive payments.

## **RESEARCH OBJECTIVE**

The objectives of this study are to determine the importance of various external factors in motivating pharmaceutical sales representatives; to establish the five most important external motivational factors; to establish the five least important external motivational factors and to determine whether demographical differences exist in the importance of selected motivational factors.

## **RESEARCH METHOD**

Non-probability, convenience sampling was used, since the characteristics of this method was considered suitable in view of financial and time restraints. The target population for this study consisted of 100 pharmaceutical sales representatives in three selected pharmaceutical companies in South Africa. Data was collected by means of a quantitative, self-completion measurement instrument. The motivational factors selected for usage in the questionnaire were identified from previous research done by Jobber & Lee (1994). Questionnaires were distributed *via* regional managers to hand to their representatives for completion and a specific date was provided on which these forms needed to be returned. In this study, a four-point Likert scale, ranging from “not important” to “very important”, was used to avoid a mid-point and thus respondents were compelled to make a decision towards one or the other end of the scale. The questionnaire was also designed to obtain demographical information such as gender, age, academic background, marital status and family background.

## **RESEARCH RESULTS**

## Demographic profile of sample

Pharmaceutical sales representative positions are more often filled by females than males (75% vs. 25%) and the majority of representatives are married (66%). There were also a large number of respondents with children (62%), with 12% having three or more children. It is also evident that the pharmaceutical representative's position is not limited to people in their twenties or thirties, with 27% of respondents being older than 40 years of age and the oldest respondent being 62 years old. This is also reflected in the number of years experience within this group of respondents: 58% of respondents have more than 6 years experience as pharmaceutical representatives with 34 years being the longest total years of experience. The level of education amongst respondents were also quite high; with 52% of respondents having Bachelor, Honours or Master degrees, while 48% of respondents have also attempted further studies while employed as pharmaceutical sales representatives.

## External motivational factors

Factors that were listed as external motivators included *incentive schemes* such as *financial incentives*, *incentive trips*, and *prize/awards*. In the literature review section, it was noted that these were the factors most commonly used by pharmaceutical companies as incentive schemes to motivate representatives. Other factors such as *appraisal*, *target setting*, *strong products*, *being well-informed* and *exclusive territories*, were also evaluated. The last mentioned factors are often forgotten by sales managers when looking at ways of motivating sales representatives. In Table 1 the results of the data collected are displayed in accordance to how these factors were rated as *not at all or less important*, *quite important* or *very important* (The *not at all important* and *less important* options were combined for statistical reasons).

**Table 1: The importance of external motivational factors (N=100)**

	Not at all or less important (%)	Quite important (%)	Very important (%)	Mean value	Ranking
<i>Appraisal and performance feedback from my managers</i>	6	41	53	3.47	7
<i>Involvement in target setting</i>	13	62	25	3.12	12
<i>Teambuilding</i>	22	45	33	3.06	13
<i>Internal "competitions"</i>	48	38	14	2.59	14
<i>Prizes / awards</i>	18	42	40	3.19	11
<i>Strong products and brands</i>	9	11	89	3.89	2
<i>Being well-informed</i>	0	7	93	3.93	1
<i>Prospects of promotion</i>	17	32	51	3.32	9
<i>Training opportunities</i>	2	46	52	3.50	6
<i>Pension and medical aid</i>	3	21	76	3.71	5
<i>Company car / car allowance</i>	4	20	76	3.72	4
<i>Financial incentives</i>	2	11	87	3.85	3
<i>Exclusive (individual) territories</i>	8	41	51	3.43	8
<i>Incentive "trips"</i>	22	22	56	3.31	10

Among the external motivators, it appears to be the *internal competitions*, *teambuilding* and *incentive trips* that were seen as less important among respondents. This is very interesting as these factors are often viewed as important in motivating pharmaceutical representatives and are included in the incentive scheme "packages" of many pharmaceutical companies. *Prospects of promotions* only ranked 9<sup>th</sup> and is in contrast with previous findings that suggested the promotion was second most important after pay.

When looking at the five most important external motivational factors the respondents indicated that being well-informed (mean value = 3.93) and having strong products and brands (mean value =3.89) were indeed more important than financial incentive (mean value 3.85). One could probably also argue that without being well-informed and having strong products and brands, targets will not be met and financial incentives will not realize. Although having a company car /car allowance (mean value = 3.72), as well as pension and medical aid (mean value = 3.71) are sometimes viewed as just "part of the package"; they are actually perceived as being better motivators than things such as incentive trips or prizes and awards.

As evident from the table, competitions (mean value = 2.59) amongst each other are not really motivating the pharmaceutical sales representatives as this factor was ranked least important followed by teambuilding (mean value 3.06) and involvement in target setting (mean value of 3.12). Prizes/awards (mean value = 3.19) and incentive trips (mean value = 3.31) are very often used as part of incentive schemes in the pharmaceutical industry; therefore it is quite interesting to see that representatives do not perceive them to be highly motivational, as they are two of the five least important factors.

## Linking demographics with motivational factors

To determine whether the demographics of a sales representative will determine which motivational factors will be more important to him/her, some chi-square tests were done between certain demographical variables and motivational factors. The selection of these factors was done on the basis of initial indications that there were some differences in the preferences for these motivational factors amongst various demographical populations. Another reason for choosing these factors is that there have been speculations that representatives of different demographics will perceive these specific factors differently in terms of importance (Lopez *et al.*, 2006). The **Chi-Square method** was used to determine the statistical significance. The first decision was made to focus on the five most important external motivational factors and to compare how males and females rated these factors in terms of importance. Table 2 illustrates the differences between the male and female preferences for these factors.

Table 2: Rating of the five most important external motivators mean values and gender

	Being well-informed	Strong products & brands	Financial incentives	Company car/allowance	Pension & Medical aid
Male	3.88	3.88	3.96	3.56	3.64
Female	3.94	3.89	3.81	3.77	3.73

Although the ranking between males and females for external motivators are very similar for the two most important factors (being well-informed and strong products and brands), males seemed, once again, to have given a higher ranking to financial incentives than females, and females rated company car /car allowance and *pension and medical aid* more important than males. When male and female ratings of these selected motivational factors were compared, no significant differences were detected (*p* values were constantly higher than the expected value for statistical significance, which was 0.05).

Gender, age, marital status and educational backgrounds were also compared with factors such as incentive trips, prizes/ rewards, internal competitions, teambuilding as these factors did appear to have some differences when the first statistical analysis was done. The *p*- value results of the chi-square tests are presented in Table 3.

Table 3: P-values of selected motivational factors and age, gender, marital status and education

	Age	Gender	Marital status	Education
<b>Incentive trips</b>	P = 0.8372	P = 0.4274	P = 0.0806	P = 0.498
<b>Prizes/awards</b>	P = 0.5879	P = 0.5124	P = 0.4893	P = 0.2832
<b>Internal competitions</b>	P = 0.3487	P = 0.9034	P = 0.7390	P = 0.092
<b>Team building</b>	P = 0.7736	P = 0.4371	P = 0.4209	P = 0.7332

Different age groups were evaluated in terms of their preferences for the selected motivational factors. The decision was made to split the age groups as follows: 23 – 30; 31 – 40; 41 and older, to have similar sample size groupings for statistical testing. There were no major differences between the different age groups and their rating of incentive trips and prize/awards as external motivational factors (*p* = 0.8372 and *p* = 0.5879 respectively). For incentive trips a slightly higher percentage (27%) of age group 31 – 40 rated these trips as not important, 21% of the 23-30 group and 15% of the 41+ group. For the older representatives prize/ awards were not that important as for the younger group of representatives, as a lower percentage of them indicated that this was very important (27% of age group 41+ vs. 42% of age group 23-30 and 46% for the 31-40 groups). More than 60% of representatives older than 40 rated internal competitions as not important compared to 36% of the 23-30 group and 49% of the 31-40 group of representatives. The younger representatives seemed to rate internal competitions more important than their older colleagues. Interestingly, for the older representatives

teambuilding was indicated as very important by 42% of this age group compared to less than 30% for their younger colleagues. Unfortunately, as evident from Table 6, none of these differences were significant.

When male and female ratings of these selected motivational factors were compared, no significant differences were detected, although females gave a slighter higher rating to team building.

For ease of comparison, the marital status grouping was done as follows: Single (includes all single as well as divorced and widowed respondents) and Married (includes all married as well as co-habit respondents). It seems as if single people tend to be more in favour of incentive trips as a form of an incentive scheme than married people, although not statistically significant ( $p = 0.0806$ ). The rating in terms of prizes/awards was similar amongst single and married people ( $p=0.4983$ ). When asked about internal competitions and teambuilding, there was also not a significant difference ( $p = 0.7390$  and  $p = 0.4209$  respectively) between single and married people.

For statistical purposes the educational demographics were divided into two groups: Matric/Diploma (Including High School, Matric or equivalent, Post-school Certificate/Diploma and National diploma/Higher diploma) and Bachelor/Honours/Master degree (Including Bachelor degree or equivalent, Honours degree or equivalent, Master degree or equivalent and Doctoral degree or equivalent). No significant differences were noted when representatives with different educational qualifications rated the importance of the selected motivational factors. Although representatives with tertiary degrees appeared to be more in favour of internal competitions (21% vs. 6% ranked this as very important), it is not overall statistically significant ( $p = 0.092$ ). For representatives with different educational backgrounds there were no distinctive differences in their preference of motivational factors.

## LIMITATIONS

The study was limited to external motivational factors, therefore excluding internal motivational factors. The sample consisted of sales representatives from three pharmaceutical companies in South Africa, thereby excluding representatives from the rest of the pharmaceutical industry in South Africa. Due to the nature of non-probability sampling, the respondents used in the study are not representative of the broader South African pharmaceutical sales representative population. Therefore the results cannot be generalized.

## IMPLICATIONS AND RECOMMENDATIONS

Respondents in this study rated being well-informed as the most important external motivational factor in the performance in their daily duties. This underlines the importance of having effective knowledge sharing systems within the organisation. Any new information on promoted products should be shared with the sales representatives in a well structured manner. Representatives should not only be well informed on their products but also on their own as well as the company's sales performance, market share, etc. Strong products and brands were rated as the second most important external motivational factor. Representatives are highly motivated to sell products and brands that are well accepted by customers. Unfortunately, with the continuous changing environment of the pharmaceutical industry, the same product which is perceived as "strong" today could become "second class" tomorrow with new products entering the market. This motivational factor is not really controllable by sales managers as they cannot choose which products to promote.

From the results of this survey, it was clear that a financial incentive was not perceived as the most important motivational factor. A ranking of external motivational factors indicated that financial incentives were rated as less important than being well-informed and strong products and brands. In a study on reward preferences of sales people, Lopez *et al.* (2006) found that sales people in the early (exploration) stage of their careers tend to prefer fixed salaries and feel that commissions are too risky, but as sales people try to establish themselves and succeed, the preference for incentive pay was more relevant. Lopez *et al.* (2006) advise managers to be wary of incentive schemes such as commissions, bonuses, and rewards as they can motivate sales people to work harder but not smarter. In other words, sales people are more focused on the outcomes of their work rather than the content of the work. If rewards are perceived as control mechanisms, they tend to dampen an individual's desire for exploration and learning. Although it was established in this survey that financial

incentives were not the most important external motivational factors, the fact remains “money motivates” and these incentive schemes should be structured very carefully. Most importantly, these schemes should be simple and uncomplicated to ensure that sales people do not have difficulties in understanding them, see the relationship between efforts and rewards, and are able to calculate what their incomes will be.

It was interesting to note that fringe benefits such as a company car/car allowance and pension and medical aid received higher motivational importance ratings than factors such as incentive trips and prizes and rewards. In pharmaceutical sales management more time is usually spent on designing incentive programs than looking into the actual fringe benefits of sales people. Jobber and Lee (1994) compared the perceptions of sales management and sales people. In their study they found that sales managers valued factors such as competitions/prizes and incentives based on target setting more highly than sales people and sales people valued things such as fringe benefits more highly than their sales managers. They concluded that their survey clearly demonstrated a need for sales managers to check their assumptions about what motivates their sales people.

Prizes and rewards did not get a very high importance rating from the respondents (only 40% rated them as very important). Prizes have become so common, they are a form of commission that sales people expect. Smith and Rupp (2003) cited research that reinforces the finding that expected rewards decrease the intrinsic motivation for the rewarded activity. Internal competitions are not perceived as an important motivational factor with 48% of the respondents rating this factor as not at all important or less important. It is clear that arranging internal competitions amongst sales representatives to stimulate sales efforts will not necessarily be effective, as not everyone will be motivated by this. This is also true for teambuilding, which is another popular method of motivating sales people. Although it is still important to build a strong team in which the representatives can feel comfortable and can motivate and encourage each other, one might have to look at other options than teambuilding and internal competitions to establish effective teams. Incentive trips have always been perceived as an effective method of not only “thanking” sales representatives for their past achievements, but also to motivate them for forthcoming sales achievements. Although, 56% of respondents ranked this factor as very important, it was still one of the five least important external motivational factors. In companies where incentive trips are reserved only for teams or individuals that achieved expected targets or who have outperformed the rest of the sales teams, this might still be an effective motivator. The last factor ranked as one of the five least important external motivational factors, was involvement in target setting. In most pharmaceutical companies, targets are set by senior management and representatives are merely informed what they need to achieve. Many companies have debated whether target setting should maybe include at least one or two representatives from each sales team, and this might still be further investigated.

Some previous studies on personal characteristics of sales people have been done with contrasting results. Ingram and Bellenger (1983) concluded that the personal characteristics included in their study were not strong predictors of what a salesperson’s reward valences will be, while Chonko *et al.* (1992) came to the conclusion that personal (demographic) variables are related to reward preferences, but also not strongly. From the results of this study, it would unfortunately also be difficult to conclude that different demographics will determine different preferences for motivational factors.

## REFERENCES

- Abratt, R. and Klein, M. “Sales force compensation and incentive schemes: practices in the South African pharmaceutical industry,” *South African Journal of Business Management*, Vol. 30, No. 3 (1999): 65-71.
- Allen, E. and Seaman, C.A. “Likert scales and data analyses,” *Quality Progress*, Vol. 40, No. 7 (2007): 64-65.
- Chonko, B.L., Tanner, J.F. and Weeks, W.A. “Selling and sales management in action: Reward preferences of sales people,” *Journal of Personal Selling and Sales Management*, Vol. XII, No. 3 (1992): 67-75.
- Chowdhury, J. “The motivational impact of sales quotas on effort,” *Journal of Marketing Research*, Vol. XXX (February 1993): 28-41.

Chu, W., Gerstner, E. and Hess, J.D. "Costs and benefits of Hard-Sell" *Journal of Marketing Research*, Vol. XXXII (February 1995): 97-102.

Daft, R.L. *The Leadership Experience*. 3<sup>rd</sup> Edition. Canada: Thomson - South Western, 2005.

Empey, K. "Incentive schemes are still failing to retain staff," 2005. [Online] Available from: [www.employeebenefits.co.uk](http://www.employeebenefits.co.uk) [Accessed: 26 March 2008].

Fisher, A. "The 100 best companies to work for in America," *Fortune* (20 January 1998): 60- 70.

Ingram, T.N. and Bellenger, D.N. "Personal and organizational variables: Their relative effect on reward valences of industrial sales people," *Journal of Marketing Research*, Vol. XX (May 1983): 198 -205.

Jobber, D. and Lee, R. "A comparison of the perceptions of sales management and sales people towards sales force motivation and demotivation," *Journal of Marketing Management*, Vol. 10 (1994): 325-332.

Kotler, P. and Keller, K.L. *Marketing Management*. 12<sup>th</sup> Edition. New Jersey: Pearson Education, 2006.

Krafft, M. "An empirical investigation of the antecedents of sales force control systems," *Journal of Marketing*, Vol. 63 (July 1999): 120 -134.

Liao, C. "Optimal control of sales force compensation under transactional cost," *International Journal of Information and Management Sciences*, Vol. 20, (2009): 535-546.

Lopez, T.B., Hopkins, C.D. and Raymond, M.A. "Reward preferences of sales people: How do commissions' rate?" *Journal of Personal Selling and Sales Management*, Vol. XXVI, No. 4 (2006): 381-390.

Malik, M.E. and Nadeem, B. "Motivational preferences of pharmaceutical sales force". *Pakistan Economic and Social Review*, Vol. 46, No. 1 (2009): 19-39.

Miao, C.F., Evans, K.R. and Shaoming, Z. "The role of salespeople motivation in sales control systems – intrinsic and extrinsic motivation revisited," *Journal of Business Research*, Vol. 60, No. 5 (2007): 417-425.

Meredith, G. and Fried, R. "10 reasons why incentive programmes fail," *Journal of Marketing*, (December/ January 2008): 17.

Rajagopd, A. 2010. "Measuring performance of sales force: analysis of administrative behaviour parameters," *International Journal of Economics and Business Research*, Vol. 2, No. 5 (2010): 399-413.

Smith, A.D. and Rupp, W.T. 2003. "An examination of emerging strategy and sales performance: motivation, chaotic change and organizational structure," *Marketing Intelligence and Planning*, Vol. 21, No. 2(2003): 156 – 167.

# **SUSTAINABLE FOOD PRODUCTION IN SOUTH AFRICA, ACCESS TO LAND, THE MEANS OF PRODUCTION, COMMITMENT AND CUTTING-EDGE TECHNOLOGY**

**JD Coetzer, Tshwane University of Technology, South Africa**

## **ABSTRACT**

*In this paper two opposing philosophies are contrasted. The centralist ideology, largely socialist in essence, is identified as an attempt to placate the hungry masses. Because that is what this is all about – feeding the hungry. But all the Marxists in the world cannot make it rain on demand. We have some way to go before we will be able to control the forces of nature. The opposing viewpoint is that of capitalism. Here we will attempt to sell our produce to the hungry masses. The equation of supply and demand will also ride on the impact of nature upon harvests and live-stock. The complicating factor here is man. Alan Greenspan said ‘it is not that humans have become more greedy than in generations past. It is that the avenues to express greed have grown enormously’ (Mallor, p75).*

*The thin veneer of civilization is under scrutiny when competition for and access to food is at stake. This is very much the case in South Africa where sustainable resources have been drawn into a quagmire where for all but the right reasons, sustainable food resources, agricultural land; means of production and access to infrastructure (government support) are dealt with in a non-productive way.*

*There is currently no discussion on ethical business in South Africa. It is a given (Mallor, p77) that if you want to be understood by and to influence someone who has a different ethical underpinning than you do, you must first determine his ethical viewpoint and then speak in an ethical language that will be understood and accepted by him. Several aspects that expose and explain the context of South Africa are thus presented for consideration. That some of the issues will be highly contentious cannot be avoided. In modern societies, where diversity is valued as an independent virtue, considering the impacts of your decision on the full range of society’s stakeholders has taken on great significance in prudent and ethical decision making (Mallor, p89).*

*The world food crisis of 2007-8 alerted the world and policy makers not only to the fact that global agricultural productivity growth has been slowing down but that current national agricultural policies may not be adequate to prevent such crisis in the future ... (Sarris, p11). We need to agree on the means necessary to produce the maximum numbers in food. We will need to make and negotiate contracts along the road. Keeping in mind an almost fanatical opposition to each other, the parties confronting each other shall be compelled to adapt.*

## **FOOD, GLORIOUS FOOD**

The World Health Organisation (WHO) has recently indicated that a looming food scarcity will generate the probability of widespread unrest and protests. This is clearly stated by Sarris (p34) when they indicate that a lack of food creates considerable insecurities across the world and may lead to perverse policies and outcomes. They further explain in simple terms the results of improper interference. It is further their considered opinion (on p42) that ‘... no country has been able to sustain a rapid transition out of poverty without raising productivity in its agricultural sector. The process involves a successful structural transformation where agriculture, through higher productivity, provides food, labor, and even savings to the process of urbanization and industrialization. A dynamic agriculture raises labor productivity in the rural economy, pulls up wages, and gradually eliminates the worst dimensions of absolute poverty’.

Mallor (p528) confirms the importance of land and its recognition in the law. In the agrarian society of previous eras, land served as the basic measure and source of wealth. In today's society, land functions not only as a source of food, clothing, and shelter but also as an instrument of commercial and industrial development.

Sarris *et al* (p43) point out the obvious when they say that 'most of the world's poor live in rural areas, or migrated from them in search of better opportunities. It seems almost obvious that growth in agricultural productivity is the surest way to end poverty'. Somewhat cynical, but true is the further allegation that (Sarris, p28) the tendency of growing food imports with an inability to pay is mostly an African problem. The basic prerequisite is that Africa should recognize that agriculture can be broadly divided into food production, which in many of the poorest countries is still predominantly subsistence production; traditional commodity exports, and newer, often high value, products that can be destined for internal or export markets (Sarris, p161). After the recognition comes action: make it easy for farmers to feed the people: Sarris (p163) points out that farmers face a number of inherent disadvantages in the market that interfere with the 'normal' exchange between buyer and seller. Farmers are numerous, cash poor and in business for themselves (not employees of a common employer). Poverty itself has different aspects: Inadequate and often unstable income, inadequate, unstable or risky asset base, poor quality and often insecure, hazardous and overcrowded housing, inadequate provision of public infrastructure, inadequate provision of basic services, limited or no safety net (Bas, p11). This is a world-wide problem and the inputs of all sectors of society, countries and agencies should be attracted.

Talking, agreeing, on the essence of sustainable food has been done in the past. Unfortunately not always with the success expected. A lot of development agencies focused on policies they thought would make countries more attractive to foreign investors. UNCTAD organized sessions at which trade ministers of different developing countries would promise never to nationalize foreign investments, and offering extraordinary tax breaks on profits made (Sarris, p160)

## THE SOUTH AFRICAN CONTEXT

External of Government itself, the two most credible institutions on the issue of food production in the Republic of South Africa, are AgriSA (an agricultural organization) and TLU (also involved with agricultural issues). Another organization with a reputation for providing incontestable information is 'Solidarity', a trade union with a national profile in South Africa. Through their good offices it was possible to access substantial information provided by the Information Development Group. According to the information they provided, the position as regards surface ownership during 2001, painted a picture quite contrary to that which the government propagated. In terms of a given surface area of 1 225 884 square kilometers (the average population per square kilometer was 36 persons) wherein 20,20% was owned by Blacks; 44,08% was owned by Whites; 1,03% was owned by Asians; 9,37% was owned by Coloureds and 25,33% was owned by the Government. Since the Government was a black dominated entity, they with one fell swoop moved into the position of power in that about 56% of the surface area belonged to 'Blacks'. As such these figures are meaningless. Some perspective is given by Bas (p182) when it is postulated that under the previous regime 80% of the population were compelled to live in the homelands. Further perspective is provided by assessing population statistics. The population for blacks at 1904 was estimated to be about 1 200 000 (for all ethnic groups together) and since then a population explosion has been documented. The current figures indicate a population of about 45 500 000 for non-whites. White citizens would currently number about 3 500 000. The estimated population statistic for whites in 1904 was about 1 050 000.

Two issues need to be further examined: Firstly, the stated moral justification for the (then) statutory approach to land; and secondly the cultural and tribal attitudes towards land as communal property juxtaposed to the contemporary claims of land as being privately owned. Dr HF Verwoerd, then Minister of Native Affairs, stated as follows on 17 September 1956: '*...The fundamental principle is the traditional policy of separate development. The European enjoys rights and privileges in one part of the Country, the European area, and the Native has similar rights and privileges in the Native areas, i.e. the Reserves, whether tribal territory or areas purchased by for him by the Government. In the Native areas the European has no claim to property*'. (Quoted in the 'Foreword' to 'Urban Native Law' by Gordon Davis, Q.C.) Davis further (on p vi) explains that 'the housing and settling of the urban Native on an ethnic basis is conducive to greater satisfaction amongst the Bantu people themselves. It has certainly been found to be the successful basis of school building and planning and is not a source of conflict and strife, but has just the opposite effect'.

As far as property rights are concerned a Chief was under no obligation to obtain the consent of, or even to consult with his people regarding the purchase and sale of land (Davis, p19). It was also stated that no

‘individual member or members of a tribe [could] institute proceedings against the Chief or the tribe in regard to the ownership, occupation or acquisition of land...’ (Davis, p26). The Euro-centric concept of private property is anathema to black culture and the following will elucidate the vexing question on why blacks in Africa so readily embraced the Marxist-Communist philosophy: ‘In Bantu law all property whatever acquired by the *kraalhead* or by or through an unemancipated member of his family, is administered by the *kraalhead*; no member of the family has an individual right to own anything. This is the general rule’ (Seymour, p68). Private law, as far as Bantu law is concerned, was/is limited to matters of marriage, lobola, succession, the status of the *kraalhead* and the customary union. Seymour (p 306) pointed out that immovable property, for purposes of succession, may be divided into two kinds:

- a) Property falling within s 23(2) of Act 38 of 1927. This type of land is not devisable by Will, but must invariably devolve upon one male person who is determined according to a prescribed table of succession.
- b) All other immovable property. Despite the fact that Bantu law does not contemplate ownership of immovable property, when a Bantu person, whose estate devolves according to Bantu law, dies intestate leaving immovable property, it devolves upon the heir of his Great House. But where a *kraalhead* had acquired a piece of land with moneys contributed by his several Houses, it was held that the heir of each House was entitled to a share of the land proportionate to the amount contributed by his House.

Cultural values, primitive traditions and a rigid patriarch system thus had as much to do with the ‘discrimination suffered’ by the blacks of Africa as the colonization of the continent.

Landowners in Europe or the USA will show some amazement when confronted with the Draft Land Tenure Security Bill. In terms of Chapter 4, the ‘Rights of persons Residing (i.e. not the owners of the land) on Farms are set out in s15(1) as follows:

- a) The right to own livestock and not be unreasonably restricted
- b) right to grazing land for the livestock
- c) right to crop
- d) right to reasonable access to pathways
- e) right to build houses and homesteads
- f) right to visits and be visited
- g) right to bury members of the family on the farm
- h) right of access to burial grounds and ancestral land
- i) right to reasonably practice culture
- j) right of access to clean water/electricity/development
- k) right to do commercial farming

The issue to be determined here is whether under these conditions, sustainable food production is promoted or restricted. In considering the question, there can be no half-measures: You are hungry, or you are not.

It should be noted that conflict (concerning specifically land and/or rights thereto) is not necessarily racial in nature. In Usangu (Tanzania) ‘conflicts were arising over access to resources, especially water and grazing – both between and among irrigators and pastoralists. There was also increasing concern expressed over environmental issues. Population expansion and unmanaged exploitation now leave many without water for parts of the year, and have led to deterioration of water quality, reduced pasture area and quality...’ (Bas, p203) An invasion of pastoralists since the 1950s, seeking livelihood opportunities, was seen as causing wetland degradation and increasing direct water use through seemingly increasing livestock numbers. Evidence cited included highly visible tree and bush clearing around stock *kraals* (especially by the Sukuma pastoralists, who are commonly said to have deforested and destroyed their own homeland), and bush encroachment onto the grassland (Bas , p205).

In South Africa the share of agriculture in the GDP for the period 1969/71 was 30,6%. This declined to 26,6% for the period 2002/4. The share of the economically active population in agriculture in the total economic active population fell from 0,68% in 1969/71 to 0,41% in 2002/4. Almost one third of the white farmers gave up, retired or had their farms expropriated. The share of agricultural imports in total merchandise imports increased from 17,4% in 1969/71 to 18,1% in 2002/4. The change indicates the fact that we were becoming a food import economy.

Regrettably, as can now be gleaned from the above, no debate can be conducted on the aspect of security of property (as well as security of tenure) without reference to the historical background. It is even more regrettable that the historical background will itself be eschewed by the political fallout of the opposing political ideologies, i.e. the separation of the ethnical groups into homelands, as was implemented by the previous regimes (colloquially known as ‘apartheid’) and the current ideology of the present regime wherein a

culture of entitlement is perpetuated – *ad infinitum* – in order to ‘redress the imbalances of the past’. In this vein it should be stated that the Republic of South Africa is a Constitutional State. The Constitution (Act no 108 of 1996) and specifically the Bill of Rights contained therein (s 14c) guarantees the concept of ownership and private property. In the GREEN PAPER issued by the Government during September 2010, ‘Rural Development and Land Reform’ is the subject under discussion. This document has recently been withdrawn because of the overt tendencies and philosophies expressed in it that brings farming and farm properties perilously close to the Zimbabwean situation. The Freedom Charter (1955) is elevated above the Constitution when the Minister in charge of this portfolio (the Hon G E Nkwinti) states that ‘the land will be shared by those who work it’. It must be pointed out that the total implosion of the agricultural sector in Zimbabwe is not seen as a calamity at all: USAID and other international food distribution agencies have seen to adequate food provision in the absence of regular crops.

The biggest challenge in presenting a paper on this subject is then to avoid the stale political arguments and to maintain a strict and scientific basis of knowledge. This cannot be sustained on all arguments as some of the arguments (and the factual information on which it is based) have been hi-jacked into subservient roles and to serve pre-set political agendas. Cheick Sidi Diarra, UN Under-Secretary-General (Special Advisor on Africa) laments in ‘Africa Renewal’ (August 2010 / Vol 24 Nos 2-3) that ‘the price of commodities are not fixed by Africans themselves. They are fixed elsewhere’. He then adds that ‘*[T]he rest of the world has to change its perception of Africa. It has to see Africa not only as a continent which is forever leaning on international aid and support. It has to see Africa as a continent of huge potential.*’

In view of the above we have to establish an equal playing ground in order to facilitate a scientifically accountable basis for negotiating a road to progress: the way forward, towards sustainable food production. It is common cause that South Africa has a colonial past (Gie, p76). The Dutch established a halfway station at the Cape of Good Hope as a commercial facility and to replenish fresh produce for the ships and crew of the ‘Here XVII’ a commercial entity (and perhaps the first real global trade organization) on route to India and the Far East. The primary purpose thus was to obtain fresh fruit, fresh vegetables, wine and meat produce for the health and maintenance of crews manning the many ships conducting trade with the East (Gie, p66). The Cape of Good Hope, as far as Europe was concerned, was an exporter of food.

The wars and politics of Europe influenced and guided several developments in South Africa. When Jan van Riebeeck, a Dutch citizen but senior official of the ‘VOIC’, landed in the Cape on 6 April 1652, his purpose was a-political. Subsequent developments as well as the evolution of several European alliances over the centuries culminated with the ‘taking over’ of the Cape by the English in 1806. This was ostensibly to secure the Cape against Napoleonic forces and to protect its inhabitants against the wars ravaging the European Continent. After the defeat of Napoleon the English remained. They re-configured the administrative system, amended the legal system, introduced a new socio-economic system and, in general terms, expanded the British Empire by declaring Natal a British Colony and followed this up with several military expeditions until the Orange Free State and the Zuid Afrikaanse Republiek (ZAR) were brutally subjugated and brought under control in the collective entity known as the Union of South Africa, established in 1904. The British Government of the time prohibited people of colour to participate in the political spheres of government.

Another complicating factor is the socio-economic nature (and the corresponding culture) of the indigenous peoples of South Africa. History indicates a largely socialist trend, with Headman and Chiefs being the ‘owner’ of fixed property and consequently also the individual/s clad with the authority to regulate access thereto, they were responsible for the well-being of the tribe, in specific terms, and were only held responsible to account by Paramount Chiefs and ‘kings’. Most of the tribes followed a nomadic culture and when strife or dispute arose regarding land or grazing of animals, it was resolved through the simple and decisive mechanism of war. King Shaka of the Zulus perfected this aspect and literally obliterated the population of the internal districts of South Africa in what became known as the ‘Mfecane’ – a focused campaign to subjugate all internal tribes to the Zulu with imminent and effective massacre the destiny of any dissidence. The hinterland was effectively depopulated in this fashion. To whom then does vacant land belong?

## COMPETITION FOR LAND

It was unavoidable that with the internal drive for more land and grazing for their animals, the white ‘Voortrekkers’ would come into contact, and also into conflict with the remnants of some of the indigenous tribes. Some were friendly, such as the Setswana, and would contract for land with the counter contractual obligation being protection against the Zulus. Other were not so friendly, such as the Matabele, and attacked the

‘Voortrekkers’ and although at various times the surprise element had the tribal cohorts on the winning side, the fact that the ‘Voortrekkers’ could use advanced fire-power (albeit single-shot front-end loading muskets) ensured that the outcome favoured the white settlers. The might of the Zulus were finally broken in the battle at Bloodriver on 16 December 1838, today remembered as the Day of the Covenant, a day of special reverence to the ‘Voortrekkers’ keeping in mind that about 350 fighting men (add a further 120 men to take care of the animals inside the defensive wagon circle) had to face and defeat a military machine comprising in excess of 15 000 Zulus .

Farming activities hereafter expanded exponentially and large tracks of land were occupied by farmers who established vast food-production entities. As South Africa is a land of great extremes as far as climate is concerned, farmers built up an extensive ‘bank’ of knowledge and experience. These farms could not be properly tended to by the farmers alone and over many generations a culture evolved in terms of which farm labourers became members of the ‘family’ of the farmer. In this vein labourers had access to free medicine, to an allocation of land for private use and farming activities and close co-operation in the activities on the farm between the farmer and his labourers were more common than not. It is, regrettably, and inevitably, part of human nature that in some instances a fall-out occurred and labourers were evicted from the farm. In other countries this process is referred to as ‘urbanisation’ of the individuals concerned.

The fundamental and revolutionary changes that came about in South Africa during 1994 with the election of a black majority government and the consequent drive for the reversal of property rights would inevitably impact on the farming community. This had to be regulated as the Constitution of the Republic of South Africa guaranteed property rights. It is, after all, a universally acceptable principle of the Rule of Law. Middle-ground was reached when it was decided that only land that was expropriated after 1913 for ‘white’ usage would be eligible for return to previous owners. The process itself is not without peril as any ‘previously disadvantaged’ person could now lodge a claim on land, any land, and it became the burden of the legitimate owner to disprove the claim, either on merit or on time prescription. With substantial political interference this process quickly became notorious and some farmers could not afford the expensive litigation whilst running a farm under risk as well. All capital expenses incurred after the date of lodging of the claim against your land would be for your own expense. No compensation would be allowed therefore. Moreover, the current Minister of Rural Development and Land Reform claims a discretionary right to ‘attach’ your property – ostensibly for the advancement of a non-racial society. Exactly how that will be achieved through expropriation of farmland belonging to whites, is not explained. When white farmers had been farming on land for four or even five generations, had invested not only capital but their blood, sweat and tears, even their very lives, in the development thereof, the issue of emotion should not be underestimated. The legacy of bitterness caused by this policy has yet to be measured. The Minister is unmoved (GREEN PAPER, p2, 3). Because of three centuries of being ‘disadvantaged’ he feels that blacks are entitled to claim land boldly and any resistance is to be reviled as racism.

Perhaps we should also revisit the historically based attitude that founded the colonization process. It is stated here (the original text is in Afrikaans but it is freely translated) for consideration: (Gie, p76) ‘A nation is obliged to make its land serviceable to mankind to the utmost degree. They should take care that it produces the maximum means of subsistence and that healthy social relationships be maintained thereon, failing which another nation of higher standing and who has a more developed concept of progressive benefit will obtain the moral right thereto and will consequently be able to extract more from the soil. This is a harsh law but just and absolutely essential for the advancement of the world. On this moral principle rests ultimately the colonization not only of South Africa, but also America, Australia and Nieu-Zealand’.

## **STATUTORY LIMITATION**

The legal system has been very ambivalent in the manner in which security of land and security of tenure has been dealt with. If administrative law deals with state authority, what is the distinction, if indeed there is one, between constitutional law and administrative law? Both form part of public law but administrative law deals with only one branch of government: the state administration (Burns, p46). The supremacy of the Constitution has replaced the sovereignty of parliament. This means that all administrative action and legislation promulgated by parliament is weighed against the constitution and may be declared invalid in the event of conflict (Burns, p47). It should thus be noted that the GREEN PAPER (referred to above) has been withdrawn by government. The real threat of constitutional litigation has prevailed, for now. The withdrawal was recalcitrant and with much grumbling and shaking of fists.

The concept of 'just administrative action' encompasses the common law principle of administrative legality. As a result, all administrative action must conform to procedural requirements as well as the substantive requirements of fairness, rationality and reasonableness (Burns, p61). In assessing whether the principle of administrative legality has been met, the courts must balance the right of the individual to the unencumbered enjoyment of his/her constitutional, statutory and common law rights against the duty of the administration to promote and protect the general public interest or well-being (Burns, p72). Wiechers (p12) quotes AV Dicey in stating that '*no man is punishable or can be lawfully made to suffer in body or goods except for a distinct breach of the law established in the ordinary legal manner before the ordinary courts of the land. In this sense the rule of law is contrasted with every system of government based on the exercise by persons in authority of wide, arbitrary, or discretionary powers of constraint ...*'.

It should also be kept in mind that the Bill of Rights (Chapter 2 of the Constitution) states categorically that everyone is equal before the law and this includes the full and equal enjoyment of all rights and freedoms. The Constitution (s 25) states emphatically that '[N]o one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property'. For purposes of legal-technical debate, two aspects need to be sounded out: In s 25(2) it is stated that 'property may be expropriated in terms of law and general application ... for a public purpose or in the public interest'. The second and ominous aspect lies in s 25(4) where it is stated that the public interest includes 'the nations' commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources'. This is given substance in the Expropriations Bill, published in the Government Gazette, no 30963 of 11 April 2008. In terms of Chapter 4, s10(1)(b) an expropriation authority must consider 'the need for land, water and related reform in order to redress the results of past racial discrimination'.

## REALITY CHECK

In modern society the state needs specialized knowledge to meet the needs of a sophisticated urbanized society, on the one hand, and a less sophisticated rural society on the other (Burns, p54). Afri-Forum, an organization created to serve the farming community has researched several aspects. A critical and very contentious element is the clamour for South African farmers to establish commercial farming entities in other African countries. The demand for knowledgeable and expert input is so acute that the South African government has had to do several back-flips. In the past these farmers were politically vilified as thieves and scoundrels who had stolen whatever they might have gathered. The fact that they had provided food, cheap food, to the inhabitants of the country was of lesser concern. With the advent of the recent uprising/s in Northern Africa and with the simmering discontent from local supporters on the non-delivery of basic services, a food shortage suddenly appears to be a grim reality. This is to be avoided. Keep the farmers on their lands. Economies-of-scale is an unknown concept in Africa. Subsistence farming is a romanticized idea that should be allowed to slowly fade into oblivion. Most of the highly controversial (draft) Bills have now been withdrawn. The question, however, remains: for how long? Farming is a long term activity and investors, farmers and industry will want to know how safe any investment will be in the long run.

Sarris (p13) identifies a major issue of Lesser Developed Countries (LDCs) and especially for African economies' fragility and vulnerability as being this increased exposure to food imports, the implications about food security, and the impact of external food market shocks. Agriculture often provides a safety net: a refuge for people when the informal economy fails. This is true in Africa, where high levels of HIV/AIDS infection and limited public health facilities have sent people with the illness back to rural areas to seek help from family members. If the sector attracts the most destitute, then it is not surprising that poverty is also concentrated in rural areas (Sarris, p165). For those developing countries that rely on exports, losing market access will translate into a loss of vital earnings, which jeopardizes economic and social development. Further, exclusion from international markets may shut them out from sources of expertise, inputs and technology (Sarris, p226). It is thus vital that farmland should be seen as almost sacrosanct and if not to that degree, then at least free from political interference and manipulation.

The importance of food production being elevated above petty politics has been recognized in the past. Many food insecure developing countries have gone through a long period of pursuing policies that actually penalized agriculture. Studies indicate that agricultural disincentives were stronger the lower a country's per capita income (Sarris, p242). This was then obviated through some creativity: Successful take-off to sustained agricultural growth was achieved through a judicious mix of subsidies, pricing policies and border measures, as well as other institutional and infra-structural support measures (Sarris, p245).

Not everything in Africa is destined for failure. Bas (p180) relates the story of South Africa's Working for Water (WfW) programme as being a story about a fortuitous, synchronous alignment of the goals and objectives of the new political order, environmental sustainability and the alleviation of poverty. At its peak WfW had more than 42 000 workers in the field, drawn from the so-called 'poorest of the poor' primarily in rural areas. Fifty four percent of the beneficiaries were women, 26 percent youth, and 1 percent were people with disabilities (Bas, p189).

Starting out cold, the programme had no experience to draw on and insufficient attention was given to developing a strategy and to medium- and long-term planning. Stands were occasionally cleared with no or insufficient follow-up, making the situation worse, not better. In some cases stands of indigenous trees were accidentally cleared due to insufficient training. This situation was further exacerbated by the desire for political expediency, and the need to satisfy political goals often superseded ecological objectives (Bas, p190).

The impact of climatic change on agriculture has not even been addressed in South Africa. The vital inputs required from cutting-edge technology in order to mitigate the effects on crops and grazing land – and ultimately, sustainable food provision - can only be attended to through scientific and clinical methods. Political ideology has no role to play. 'Onderstepoort' (a research institution linked to Pretoria University) is still the only credible veterinary facility in Africa and the intimate linkage with farmers, established over decades, and it can only be seen as detrimental to society as a whole if subsistence farming is to be enforced by way of centralized planning. The fact that ideology cannot make it rain is yet to hit home in Africa. The United Nations had already concluded that 'ever since the United Nations Conference on the Application of Science and Technology to Development was held in Geneva in 1963, there has been a growing conviction, expressed by the General Assembly and shared by all the organs of the United Nations system, that science and technology can make an outstanding *contribution to economic and to social progress and to reducing the gap in living standards* (my italics) between the developed and developing countries (Everyman's United Nations, p83). After 48 years we have very little to show. Contrast this with the 1966 World Land Reform Conference, held in Rome, that was organized jointly by the UN and FAO, in association with the ILO. The Conference 'confirmed the view that defects in the agrarian structure acted as a strong deterrent to economic and social progress and that *comprehensive land reform* (my italics) was essential for adequate development' Everyman's United Nations, p88). After 45 years they have equally little to show.

## CONCLUSION

Food is a daily necessity. Lack of food will initiate action and lead the hungry to do whatever is necessary to still that basic and instinctive need. The very recent incidence of unrest (and sedition) that led to the downfall of the government in Tunisia is a case in point. Sarris (p12) points out that many developing countries and especially those in Africa have long been exports concentrated in primary commodities, and it is well known that these commodities are characterized by volatile world prices. The combined effects of negative trending and unstable terms of trade for African economies is one of the reasons for their alleged negative performance (Sarris, p12).

A more recent but less analyzed development has been the increasing food import dependence of developing countries and especially the LDCs despite ample natural resources for food production. This trend in itself does not necessarily imply any problems, as increased food imports dependence may be a natural tendency during the transition of an agrarian economy to one based more on manufacturing and services, and can be managed 'if' the export income generated by the non-agricultural sectors can pay for the increased food imports (Sarris, p12). It is most unfortunate then should the 'if' not deliver. In a country such as Zaire, water resources are plentiful (South African farmers would wish for access to those resources) the land is strong and rich in content. The climate is tropical. Yet Zaire has to import food. The tendency to become involved with the tragic border wars of Rwanda and Burundi is distracting and instead of promoting farming (of all sorts) rural residents are herded into villages for 'protection' against cross-border attacks. The land is lying dormant. Food is grown in Europe and the US and imported.

Food is colour-blind. There can be no justification, no ratification, to seek injury to the providers of food, farmers, agricultural experts and consultants because they are of a skin colour different to that of a government official. It is of some interest to note that one of the pillars of 'apartheid' was the Population Registration Act. In terms of this Act people were classified into their respective race groups. After the advent of the black majority government, this Act was destined to be eradicated from the statutes – *post haste*. Ever since then it has been a somewhat embarrassing issue to seek redress of property rights as everyone now had the same 'colour'.

The cry is to seek the advantage of the 'poor' and in cajoling the 'poor' into a support base, political advantage and the scourge of Africa – corruption - is gained. Exactly how hungry are you?

Spare a final thought for the population of Zimbabwe. After Robert Mugabe suffered a stunning defeat in the referendum in 2000, he initiated a carefully coordinated campaign, starting ten days after the referendum result was announced; gangs armed with axes and machetes invaded white-owned farms across the country. Government and army trucks were used to transport them to the farms and to keep them supplied with rations (Meredith, p637). They assaulted farmers and their families, threatened to kill them and forced many to flee their homes, ransacking their possessions (Meredith, p 637). As well as white farmers, farm employees and their families living on white-owned farms became the target of the terror campaign. Some 400 000 workers were employed by white farmers (Meredith, p637). Of course the matter was heard in Court. Mugabe reacted as follows: *'The Courts can do whatever they want, but no judicial decision will stand in our way... My own position is that we should not even be defending our position in the Courts. This country is our country and this land is our land ... They think that because they are white they have a divine right to our resources. Not here. The white man is not indigenous to Africa. Africa is for Africans. Zimbabwe is for Zimbabweans'* (Meredith, p 641). Today more than 4 million Zimbabweans have fled to South Africa. This necessitates additional and sustainable food production and more scientifically advanced methods to render the relief sought.

## REFERENCES

- Bas, S., Reid, H., Satterthwaite, D., and Steele, P. *Reducing Poverty and Sustaining the Environment: The politics of Local Engagement*: EARTHSCAN Publications Limited, London. 2005.
- Burns, Y. *Administrative Law under the 1996 Constitution*. Butterworths. Durban. 1998.
- Constitution of the Republic of South Africa. *Government Gazette*, nr 17678. 18 December 1996/
- Draft Land Tenure Security Bill*. South Africa. 2010. (unpublished).
- Everyman's United Nations: *A summary of the activities of the United Nations for the period 1966-1970*. United Nations.
- Gie, S.F.N. *Geskiedenis van Suid-Afrika*. Voortrekkerreeks. 1927.
- Gordon, D. (QC), Melunsky, L., and du Randt, F.B. *Urban Native Law*. Grotius Publications. 1959.
- Green Paper: *Rural Development and Land Reform*. South Africa. 6 September 2010
- Land Use Management Bill* (unpublished)
- Mallor, J.P., Barnes, A.J., Bowers, T., and Langvardt, A.W. *Business Law: The Ethical, Global, and E-Commerce Environment (12<sup>th</sup> Edition)*. The McGraw-Hill Companies. 2004.
- Meredith, M. *The State of Africa*. Jonathan Ball Publishers. 2005.
- Sams, A., and Morrison, J. *'The evolving structure of world agricultural trade': Implications for trade policy and trade agreements*. Food and Agriculture Organization of the United Nations: Rome. 2009:
- Seymour, S.M. *Bantu Law in South Africa*. Third Edition, Juta & Co Ltd. 1970.
- The Expropriations Bill. *Government Gazette*, No 30963 of 11 April 2008.
- United Nations *AfricaRenewal*. Room M-16031. NY 10017-2513. USA.
- Wiechers, M. *Administrative Law*. Butterworths. Durban. 1985.

# STRATEGY IMPLEMENTATION: THE ROLE OF COGNITION, COMMUNICATION AND TRUST

**Gerard L. Danford**  
**Haaga-Helia University of Applied Sciences, Finland**

## ABSTRACT

*Much of the existing strategy implementation literature is focused on the managerial level and neglects to take into account the views of frontline employees who are in many cases critical during the successful execution of strategies. The author argues and supports the hypothesis that strategy implementation failure is partially due to; limited cognition, inappropriate communication and neglect of trust in strategy. Therefore, this paper examines frontline employee opinions (in a professional service organization) with respect to strategy cognition, strategy communication and trust in the strategy. The empirical analysis is based on a rather homogenous sample operating in a domestic setting. However, the complexities and challenges of strategy implementation within an international context are also discussed. The paper concludes by suggesting ways to improve the success during strategy implementation.*

## INTRODUCTION

Strategy is a never ending challenge for management (Smith 2009). This challenge is multi-dimensional when considering the complexity of strategy formulation and strategy implementation. Excluding the need for a good strategy to begin with, the poorly understood nature of strategy implementation is worthy of separate analysis. It is often quoted that nine out of ten strategies fail to be successfully implemented. Reasons for implementation failure are numerous ranging from resistance to change, organization, culture, motivation, communication, monitoring, leadership, along with many other challenges (Speculand 2009). A rather robust definition of strategy will be applied: 'the communication, interpretation, adoption, and enactment of explicit resource-allocation and activity decisions, at whatever point in the strategy process they may occur (Noble 1999). The focus in this definition is on implementation of intended strategies. Prior to beginning strategy implementation organizations first need to consider if there exists a common, along with individual understanding of strategy within the organization (cognition). Motivation to support a strategy and commitment cannot be taken for granted. Specific goals should be congruent with the strategy. Goal-setting congruence and implementation may be moderated by many factors; commitment, task complexity, feedback, and trust (Smith 2009). Communication should be designed in a way to enhance common and individual understandings of strategy. Furthermore, without trust the strategy buy-in of every employee in the organization may be absent.

## LITERATURE REVIEW

Crafting and implementing strategies is a complex process. Strategy implementation has been studied from many perspectives (Heide, Gronhaug and Johannessen 2002). Information systems, for one, have been considered vital to the successful communication of strategies throughout the organization. The medium and form in which information is disseminated is recognized as important during implementation (Conrad 1990). Before delving into the subject of strategic communication and the information channels in an organization, however, one needs to consider the subject of employee cognition. Organizations frequently fail to take account of employee contributions to strategy implementation. 'Many organizations have not provided a context for employee behavior'; therefore individuals are not prepared to perform to their maximum potential (Dobni, Dobni and Luffman 2001).

## Cognition

The people within any organization can have a profound impact on strategy implementation. Institutional theory has been employed to explain the diffusion of new structures and practices. However, there exists a need for increasing our understanding of the cognitive underpinnings of institutional theory (Iederen, Curseu, Vermeulen and Geurts 2011). Moreover, there is a need for a common understanding of strategy by all, especially when a large gap exists between the crafters of a strategy and the frontline staff. Cognition is the glue which binds strategy to the execution process (Moore 2001). Individuals vary in their relatively developed systems for conceptualizing. Cognition, communication and emotions are interwoven and one cannot address communication without considering these affects (Sypher, Davenport-Sypher & Haas 1988). If an organization articulates its goals in ways that have meaning for others, individuals will respond to achieve that goal (Comfort 2007). Furthermore, effective communication, based on the principles of cognition, can represent a creative spark which generates resonance between the organization and its environment. However, even shared understanding of strategic goals can lead to 'counter effort'. Motivational theories (Smith 2009) can explain some of these 'counter efforts'. More specific goals, for example, have been shown to evoke higher effort and goal commitment can be viewed as a function of the perceived importance of a task. Furthermore, timely and appropriate feedback increases the link between performance and goal.

Thus, taking account of the relationship between cognition and action transforms strategy implementation from a static, rule-bound set of procedures, into a dynamic process that is based on human capacity to learn and adapt to change. Cognition lessens the contrast between planning and practice. Cognition can also bridge the gap between information, meaning and action. One can adopt an individual conception of meaning; meaning is to be found by a particular information seeker and is connected to that person's purpose for searching (Budd 2011). Through cognition, one can avoid asymmetry in the information process. Cognition provides the initial content and activating link to the subsequent processes of communication.

## Communication

Communication can be viewed as a process within which individuals share meaning. Participants must understand (cognition) the meanings of the communication. Bad communication may result in effectiveness barriers – how effectively a received messages meaning affects conduct in a desirable way (Holm 2006). One can assume that communication is intended to bring about a response moreover, meaning is exchanged via symbols. However, all parties should have a common view on the meaning of these symbols. The sender's and receiver's understanding must overlap at some point. Strategy, as the direction of the corporation, can be very collective (McCarthy 2000). Managers play a key role in strategic communication and middle-management in particular represents a vital conduit within communication channels. Senior executives, the architects of strategies, mostly concern themselves with the big issues and important changes in strategic direction. Frequently, the communication of senior executives is formal, public and does not increase trust, especially emotional trust associated with behavioral change (Larkin and Larkin 2006). Supportive-interpersonal relationships create psychological safety and result in more flexible communication. If employees do not feel safe and comfortable, they may not be able to express themselves openly. The role of middle management during the strategy implementation process should be to create an environment within which employees can become both emotionally engaged and cognitively engaged (Daniels, Spiker, Papa 1997).

Corporate strategy communication has been neglected in the literature (Steyn 2003). However, academic interest has is growing. Three organizational communication methodologies have been adopted by researchers; interpretivism, critical theory and functionalism. Within functionalism, organizations are viewed as entities where communications are variables that shape and determine operations and performance (Peng and Littelljohn 2001). Functionalism is often administrative or management oriented. 'This approach focuses on goals and intended-unintended outcomes of communication systems and behaviors in an organization'. Even though management has communicated its intent (strategy) through specifically designed and crafted communications, many organizational participants remain vaguely aware of these efforts. Communications principles which can be more effective include (Klein 1996);

- message redundancy is related to message retention
- several media is more effective than use of just one
- face-to-face communication is preferred
- the line of hierarchy is the most effective communication channel
- personally relevant information is better than retained abstract, unfamiliar or general information

Communications systems should be in place which support the sharing of company information and engaging commitment (affective) which results in ‘employees understanding, identification with and involvement in the goals and values of the organization’ (Jacobs 2006). Vertical communication has been shown to be a strong predictor of commitment, however, horizontal communication (task related) is most effective in strengthening work-group commitment (Bartels, Peters, de Jong, Pruyn and van der Molen 2010). Two critical steps required to achieve effective communication during strategy implementation include; facilitating legitimization processes and addressing multiple communication processes simultaneously. Legitimization can be achieved through peer- and collaborative process (discussions in teams). Employing multiple communication processes could involve parallel use of face-to-face, teams, written documents, digital documents, feedback sessions and other forms (Huebner, Varey and Wood 2008).

## **Trust**

Research has shown that trust is crucial in driving economic agents towards mutually satisfactory and fair behavior. One could go further and state that trust is required for the viability of business (Castaldo, Premezzi and Zerbinì 2010). Furthermore, when taking the front-line employee perspective one could view trust as a trait, in other words ones propensity to trust. In the context of strategy implementation one could also view trust from a leadership perspective. Does trust in the management equate with trust in the strategy? If one takes a psychological contract view of the matter (transactional and relational contracts) ‘a fair days work + emotional involvement = a fair days pay’, then the psychological contract perspective on strategy implementation incorporates trust in management (Atkinson 2007).

For the purposes of this article the author is viewing trust between employees and management (including strategy) primarily as an emerging state. In such a state cognitive, motivational and affective states are influenced by contextual factors as well as inputs, processes and outcomes (Burke, Sims, Lazzara and Salas 2007). This perspective emphasizes interactions and situations. Underlying the emerging state perspective are; benevolence, integrity and competence (other authors have also incorporated predictability). Benevolence reflects benign motives, kindness and concern. Integrity involves an adherence to honesty and fairness. Competence refers to a parties ability to carry out her/his job (Dietz and Hartog 2006). Trust in the leadership of an organization has been found to be closely associated with organizational trust (Joseph and Winston 2005). The level of trust can be influenced by the leader’s communicative and supportive behavior. For example, the amount, frequency, timeliness and forthrightness of communication explain the level of trust in top management and immediate supervisors.

Strategy communication has also to be clear and transparent so as to guide employees in making choices and decisions during their daily tasks. It is important to bring out the energy in people by creating systems that encourage and stimulate them (McCarthy 2000). Manager should, therefore, share information with employees and listen to their objections to plans. Involving people in routine decisions satisfies the basic needs to belong and to feel important. From this basis, cooperation comes willingly. Employees want their opinions to count (Kahn, 1990). To experience ones job as meaningful, employees must be able to feel worthwhile, useful, and valuable. In addition to a certain amount of autonomy (task without tight link to others or control by others) ones position should also include some level of ownership over work. Tasks perceived as meaningful have clear goals which allow employees to have a better chance for success.

The speed of execution is increased when people feel ownership of the outcome and thus work more effectively (Smythe, 2008). Therefore, subordinates should be allowed to exercise some self-direction and self-control on routine matters. There should not be a mismatch between the organization image and the employees’ roles or a mismatch in one’s individual activities compared to the company strategy. Clear and explicit decisions

and choices must be made. Therefore, choices become the parameters within which people are allowed to operate with autonomy (McCarthy 2000)

However, job role clarity is not enough. The level of decision rights must be defined as well. Great execution starts by clarifying decision rights and making sure information flows freely to the right persons who are able to fulfill their responsibilities. Sharing information should go further than line employees just having bits and pieces of information in order to understand the bottom-line impact of their day-to-day choices. When everyone in the company understands the business realities from their own but also from their co-worker's point of view, cooperation will be more effective and everyone will be acting the organizations best interests. (Nielson, Martin and Powers, 2008)

Communication skills are vital in the strategy communication process (Willemys, Gallois & Callan 2003). Effective communication builds trust in the workplace. Improved communication skills increases the trust between the manager-employee. However, managers have to work harder than employees to build and maintain trust. Therefore, organizations must truly value effective interpersonal communication and a supportive culture, otherwise employees won't expend the extra time and effort that is necessary to communicate properly (Gordon, 2006). Employees are very willing to fulfill their obligations to the organization by becoming more engaged when they feel their organization is genuinely concerned about them and their well-being. Thus, trusting and high-quality relationships between the employee and employer result in more engaged individuals, who in turn will most likely report more positive attitudes and intentions toward the organization (Saks, 2006).

## **International dimension**

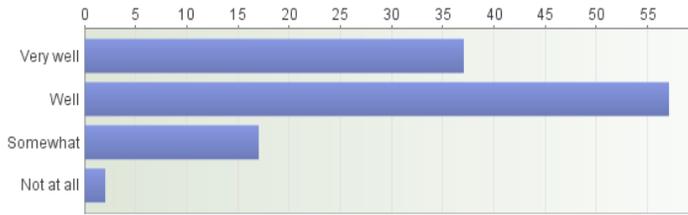
The international corporation is in many cases a multilingual organization (Blenkinsopp and Pajouh 2010). Thus for companies involved with international business the importance of cognition, communication and trust during strategy roll-out may be even more critical. However, in many cases organizations and management often assume that that everyone else sees the world from the same perspective (Lillis and Tian 2009). Cultural differences create challenges regarding values, beliefs, nonverbal behavior, language and relationships (Chitakornkijasil 2010). Especially when the international corporation is operating in different cultural domains (collectivist and individualistic) it is necessary to take into account local culture, even though with time, these local cultural dimensions may become less significant (Zhang 2009) as a unified corporate culture emerges..

## **EMPIRICAL ANALYSIS**

During 2009 an exploratory investigation into the subject of cognition, communication and trust during strategy implementation was completed. This exploratory study was made in a professional service organization. The case organization was involved with educational services and in the process of implementing a new strategy. Some 350 professional trainers are employed fulltime in the organization. The majority of trainers have obtained a Masters level education and some 10 percent of trainers have a Doctoral degree. The majority of trainers have completed studies in economics and related business topics (law, management etc.). It should be emphasized that this was an exploratory investigation of the subject. The location of the survey was Scandinavia and a total of 113 respondents participated in the survey. Regarding the survey respondent demographics; 65% were female, 50% were over the age of fifty and 44% between 31 and 50 years of age. Furthermore, 66% were trainers, 10% were middle-lower management and the remainder represented other administration and support staff. Over 50% of the respondents had worked with the organization more than 10 years and 21% from 6-10 years. The survey was implemented during a full day in-house training session during 2009. The majority of participants in that training session completed the survey. There was a significant response (measured by number of responses) to open ended questions.

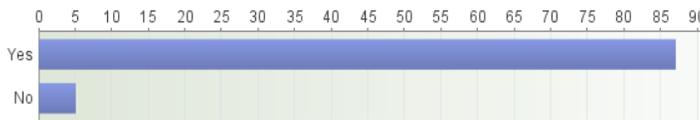
The respondents were first asked to rate their understanding of the concept 'strategy'. This question was employed in order to understand if they might already have a good understanding of the strategy, furthermore, it was necessary to see if respondents might feel they need some education on the subject of strategy.

**Question 1: How well do you understand the concept of strategy? (number of respondents 113)**



Some 84% of the respondents indicated that they understood strategy very well/well. One can only assume that the respondents have a good understanding of strategy to begin with. The respondents were next asked if they know where they can access information regarding the current strategy of their organization.

**Question 2: Do you know where you can access information of the strategy of your organization? (number of respondents 92)**



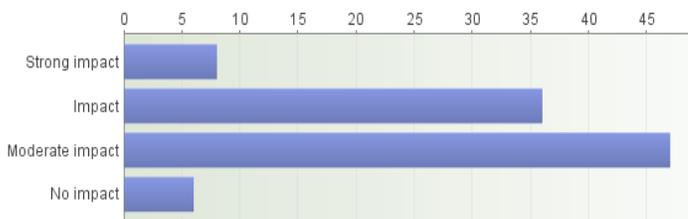
It appears that the respondents are well aware of where they can find this information (in this case the Intranet has a copy of the strategy). The respondents were next asked if they felt that the strategy should influence their daily work.

**Question 3: Do you feel the strategy should influence your daily work? (number of respondents 111)**



It is clear from the response to this question that respondents feel strategy should have a direct impact on their daily work. Next the respondents were asked if the strategy had an impact on their daily work.

**Question 4: Does your organization strategy have an impact on your daily work? (number of respondents 97)**



Some 54% of respondents felt the strategy had no/moderate impact on their daily work. Only 8% of respondents felt the strategy had a strong impact on their daily work. Next the respondents were asked if the organization strategy helps them when making daily decision on the job.

**Question 5: Does your organization strategy help you when making daily decision on the job? (number of respondents 97)**



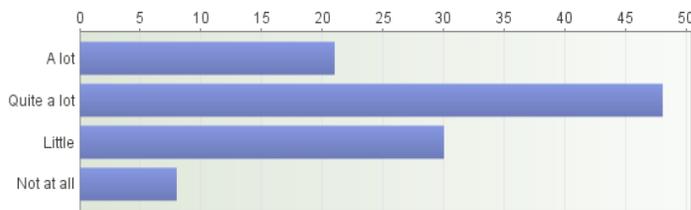
72% of all respondents indicated that the organization strategy does not help/helps very little when making daily decisions on the job. The questions in the survey then moved to the subject of strategy communication.

**Question 6: Does strategy communication influence your understanding of your organization strategy? (number of respondents 104)**



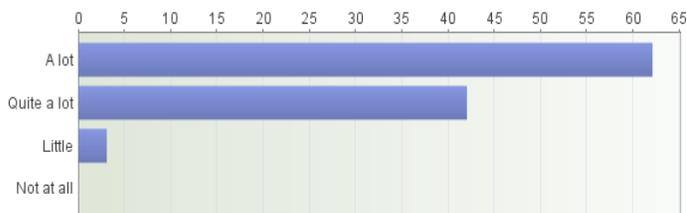
42% of respondents indicated that communication has no/little impact on understanding. However, almost 32% felt that communication has a lot of impact on understanding. The next question was related to the frequency of strategy communication.

**Question 7: Does the frequency of strategy communication influence your understanding of your organization strategy? (number of respondents 107).**



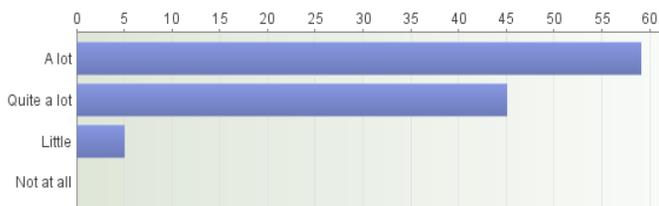
64% of respondents felt that frequency of strategy communication influences a lot/quite a lot their understanding of the strategy. The next question was related to cognition and understanding.

**Question 8: Does clarity (clear terms, common language) help you to connect your work to your organizations strategy? (number of respondents 107)**



39% of respondents felt quite a lot and 58% felt that clarity helps a lot to connect their job with the organizations strategy. Cognition is apparently vital. The next question was related to form of communication.

**Question 9: Would two-way communication (where employees are able to e.g. ask questions) help you to connect your own work to the strategy? (number of respondents 109).**



Apparently two-way communication is vital in helping employees connect to the strategy of the organization. The next questions were open ended, thus the response rate was lower. A summary of the main

issues are presented. The first open ended question was related to the impact/relevance of strategy to ones individual job.

**Question 10: How should the strategy influence/connect with your work? (number of respondents 57)**

- provide direction/focus
- give meaning/objectives
- guide decision making/choices
- clarify priorities/my contribution
- give rules
- stimulate discussion
- unite people
- inspire

It is clear from the answers that employees desire more from the strategy of the organization, both at a general level (discussion and inspiration) and within their individual job functions (clarity and direction). The next question was connected to form of communication.

**Question 11: What form of strategic communication would help you connect your job to the strategy? (number of respondents 64)**

- personal (during development discussions)
- interactive & face-to-face
- team level communication
- departmental level
- brainstorming
- workshops
- online-digital

Many of the respondents wanted to combine personal development meetings with strategy discussions. Team and departmental level dialogue was emphasized within a spirit of open and interactive debate. It seems that people first of all wish to connect with the strategy at an individual task level and then at a broader team-department level. The final question was connected to cognition and ones understanding of strategy.

**Question 12: What kind of strategic information could help you in your daily work) (number of respondents 49)**

- concrete, practical, clear and understandable
- realistic, believable, justified and transparent
- detailed, not generic, connected with my job
- emphasis on; core issues, targets, goals, direction and focus
- clear priorities, comparison data, examples based on practice

Although the number of respondents to the above question was only 49, more than 87 different comments were made to this question (far more than in other open ended questions). It appears that what is lacking is strategic direction which is understandable, relevant to one's job and justified.

Finally the respondents were asked to indicate the importance of trust and belief (both words have the same meaning in Latin-FIDES) in the strategy.

**Question 13: How important is it that you trust/believe in the organizations strategy? (number of respondents 92)**

47% of the respondents indicated that personal trust in the strategy is very important. A further 49% indicated that they believe that personal trust in the strategy is important. In order to trust one must understand and in order to understand there must be effective communication. The importance of cognition and communication should not be neglected when building trust. The dividends of trust should be manifested in successful strategy implementation.

## CONCLUSIONS

The findings suggest that successful strategy implementation may be hampered by issues relating to cognition, communication and trust. Shared understanding and shared meaning are vital for parties to interpret properly goals and objectives, furthermore, the absence of these can mean that all parties are not united in one common goal. The result may be that decisions made each day are not congruent with corporate objectives. It appears from the empirical analysis that employees desire understandable, concrete (in relation to their individual tasks) and simple strategic directions which can assist them during daily decision making. Furthermore, communication should be personal (face-to-face or in small groups) and interactive. Trust is based both on the strategy itself and trust in management. Involving staff in the strategic process (even before roll-out) could enhance trust. In order to make the strategy 'live' every day corporations need to consider firstly cognition, followed by communication. These steps should strengthen trust in the strategy. Without trust, all other efforts will be futile.

### Managerial implications

It is clear from this investigation that management need to take into account individuals understanding of strategy, the means for communicating strategy and overall level of trust in management and the strategy. When implementing strategy, it is important that the strategic language (terms, clarity) used is practical and relevant to the individual employees context. Without trusting relationships, cognition and effective communication will fail. Within an international context there are a number of important implications for managers. First of all management need to anticipate the cognition and communication challenges which might be encountered in different markets. Furthermore, knowledge transfers must take into account local cultures and skills. Presenting the strategy in a way that recipients can understand (cognition) and which has a direct connection to individual's daily jobs is crucial. Second, more interpersonal exchanges can be initiated which enhance knowledge transfers. Third, encouraging peer-to-peer interactive help groups at the local country level can enhance shared experiences. Finally, there may be foreign market staff who are more inclined to buy-in to the new strategy. These individuals can be engaged as knowledge providers within their individual community.

## REFERENCES

- Atkinson, C. "Trust and the psychological contract". *Employee Relations*. Vol. 29, No. 3 (2007).
- Bartels, P. deJong, O. Pruyn, A. and van der Molen, M. "Horizontal and vertical communication as determinants of professional and organizational identification." *Personnel Review*. Vol. 39, No. 2 (2010).
- Blenkinsopp, J. and Pajouh, M. "Lost in translation? Culture, language and the role of the translator in international business." *Critical Perspectives on International Business*. Vol. 6, No. 1 (2010).
- Budd, J. "Meaning, truth, and information: prolegomena to a theory". *Journal of Documentation*. Vol. 67, No. 1 (2011).
- Burke, C. Sims, D. Lazzara, E and Salas, E. "Trust in leadership: a multi-level review and integration." *The Leadership Quarterly*. 18 (2007).
- Castaldo, S. Premazzi, K. and Zerbini, F. "The meaning(s) of trust, a content analysis on the diverse conceptualizations of trust in scholarly research on business relationships". *Journal of Business Ethics*. 96 (2010).
- Chitakornkijsil, P. "Intercultural communication challenges and multinational organization communication." *International Journal of Organizational Innovation*. Conference Proceedings (2010).
- Comfort, L. "Crisis management in hindsight: cognition, communication, coordination and control". *Public Administration Review*. Dec. (2007).

- Daniels, T. Spiker, B. and Papa, M. *Perspectives on Organizational Communication*, . Fourth Edition (1997).
- Dietz, G. and Hartog, D. “Measuring trust inside organizations”. *Personnel Review*. Vol. 35, No. 5 (2006).
- Dobni, B. Dobini, D. and Luffman, G. “Behavioral approaches to marketing strategy implementation”. *Marketing Intelligence and Planning*. 19/6 (2001).
- Gordon, M. “Are you sending the right signals?” *Communication World*. March – April (2006).
- Heidi, M, Gronhaug, K. and Johannessen, S. “Exploring barriers to the successful implementation of formulated strategy”. *Scandinavian Journal of Management*”. 18 (2002).
- Holm, O. “Integrated marketing communication: from tactics to strategy”. *Corporate Communications: An International Journal*. Vol. 11, No. 1 (2006).
- Huebner, H. varey, R. and Laurie, W. “The significance of communicating in enacting decisions”. Vol. 12, No. 3 (2008).
- Jacobs, G. “Communication for commitment in remote technical workforces”. *Journal of Communication Management*. Vol. 10, No. 4 (2006).
- Joseph, E. and Winston, B. “A correlation of servant leadership, leader trust, and organizational trust. *Leadership and Organization Development Journal*. Vol. 26, No. 1 (2005).
- Kahn, W.A. “Psychological conditions of personal engagement and disengagement at work”. *Academy of Management Journal*, Vol. 33, (1990) pp. 692 – 724.
- Klein, S. “A management communication strategy for change”. *Journal of Organizational Change Management*. Vol. 9, No. 2 (1996).
- Iederan, O. Curseu, P. Vermeulen, A. and Geurts, J. “Cognitive representations of institutional change”. *Journal of Organizational Change Management*. Vol. 24, No. 1 (2011).
- Larkin, T. and Larkin, S. “Mission impossible: Increasing employee trust in your CEO” *Communication World*. January-February (2006).
- Lillis, M. and Tian, R. “Cross-cultural communication and emotional intelligence. *Marketing Intelligence and Planning*. Vol. 27, No. 3 (2009).
- McCarthy, D. J. (Interview): “View from the top: Henry Mintzberg (one of the key authors) on strategy and management”. *Academy of Management Executive*, Vol. 14, No. 3 (2000).
- Moore, D. “Visuospatial cognition and the communication of production concepts”. *Work Study*. Vol. 50, No. 3 (2001).
- Nielson, G. Martin, K. and Powers, E. “The Secrets of Successful Strategy Execution”. *Harvard Business Review*. June (2008).
- Noble, C. “The Eclectic Roots of Strategy Implementation Research”. *Journal of Business Research*, 45, 119-134 (1999).
- Peng, W. and Litteljohn, D. “Organizational communication and strategy implementation – a primary inquiry. *International Journal of Contemporary Hospitality Management*. 13/7 (2001).

- Saks, A.M. "Antecedents and consequences of employee engagement". *Journal of Managerial Psychology*. 21/7 (2006), 600-619.
- Smith, B. "Maybe I will, maybe I won't: what the connected perspectives of motivation theory, and organizational commitment may contribute to our understanding of strategy implementation". *Journal of Strategic Management*. Vol. 17, No. 6 (2009).
- Smythe, J. "Engaging Employees". *Communication World*. May-June (2008).
- Speculand, R. "Six necessary mind shifts for implementing strategy". (Joseph and Winston 2005) *Business Strategy Series*. Vol. 10, No. 3 (2009).
- Steyn, B. "From strategy to corporate communication strategy: a conceptualization". *Journal of Communication Management*. Vol. 8, No. 2 (2003).
- Sypher, H. Sypher, B. and Haas, J. "Getting Emotional. *The American Behavioral Scientist*. Jan/Feb (1988).
- Willemys, M., Gallois, C. and Callan, Victor J. "Trust me, I'm your boss: trust and power in supervisor-supervisee communication" *The International Journal of Human Resource Management*. 14:1 February (2003) 117-127.
- Zhang, Y. "Individualism or Collectivism? Cultural orientations in Chinese TV commercials and analysis of some moderating factors. *J & MC Quarterly*. Vol. 86. No. 3 (2009).

# **PURCHASING AND SUPPLY CHAIN MANAGEMENT PRACTICES IN CHINESE MANUFACTURING**

**Zhang Dawei, Abu Bakar Abdul Hamid, Huam Hon Tat and Thoo Ai Chin**  
**Universiti Teknologi Malaysia, Malaysia**

## **ABSTRACT**

*This study focuses on the factors that impact the performance of purchasing and supply chain management in Chinese manufacturing. It aims to examine the relationships between these factors and performance and to analysis the strength of these relationships. According to the findings, there is sufficient evidence to suggest that there are positive, significant relationships between these five factors and purchasing performance. "Customer-supplier relationships" is the most important factor influencing purchasing performance followed by "Quality management practices in purchasing", "Purchasing-related information systems and technologies", "Purchasing policies" and finally "Purchasing personnel".*

## **INTRODUCTION**

Since 1990s, manufacturing enterprises have faced a rapidly changing and unpredictable buyers' market, rapid technological change and economic globalization. The new requirement is that emphasis is placed on offering customers appropriate products, in sufficient quantities, at the most opportune time, combined with the lowest possible cost and high service levels. The supply chain management (SCM) approach has gained wide acceptance in the marketplace, and is highly regarded by many enterprises as a strategy to attain their business goals (Altekar, 2005). Over the past 30 years, SCM has undergone major changes. The focus of supply chain management has been elevated from a logistics-driven model to a customer-driven model. Supply chain management has been dramatically influenced by the emergence of global competition. Competition between enterprises is resulting in strife between supply chains. More importantly, during the next decade, the manufacturing sector is almost certain to derive more profits from the full implementation of the concepts of supply chain management than any other sector. Supply chain management has also had a significant impact upon purchasing. Purchasing practices play a crucial role when measuring manufacturing performance. The responsibilities of the purchasing department have shifted from that of service to that of playing an increasingly critical role at the tactical and operational level (Ellram and Pearson, 1994). The development and evolution of supply chain management can, in part, be attributed to this shift (Chen et al. 2004).

China is the world's fastest developing economy. The sector most responsible for China's unparalleled economic growth has been manufacturing. Supply chain management is a new concept in China and implementation is still in its infancy. There is a wide gap in SCM practices between China and other international economies (Zhou, 2004). In order to support organizational goals and objectives, purchasing departments of Chinese manufacturing enterprises are facing a multitude of problems. With increasing foreign trade and outsourcing, Chinese enterprises have paid more attention to customer-supplier relationships, but they have still lack service and communication. These relationships are mostly short-term, where true partnerships have as been yet been formed. The disconnection between production and purchasing departments has led to large inventories and the consumption of much liquidity (Yan and Yin, 2008). The purchasing function has been ignored on a strategic level. In the purchasing practices, the emphasis has been laid on the cost and contract management while IT and E-business have not been widely used. The development of purchasing and supply chain management has been hampered by the general lack of professionals. Some local Chinese enterprises suffer from poor management, purchasers pursue self interests, and personnel who lack a code of ethics and

professional responsibility have not critically evaluated suppliers or performed market surveys before purchasing. Although supply chain management has been introduced and accepted in China over the past 10 years, it still has not shown remarkable progress. Every manufacturing enterprise in China is undergoing some form of transformation in order to reduce costs and to maximize profits. However, in China, this is easier said than done.

The purpose of this study is to examine the status quo of purchasing and SCM in Chinese manufacturing and to determine and analyze the factors that impact their performance in order to render suggestions that will improve the performance of both. Hence, this study aims at achieving the following objectives:

- (1) *To determine the factors that impact the performance of purchasing and SCM in Chinese manufacturing.*
- (2) *To examine the relationships between these factors and performance, and to analysis the strength of these relationships.*

## **LITERATURE REVIEW**

### **Purchasing and Supply Chain Management (SCM)**

Since the first coined in the early 1980s by Oliver, the term “supply chain management” has become a central issue of theoretical study. Its research objects have covered all the enterprises, products, services, actions, functional departments and members related in the supply chains. From different perspectives, many researchers have focused on different areas of supply chain management. Some of them focused on the entire chain (Cooper and Ellram, 1993; Tan et al., 1998); some focused on a part of the chain (Sheperd, 1994; Lambert et al., 1998; Keah, 2001); some researched on functions of supply chain (Farmer, 1997; Stevens, 1989; Jole et al., 2009); and also some focused on actions in the chain (Davis, 1993; Scott and Westbrook, 1991). As a new managerial philosophy, supply chain management has been defined in a variety of different ways. Cooper and Ellram (1993) define supply chain management (SCM) as an integrative managerial philosophy of the entire channel from suppliers to final customers. Sheperd (1994) define SCM is the interaction across all channels to provide the highest level of products and services to final customers. It focuses on the cooperation among organizations in the supply chain in order to enhance the supply chain’s effectiveness. A number of definitions describe SCM as an entire managerial mode (Ellram, 1991; Lee and Billington, 1992; Bregman, 1995; Liu et al., 2004; Benton, 2007), it connects every pitch point in the chain and it is also the systemic and strategic coordination mechanism for all organizations and departments within organizations in the supply chain. It aims to improve the performance of the entire supply chain and the members in the chain (Tan et al., 1998).

According to the previous descriptions of supply chain management, it is summarized as an integrated thought and approach. It aims to maximize supply chain performance through cost minimization, service optimization, inventory minimization, cycle-time minimization and quality optimization. SCM performs the functions such as planning, controlling and coordinating of materials, information and cash flow from original suppliers to ultimate customers. As an entire managerial mode, it consists of purchasing, operation, distribution and integration (Jole et al., 2009). In another opinion, Tracey and Tan (2001) divided SCM into two branches which are logistics and purchasing function. No matter what categories, purchasing is the essential one. In this paper, the focus is on the purchasing function of supply chain management.

Purchasing management is one of the most important parts of supply chain management. Purchasing activity links supply and demand between the supply chain upstream and downstream pitch point enterprise. More recently, much literature has been devoted to raising the profile of purchasing from that of a traditional business function to a more important, strategic role within an organization. According to Arjan (2005), the traditional purchasing function is a simple buying process. It begins with determining requirements and ends with delivery. It is the department that is responsible for making sure that the contract or order is fulfilled in accordance to proper terms and conditions as specified in the contract. From the view of Lamming (1985), as a new strategic function, purchasing should be renamed “external resource management”. The term “purchasing” is a limited word that confines the buying function and has no relevance to managing relationships. “External

resource management” is the function of obtaining the essential complements of internal resources from external resources. Reck et al. (1992) defined purchasing management as not only a traditional supporting function but also a fundamental supply chain strategic working process. Subsequently, Bensaou (1999) reported that the focus of purchasing has changed from transaction to relationship and from internal sourcing to global sourcing. This change has led to a series of developments in other related fields such as information technology, total quality management and global competition (Liker and Choi, 2004). In a four-stage supply chain management model, Freeman and Cavinato (1990) analyzed the purchasing function within the entire strategic process of supply management. The results indicated that the purchasing function is essential in every stage and makes a significant contribution to an organization’s performance.

## **Purchasing Policies**

Policy refers to a set of purposes, principles and rules of action that guide an organization. Every purchasing department have policies, many scholars have defined purchasing policy from different angles. Some authors defined purchasing policy as a tool, such as one of the administrative tools of departmental management (Ireland, 1998), a definition of manager’s objectives, leadership and views (Quayle, 2002), an orientation tool for purchasing employees (Yan and Yin, 2008), and a reflection of top-management philosophy (Stuart et al. 1991). Some authors defined purchasing policy as an action guideline, such as guidance to employees at all levels (Liu et al. 2004), and an action-oriented guideline that provide guidance (Robert et al. 2009). Robert et al. (2009) suggested that organizations should establish a set of policies for enhancing the ethical behavior of their purchasing personnel. From reviewing the relevant literature, several advantages of establishing policies are summarized: an established policy eliminates the necessity for making a new decision every time a comparable situation arises (Stuart et al. 1991); purchasing policies provide a framework for consistent decision making and action, it assures that decisions and actions will be consistent and in accordance with the judgment of the responsible department head (Liu et al. 2004; Stuart et al. 1991; Robert et al. 2009); an approved policy gives authority to the indicated course of action (Quayle, 2002; Ireland, 1998), provides a standard for evaluating performance (Liu et al. 2004), and assists in preparation for audits (Ireland, 1998; Liu et al. 2004). As mentioned above, purchasing policy is not only a principle but also an effective tool to meet the requirements of law and government, and eliminate unethical purchasing operation. Policies are broad guidelines to management actions. An approved policy provides a standard for evaluating performance. A series of high-level policy will contribute to purchasing and SCM performance (Robert et al. 2009). Therefore, the above argument leads to: *H1: There is a significant relationship between purchasing policies and purchasing performance.*

## **Purchasing Personnel**

Today, purchasing personnel have expanded their work scope from buying something to managing relationships and gathering internal and external information for making decisions easier (Cooper and Ellram, 1993). They are responsible for selecting qualified suppliers with the achievement of system-wide objectives, not just lowest cost (Bregman, 1995). It is understood that the success of an organization largely depends on its human capital, which refers to the collective knowledge, experience, skills and abilities of all staff (Maister, 1986). The effectiveness of a purchasing department depends not only on organization but also on the personnel (Bregman, 1995). Employees are an important asset for driving supply chain performance. It is certainly true for purchasing that quality of purchasing employees is the key to the success of any company (Arjan, 2005). Zheng (2003) described that purchasing professionals impact their firm’s performance by their decisions and actions about what their firm buys, who they buy from, how much they buy, and how they buy it. They must ensure they are operating in an ethical manner. According to Haynes and Helms (1991), being ethical means following a code viewed as fair by those within the profession as well as the community. A study from Giunipero and Handfield (2004) on purchasing education and training requirements indicated ethics was the number one requirement now and forecasted to be five years into the future. More education and more high-level skills than in the past are the required managerial capabilities for purchasing personnel (Ciancarelli, 1998).

In view of the above, working personnel is another factor that impact purchasing and SCM performance. Personnel is defined in this study as those employees and managers of purchasing or others SCM relevant departments with special relevant skills, experiences, ethics are having common expectation, practices

and goals. They contribute to purchasing and SCM performance in many new areas which are different from traditional (Cooper and Ellram, 1993; Bregman, 1995; Zheng, 2003). Nowadays, purchasing personnel is required to master a series of skills and knowledge which are conducted by previous researches (Faes and Matthyssens, 2001; Zheng, 2003; Giunipero and Handfield, 2004). Organizations or departments should provide more education and training to their purchasing personnel in order to improve their skills and knowledge eventually improve their purchasing-related working capabilities. From the relevant literatures, personal qualities such as ethic, education and professional skills (Giunipero and Handfield, 2004; Ciancarelli, 1998) will lead to high-quality personal performance. Highly qualified purchasing personnel will directly lead to improve purchasing performance. Accordingly, it is proposed that: *H2: There is a significant relationship between purchasing personnel and purchasing performance.*

## **Customer-Supplier Relationships**

A good customer-supplier relationship is another important factor that impact purchasing and SCM performance. To meet the goal of keeping competitive advantage, long-term and trustworthy relationships with the partners in supply chain is important and indispensable (Watts et al, 1992). According to Spekman et al. (1998), from the closed alliance in supply chain, organizations could adequately realize the advantages of reducing cost and increasing profit. In today's competitive world, supply chain partners, especially those who dependent on each other for their business are extremely need tight and long-term working relationships to gain effectiveness advantages of purchasing and supply management. In addition to this, developed channel contributes to build interoperable relationships with partners for sharing information resources freely and planning for their future conjointly. When endeavour to solve problems in new products design, supply chain partners need closely consociation so that both of them can have significant improvement (Spekman et al., 1998). According to Cavinato (1987), internal customer satisfaction is a key factor that impact purchasing performance. A number of studies have adopted it as a metric for measuring purchasing performance (Chao, 1993; Grieco, 1989).

According to Ellram (1994), trust is one of indispensable elements for developing customer-supplier relationship. It is necessary to keep long-term relationships with suppliers and customers so that they could obtain additional benefits from the good relationships. Heide and John (1990) indicated that in the integrated relationships and successful strategic alliance, all the partners in win-win situations with common goals, cross-functional teams and collaboration, they obey the rules which are based on the trusty, loyal, and especially fair in the communication of each other. Both the suppliers and customers in supply chain make up successful strategic alliance by interoperable, long-term relationships, the readinesses for problem solving and information sharing among themselves (Van, 1994). After all, an organization's success is linked to the strength of its relationship with supply chain partners. Purchasing department should develop tighter relationships between suppliers and internal customers. Developing partnership with the qualified supplier, more involvement of supplier can improve supplier performance. Well supplier performance involve in developing buyer's product can contribute to enhance customers satisfaction even the overall organizational performance. Therefore, it was hypothesized that: *H3: There is a significant relationship between customer-supplier relationships and purchasing performance.*

## **Purchasing-related Information Systems (IS) and Technologies (IT)**

The impact that information system (IS) and technology (IT) have on industrial and business performance has aroused great interest in the last few years (Sriram and Stump, 2004). Early uses of information systems were in the accounting and financial areas. However, beginning in the 1970s more IT resources and software solutions were allocated to purchasing (Arjan, 2005). More recent studies have discussed the contribution of certain information systems on purchasing performance. Palvia and Lim (2001) indicated that EDI systems were used to promote the efficiency and reliability of supplier-buyer, reduce cost and order cycle time, and improve customer satisfaction. As per the descriptions of David et al. (2005), information systems related to purchasing, such as electronic data interchange (EDI) and internet, are employed to make orders and exchange transaction information with suppliers. This is of great benefit to supplier-buyer relations and internal integration. Enterprise resources planning (ERP) is another information system that integrate all functions for processing and reporting. Davenport and Brooks (2004) explained the use of enterprise resources planning

(ERP) in SCM and also support and integrate other functions such as finance, human resource, manufacturing and so on. ERP provides advantages by enhancing operational efficiency and by increasing firm-wide information sharing (Laudon et al. 2006).

Javier (2007) described that information technology is a major factor in the development of business to provide effective support of an organization's strategies for gaining competitive advantages. Sriram and Stump (2004) pointed out that the implementation of information technology (IT), such as electronic order processing, is used to improve purchasing performance. Timely and accurate information is an essential requirement of purchasing-decision and supplier performance (Holland et al. 1992). The advantages and benefits of the internet are for the entire value chain by speeding up communication between customers and their suppliers, improving service quality, increased efficiency of the order process, and reduced inventory costs (Lancioni et al., 2000). Similarly, Laudon et al. (2000) found that internet technology advances production scheduling and order processing. It has a great impact on purchasing functions. The above studies suggested that the implementation of information systems in purchasing is a crucial factor that impacts supply chain success. More and more information technologies were used in automatic routine purchasing tasks to drive transaction and operation. They also serve strategic requirement, contribute to effective competitive strategies and good organizational relations. Purchasing-related information systems and technologies are essential ingredient for purchasing survival and improve the performance of firms. Therefore, the above argument leads to: *H4: There is a significant relationship between purchasing-related information systems, technologies and purchasing performance.*

## **Quality Management Practices in Purchasing (QMPP)**

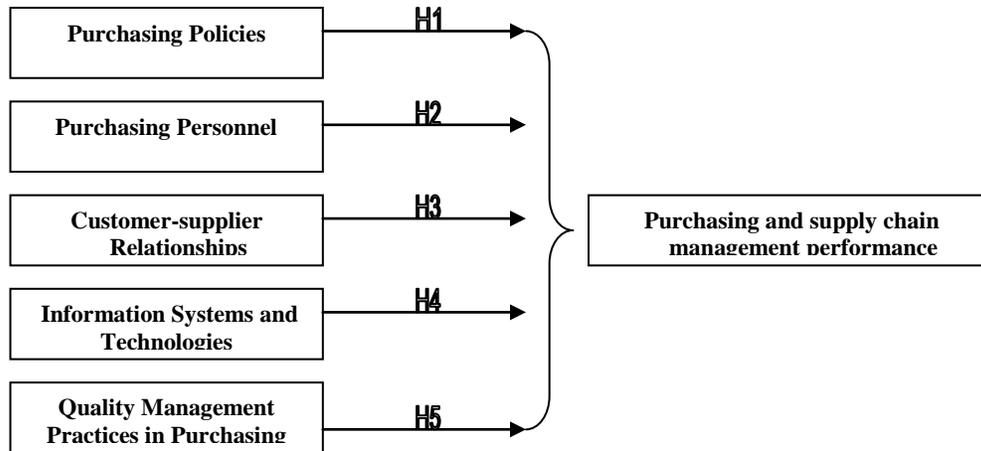
Aljian (1984) defined quality as the total composite of product and service characteristics of marketing, engineering, manufacturing, and maintenance through which the product or service in use will meet or exceed the expectations of the customer. In the vocabulary of purchasing, quality has a special meaning. It is not a generalization or an attribute to be characterized simply as "high" or "poor". It is specifically the sum or composite of the properties inherent in a material or product (Stuart et al. 1991). More and more managers support that quality management is closely linked to purchasing (Benton, 2007). Crosby (1980) studied in manufacturing and found that more than half quality problems as a result of failing purchasing materials. Consequently, quality of purchasing materials has a profound effect on final product and overall firm's performance. Much literature (Lorente et al. 2004; Lamming and Hampson, 1996) list several purchasing activities related to quality management including: managing suppliers quality, lowering materials cost, improving materials quality, reducing delivery time and disposing of mistakes in many ordered and received. Tan et al. (1998) also referred several tasks (supplier management, supplier selection, teamwork) to purchasing employees that can improve the quality of the end product.

Fred and John (2005) pointed out that one of the key responsibility of the purchasing department is to ensure that the organization's quality requirements are met consistently in order to maximize the value from their purchase. The ongoing measurement of quality performance becomes critical to the success of any serious effort to generate improvements (Minahan, 1998). Day and Farmer (2002) found that the most commonly used implementation of quality management in purchasing is likely the use of the supplier scorecard combined with the supplier business review. It is through this process that purchasing has the opportunity to address ongoing product quality or quality of service issues in a meaningful way. Tracey and Tan, (2001) suggested that managing quality at the supplier level is one of the key areas where purchasing departments can add value. This generally means working closely with your internal quality assurance team to ensure that your suppliers are fully measuring up to their contractual obligations. From above literature, many quality management practices related to purchasing function. While purchasing pursuing quality management, it will effectively improve supplier quality practice and set a standard for excellence. To achieve supplier quality excellence, purchasing should have employees who understand the principles and tools of quality management and work effectively with suppliers that ensure the quality of raw materials.

More recently, Lorente et al. (2004) researched on the relationship between quality management and purchasing performance. Results from the statistical analyses showed there are positive correlations between quality management and four measures of purchasing performance. Base on the findings from this research,

purchasing performance can be directly improved through quality management practices in purchasing, so the fifth hypothesis was developed: *H5: There is a significant relationship between quality management practices in purchasing and purchasing performance.*

**Figure I: Conceptual Framework**



## METHODOLOGY

### Instrument

Quantitative research was selected in this study and questionnaire was used to collect data from the respondents. The collected data was analyzed statistically using SPSS. The questionnaire frame consisted of 6 variables and 46 items which were derived from previous studies. To derive answer to the research questions in the questionnaire, each of the variables was measured with five-degree score based on the Likert Scale (1 = strongly disagree, 5 = strongly agree). In order to ensure the validity and reliability of the questionnaire, a pilot test of this research was conducted. The questionnaire was translated to Chinese and distributed to 20 purchasing staffs from Chinese manufacturing enterprises. Based on respondents' recommendations, amendments were made.

### Sample

The respondents were obtained by using convenience sampling method from Henan province, north and southeast of China. Northeastern China is the old industrial base of China. There are many state-owned and state holding large and medium-sized traditional manufacturing enterprises, such as China FAW (first auto works) Group Corporation, the biggest auto works of China. The southeastern coastal area is the most highly developed area in China. It has attracted large number of international high-tech manufacturing enterprises. Henan is a big agricultural province, most populous region in China and the health of the enterprises in this area is the main focus of the Chinese government. According to National Bureau of Statistics of China (2009), as of early 2009, there were 1.319 million manufacturing enterprises in the business sector registered, the sample size is determined as 384, and these sample enterprises were collected from Business Yellow Pages of China. A total of 124 useful questionnaires were returned, with a response rate of 32%.

## FINDINGS

### Reliability

Cronbach's Alpha is conducted before data analyzing. "0.7" is a standard of acceptable reliability (Uma, 2003). The reliability coefficient of the independent variables yielded the Cronbach-Alpha score 0.951 for "customer-supplier relationships", 0.910 for "purchasing-related information systems and technologies", 0.886 for "quality management practices in purchasing", 0.832 for "purchasing personnel" and 0.809 for "purchasing policies". For the dependent variable, the reliability coefficient is 0.941 for "purchasing and SCM performance". All of them are higher than 0.7, with the result that these questionnaires are reliable in this research.

## Hypothesis Testing

Pearson Correlation and Multiple Regression Analysis were used to test the hypotheses. The Pearson correlation analysis is used to investigate the relationship between the independent variables and the dependent variables. According to the results, the correlation value between purchasing performance and purchasing policies is 0.797\*\* with a P value (Sig.) 0.000 (<0.01). It indicated that purchasing performance is associated statistically with purchasing policies. Thus, *hypothesis 1 is substantiated*. The correlation value between purchasing performance and purchasing personnel is 0.763\*\* with a P value (Sig.) 0.000 (<0.01). It indicated that purchasing performance is associated statistically with purchasing personnel. Thus, *hypothesis 2 is substantiated*. The correlation value between purchasing performance and customer-supplier relationships is 0.844\*\* with a P value (Sig.) 0.000 (<0.01). It indicated that purchasing performance is highly correlated with customer-supplier relationships. Thus, *hypothesis 3 is substantiated*. The correlation value between purchasing performance and purchasing-related information systems, technologies is 0.758\*\* with a P value (Sig.) 0.000 (<0.01). It indicated that purchasing performance is associated statistically with purchasing-related information systems, technologies. Thus, *hypothesis 4 is substantiated*. The correlation value between purchasing performance and quality management practices in purchasing is 0.869\*\* with a P value (Sig.) 0.000 (<0.01). It indicated that purchasing performance is highly correlated with quality management practices in purchasing. Thus, *hypothesis 5 is substantiated*.

From the results of Multiple Regression Analysis, it is statistically significant in this analysis ( $P < 0.05$ ). The value of adjusted R square 0.850 is a high score and illustrates that 85% of the variation from the dependent variable is highly explained by these independent variables. This is considered a good fit. As shown in Table I, Tolerances of independent variables are from 0.197 to 0.504, and all of them more than 0.1, thus, there is no multicollinearity problem among these independent variables and multiple regression results are statistically significant. The values of "Beta" of all the five independent variables are from 0.137 to 0.260, it is also supports the research hypotheses. A comparison of the values of "Beta" clearly indicates that the factor "customer-supplier relationships" has the most influence on purchasing performance, followed by "quality management practices in purchasing", "purchasing-related information systems and technologies", "purchasing policies" and "purchasing personnel".

**Table I: Summary of Multiple Regressions**

Model	Unstandardized Coefficients		Standardized	Sig. (P)	Collinearity Statistics	
	B	Std. Error	Coefficients Beta		Tolerance	VIF
(Constant)	-4.524	3.403		.186		
policies	.176	.070	.153	.013	.331	3.019
personnel	.154	.064	.137	.018	.371	2.694
relationship	.294	.060	.260	.000	.271	3.692
information	.233	.047	.251	.000	.504	1.984
quality	.238	.091	.253	.002	.197	5.066

a. Dependent Variable: performance

## DISCUSSION AND CONCLUSION

Increasingly, some successful Chinese manufacturing enterprises are coming to realize the importance of supply chain management and scoring some achievements by applying this advanced concept. As a crucial role in supply chain performance, purchasing is becoming a hot research field in Chinese manufacturing. But in

contrast, there is still a wide gap in purchasing and supply chain management practices between Chinese manufacturing and the advanced international level. This research has investigated the factors that impact purchasing and SCM performance in Chinese manufacturing. According to the findings of this research, there are sufficient evidences to support that there are positive significant relationships between these five factors and purchasing performance. “Customer-supplier relationships” is the most important influencing factor for purchasing performance, it joins every pitch point in supply chain. “Quality management practices in purchasing” has the second greatest effect on purchasing performance, good quality management practices will substantially improve purchasing performance. “Purchasing-related information systems and technologies” has the third strongest relationship with purchasing performance among the five influencing factors, it is the necessary tool to serve purchasing and supply chain management. “Purchasing policies” has the second lowest impact on purchasing performance, successful policies provide guidance to purchasing towards correct path. “Purchasing personnel” has the lowest value and one that follows the other four factors, it is a critical asset for driving purchasing and supply chain performance.

## REFERENCES

- Aljian, G.W. *Purchasing Handbook*. New York: McGraw-Hill. 1984
- Altekar, R. V. *Supply Chain Management: Concepts and Cases*. New Delhi: Prentice Hall of India. 2005
- Arjan J. and Van Weele. *Purchasing and supply chain management*. Thomson. 2005
- Bensaou, B. M. Portfolios of buyer-supplier relationships. *Sloan Management Review*, 1999. 40 (4): 35-44.
- Benton, W.C. *Purchasing and Supply Management*. McGraw-hill. 2007
- Bregman, R.L. Integrating marketing, operations, and purchasing to create value. *Omega*, 1995. 23 (2): 159-172.
- Cavinato, J.L. Purchasing performance: what makes the magic? *Journal of Purchasing and Materials Management*, 1987. 23 (3): 10-16.
- Chao, C., Scheuing, E.E. and Ruch, W.A. Purchasing performance evaluation: an investigation of different perspectives. *International Journal of Purchasing and Materials Management*, 1993. 29 (3): 33-39.
- Chen, I.J, A. Paulraj and A. Lado. Strategic purchasing, supply management and firm performance. *Journal of Operations Management*, 2004. 22 (5): 505–523.
- Ciancarelli, A. Purchasing Careers Get Redefined. *Purchasing*, 1998. 125(9): 55-59.
- Cooper, M.C., Ellram, L.M. Characteristics of supply chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management*, 1993. 4 (2): 13-24.
- Cristobal Sanchez-Rodriguez., David Hemsworth., Angel R. and Lorente-Martinez. The effect of supplier development initiatives on purchasing performance: a structural model. *Supply Chain Management: An International Journal*. 2005. 10 (4): 289-301.
- Crosby, P. B. *Quality is Free*, McGraw-Hill. 1980
- Davenport, T.H. and Brooks, J. D. Enterprise Systems and the Supply Chain. *The Journal of Enterprise Information Management*. 2004. 17 (1): 8-19.
- David Hemsworth., Cristobal Sanchez-Rodriguez. and Bruce Bidgood. Determining the impact of quality management practices and purchasing-related information systems on purchasing performance: A structural model. *Journal of Enterprise Information Management*. 2005. 18 (2): 169-194.

- Davis, T. Effective supply chain management. *Sloan Management Review*, 1993. 34 (4): 35-46.
- Day, M. and Farmer D. *Handbook of purchasing management*, 3<sup>rd</sup> ed. Gower. 2002
- Degraeve, Z. and Roodhooft, F. Effectively selecting suppliers using total cost of ownership. *Journal of Supply Chain Management*, 1999. 35 (1): 5-10.
- Ellram, L.M. Supply chain management: the industrial organization perspective. *International Journal of Physical Distribution and Logistics*, 1991. 21 (1): 13–22.
- Ellram, L.M. A managerial guideline for the development and implementation of purchasing partnerships. *International Journal of Purchasing and Materials Management*, 1994. 27 (3): 2–8.
- Ellram, L.M. and Pearson, J.N. The role of the purchasing function: toward team participation. *International Journal of Purchasing and Materials Management*, 1994. 29 (3): 3–9.
- Faes, W., Knight, L. and Matthyssens, P. Buyer profiles: an empirical investigation of changing organizational requirements. *European Journal of Purchasing & Supply Management*, 2001. 1 (7): 197-208.
- Farmer, D. Purchasing myopia – revisited. *European Journal of Purchasing and Supply Management*, 1997. 31: 1–8.
- Fred Sollish and John Semanik. *The Purchasing and Supply Manager's Guide*. Neil Edde. 2005
- Freeman, V.T. and Cavinato, J.L. Fitting purchasing to the strategic firm: frameworks, processes, and values. *Journal of Purchasing and Materials Management*, 1990. 26 (1): 1–12.
- Giunipero, L. and Handfield, R. *Purchasing Education and Training*. AZ: CAPS Research. 2004
- Grieco, Jr., P.L. Why supplier certification? and will it work? *Production and Inventory Management Review and APICS News*, 1989. 9 (5), 38–42.
- Haynes, P. J. and Helms, M. M. An Ethical Framework for Purchasing Decisions. *Management Decision*, 1991. 29(1): 35.
- Heide, J.B. and John, G. Alliances in industrial purchasing: the determinants of joint action in buyer-supplier relationships. *Journal of Marketing Research*, 1990. 27: 24–36.
- Holland, C., Lockett, G. and Blackman, I. Planning for electronic data interchange. *Strategic Management Journal*, 1992. 13: 39-50.
- Ireland, J. Purchasing Policies and Procedures. *Supply Management*, 1998.
- Javier Gonzalez-Benito. Information technology investment and operational performance in purchasing: The mediating role of supply chain management practices and strategic integration of purchasing. *The Journal of Industrial Management & Data Systems*, 2007. 107 (2): 201-228.
- Joel D. Wisner., Keah Choon Tan. and G. Keong Leong. *Principles of Supply Chain Management: A Balanced Approach*. 2<sup>nd</sup> ed. South-Western Cengage Learning. 2009
- Keah Choon Tan. A framework of supply chain management literature. *European Journal of Purchasing & Supply Management*, 2001. 7 (1): 39-48.
- Lambert, D.M., Stock, J.R. and Ellram, L.M. *Fundamentals of Logistics Management*, Irwin/McGraw-Hill, Boston, MA. 1998

- Lamming, R. and Hampson, J. The environment as a supply chain management. *British Journal of Management*, 1996. 7 Special Issue: S45–S62.
- Lamming, R., ‘the future of purchasing: developing lean supply’, in Lamming, R., and Cox, A., *Strategic Procurement Management in the 1990s*, Earlsgate Press, 1985, p.40
- Lancioni, R., Smith, M. and Oliva, T. The role of the internet in supply chain management. *Industrial Marketing Management*, 2000. 29: 45-56.
- Laudon, K.C. and Laudon, J.P. *Management Information Systems: Managing the Digital Firm*. 10<sup>th</sup> ed. Upper Saddle River, N.J: Pearson Prentice Hall. 2006
- Lee, H.L. and Billington, C. Managing supply chain inventory: pitfalls and opportunities. *Sloan Management Review*, 1992. 33 (3): 65–73.
- Liker, J.K. and Choi, T.Y. Building deep supplier relationships. *Harvard Business Review*, 2004. 82 (12): 104-113.
- Liu Baoguo, Min Xianghai and Zhuang Xiaolin. Policies within purchasing management: its relationship to organization performance. *The Journal of Science Management*, 2004. 3: 39-47.
- Lorente-Martinez, Cristobal Sanchez-Rodriguez, and Angel R. Quality management practices in the purchasing function: An empirical study. *International Journal of Operations & Production Management*, 2004. 24 (7): 666—687.
- Maister, D. *How to build human capital*. The American Lawyer, June, 1986: 6-8.
- Minahan, T. Purchasing Needs to Do More Than Measure. *Purchasing*, 1998. 124 (1).
- Oliver, R.K. and Webber, M.D. Supply chain management; logistics catches up with strategy. in Christopher, M.G. (Eds), *Logistics: The Strategic Issues*, Chapman & Hall, London, 1982. 63-75.
- Palvia, P. and Lim, D. EDI in strategic supply chain: impact on customer service. *International Journal of Information Management*, 2001. 21 (3): 193-211.
- Quayle, M. Purchasing Policy in Switzerland: An Empirical Study of Sourcing Decisions. *Thunderbird International Business Review*, 2002. 44(2).
- Reck, R.F., Landeros, R. and Lyth, D.M. Integrated supply management: the basis for professional development. *International Journal of Purchasing and Materials Management*, 1992. 28 (3): 12–18.
- Robert M. Monczka, Robert B. Handfield, Larry C. Giunipero, and James L. Patterson. *Purchasing and supply chain management* 4<sup>th</sup> ed. Mason, OH : South-Western College. 2009
- Scott, C. and Westbrook, R. New strategic tools for supply chain management. *International Journal of Physical Distribution and Logistics*, 1991. 21 (1): 23–33.
- Sheperd, N.A. Integrated supply management and supplier certification. *CMA Magazine*, 1994. 68 (3): 19–23.
- Spekman, R. E., Kamauff, J. W. and Myhr, N. An Empirical Investigation into Supply Chain Management: A Perspective on Partnerships. *Supply Chain Management: An International Journal*. 1998. 3(2): 53-67.
- Sriram, V. and Stump, R. Information technology investments in purchasing: an empirical investigation of communications, relationship and performance outcomes. *Omega*, 2004. 32 (1): 41-55.
- Statistical Yearbook of China, The National Bureau of Statistics 2005-2010, State Statistical Press, Beijing.

- Stevens, G.C. Integrating the supply chain. *International Journal of Physical Distribution and Materials Management*, 1989. 19(8), 3-8.
- Stuart Heinritz, Paul V. Farrell, Larry Giunipero and Michael Kolchin. *Purchasing principles and applications*, 8<sup>th</sup>. Englewood Cliffs, NJ : Prentice Hall. 1991
- Tan, K.C., Handfield, R.B. and Krause, D.R. Enhancing firm's performance through quality and supply base management: an empirical study. *International Journal of Production Research*, 1998. 36 (10): 2813–2837.
- Tan, K.C., Kannan, V.J. and Handfield, R.B. Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Materials Management*, 1998. 34 (3): 2–9.
- Tracey, M. and Tan, C.L. Empirical analysis of supplier selection and involvement, customer satisfaction, and firm performance. *Supply Chain Management: An International Journal*, 2001. 6 (4): 174-188.
- Uma Sekaran. *Research Methods for Business* 4<sup>th</sup> ed. John Wiley & Sons, Inc. 2003
- Van Weele, A.J. *Purchasing Management*, Chapman & Hall, 1994
- Watts, C.A., Kim, K.Y. and Hahn, C.K. Linking purchasing to corporate competitive strategy. *International Journal of Purchasing and Materials Management*, 1992. 23 (2): 2–8.
- Yan Xiuxia and Yin Xiuqing. *Supply Chain Management*. China Railway Press. 2008
- Zheng Jiping. *Research on Purchasing Performance Management of Agriculture in China*. Northeast Forestry University: Ph. D Thesis. 2003
- Zhou Huixia. *Supply Chain Logistics Management*. Tsinghua Press. 2004

# IS GLOBAL PROTECTION OF INTELLECTUAL PROPERTY RIGHTS REALLY NECESSARY?

Ora Dippenaar  
Tshwane University of Technology, South Africa

## ABSTRACT

*Counterfeiting and piracy developed into a significant economic and social problem. As technology improves, copying and imitating products become cheaper and the quality of the illegal product better. Innovation is encouraged through protection of intellectual property rights that reduces the risks of expropriation. Technology-importing countries usually prefer weak intellectual property rights systems as this provides the opportunity for inexpensive technology transfer and promotes the growth of domestic industries. Intellectual property rights should be seen as rules that regulate the terms of competition with social benefits attached, rather than mechanisms for creating legal monopolies. Countries must endeavour to find a balance between maintaining competition and promoting local innovation as well as encouraging commercial activity from abroad. The most important system of protecting intellectual property rights is the Agreement on Trade Related aspects of Intellectual Property Rights.*

## INTRODUCTION

One of the most dramatic changes concerning global economy is the development of international economic law. Weaknesses of the international system became clearer as globalisation expanded and technology improved. According to Yar (2005) one of the most important achievements concerning protection of intellectual property rights was the conclusion of the Agreement on Trade Related aspects of Intellectual Property (TRIPS), a foundation of the new World Trade Organisation (WTO). Intellectual property rights define the extent to which their owners may exclude others from activities that infringe or damage the property (Maskus, 1998).

In the 1990's the world moved towards an international system of intellectual property rights with unilateral adoption of stronger laws and enforcement procedures. These decisions were taken because of external pressure and realisation that strong intellectual property rights are important in attracting investment and technology. (Maskus, 1998).

Intellectual property rights have varying impacts on foreign direct investment in different sectors. Investment in lower-technology goods and services depends little on the strength of property rights and much on input costs and market opportunities. Investors with a product or technology that is hard to imitate may pay little attention to intellectual property rights. Firms with easily copied products such as software and pharmaceutical products would be interested in the strength of intellectual property rights as would firms considering investments in local research and development facilities. Research indicated that both volume and technological quality of investment are diminished in countries with limited intellectual property rights (Maskus, 1998).

## COMPETITION AND/OR MONOPOLY

A few problem areas regarding intellectual property rights in many developing countries are inadequate copyright and trademark protection allowing extensive copying of entertainment and software products and unauthorised use of well-known trademarks. Another problem is exclusion from patent protection of

pharmaceutical products. Also a problem is absence of patent protection for biotechnological inventions for plant varieties. Lastly is inadequate procedures for administrative and judicial enforcement of defined rights (Maskus, 1998). Weak intellectual property rights are a form of strategic trade policy as it allows uncompensated imitation and copying of foreign products and technology. Developing countries are concerned over potential monopoly pricing and limited distribution of new technology and products (Maskus, 2000).

Intellectual property rights should be seen as rules regulating the terms of competition rather than mechanisms for creating legal monopolies. While intellectual property rights do create market power, the impact on competition varies across products, technologies and countries (Maskus, 1998).

Because ideas are essentially like public goods where many can benefit from one idea, there is a risk of expropriation. Ideas, however, have wider benefits than just to the innovator. There is a social cost to restricting dissemination of ideas. Innovation is encouraged through protection of intellectual property rights which reduces the risks of expropriation, but might create an artificial monopoly for a time (Yueh, 2007).

Maskus (2000) is of the opinion that it is a mistake to think of intellectual property rights as mechanisms for creating monopolies. Intellectual property rights define the extent to which their owners may exclude others from activities that infringe or damage the property. Intellectual property rights sets out and protect the boundaries of competition and regulates the terms of competition. The strength of protection depends on the scope of the rights granted as well as the ability of competitors to develop non-infringing products and the ability of consumers to substitute among supply sources.

Article 40 of TRIPS provides wide latitude for competition policies. Each WTO member must develop a system for protecting trade secrets from unfair competition according to specified minimum standards (Maskus, 1998). The adoption of TRIPS reinforces the view that the justification for granting intellectual property rights is to present to the innovator some monopolistic return from an investment that will benefit society and which would otherwise not occur. A patent holder can prevent third parties from making, using, selling or importing a product. Patent owners also have the right to assign or transfer the patent and to conclude licensing contracts (Yueh, 2007).

## Patents

For an invention to be patentable it must meet three criteria: it must be new, it must contain a step that is not obvious to one skilled in the specific area and it must be useful. Attempts to extend protection beyond the patent grant are considered anti-competitive and subject to anti-monopoly remedies (Maskus, 2000).

The patent system provides incentive for firms to undertake risky, long-term research and development that leads to major technological breakthroughs. It takes an average of 12-15 years for a product to make it from basic pre-clinical research through clinical testing and regulatory marketing approval to product launch. Around the inventions grow new industries that use these technologies or improve on them. The social gains to large technological advances far exceed private return because their spill-over benefits have a substantial positive impact on growth (Maskus, 2000).

Two arguments that justify the granting of patents are firstly that patents provide an incentive to undertake the research effort and costs required to invent new technology and products and bring them to market. A patent that is not “worked” through production or sale, locks up an area of technology in return for little gain to consumers. Therefore some countries include working requirements within particular time limits for patent grants to be sustained. Secondly, patents expand technical knowledge. In return for creating market exclusivity through a patent, society requires some compensation. For this reason, patents bear a disclosure requirement in which the technical aspects are made known and others are free to use the information to develop new inventions that do not violate the patent claim (Maskus, 2000).

Patents provide the right to exclude for a fixed time all others from making, selling or using the product or process without authorisation. The patent claim must meet technical criteria for novelty, or non-obviousness. It must also survive any opposition procedures based on competing claims of prior invention or insufficient novelty. Therefore, patent applications are laid open for inspection by interested parties. Thus, the social benefit of patents is to create a protected market which may or may not involve considerable market power, in return for

disclosure of technical advances. Upon expiry of a patent, all firms are free to produce and market versions of the product (Maskus, 1998).

## Copyright

Copyright laws protect the expression of an idea (in other words its presentation in words, music, dance steps, colour, etc) rather than the idea itself. To receive copyright the item must be original, but there is no need for novelty in the underlying idea. Registration to receive copyright is not necessary, because the original expression is protectable. Exceptions to copyright protection come under the “fair use doctrine” which states that protected work may be used in the interests of educational, scientific and technical advance. Therefore uncompensated quotation of work is allowed, subject to appropriate citation, as is the making of limited copies for educational and research purposes (Maskus, 2000).

Rapid and dramatic improvements in copying technology caused growing demands for stronger global protection and extension of protection to areas such as software, internet transmissions and broadcasts (Maskus, 2000).

Countries must recognise in their laws protection of well-known trademarks. Registration may be cancelled for non-use, but only under limited circumstances (Maskus, 1998). A trademark cannot be protected in the same manner in the United States, European Union member states and countries like for example China, Japan and Arabic-speaking countries that do not use the Roman alphabet (Bretonnière, 2011).

## COUNTERFEITING AND PIRACY

Trademarks indicate the inherent quality of the product or service in order to enable the consumer to know beforehand what quality to expect. This provides firms an incentive to maintain quality in order not to erode the value of their trademarks. The need to protect high-end consumer trademarks is evident, since otherwise free riders would duplicate such marks and attach them to goods of lower quality (Maskus, 2000). Better technology provides the availability of affordable equipment to manufacture cheap, high-quality copies. When the pirate product is largely indistinguishable in quality and appearance from its authorized counterpart, the price-conscious consumer has an extra incentive to opt for the cheaper product (Yar, 2005).

Large manufacturers spend millions tracking consumer tastes, designing new products, distributing them and creating demand through impressive advertising campaigns. Counterfeits are only good as long as they are counterfeits of some brand. Thus, the reason why consumers buy a counterfeit is because it represents the brand it is supposed to be copying (Eisend, 2006). Counterfeiting may enhance consumer welfare by providing lower-cost alternatives, but it also reduces welfare by increasing confusion, raising search costs, diminishing the value of trademarks and lowering incentives to maintain product quality and develop new products. Two types of transactions are involved in counterfeiting, namely deceptive and non-deceptive counterfeiting. Deceptive counterfeiting is where consumers are not aware that they purchase a counterfeit product and believe they buy the genuine product. This form of counterfeiting is observed mainly in markets for automotive parts, electronic products and pharmaceuticals. Non-deceptive counterfeiting is where consumers are aware that the product purchased is a counterfeit product, but do not care (Nia, 2000).

By tolerating faking we tolerate something that damages business, is morally wrong and ethically unacceptable. It is distressing that consumers are tolerant of this immoral and illegal practice. If the public become unsure as to whether a manufacturer’s product is the real thing or a fake, the manufacturer is in the position where the strength of his brand is threatened (Nia, 2000). According to studies done by Eisend (2006), it is the perception of consumers that for example Calvin Klein and Lacoste shirts have lost their exclusivity in recent years due the appearance of so many faked products. People desire uniqueness.

A particular problem arises around the policing of borders and customs controls. Given the increasing economic dependence on international trade, there is pressure to alleviate border restrictions to encourage free flow of goods and to minimize transaction costs incurred by business. This is in direct contrast with the need to institute better border inspection and control to curtail movement of “illicit” goods (Yar, 2005).

## **The fight against piracy**

Where public agencies have been reluctant to invest time and resources in tackling intellectual property violations, industrial and commercial organizations are playing a leading role in policing and enforcing legislation. They also attempted to bring intellectual property crime into the criminal justice mainstream through the appointment of specialist liaison personnel to assist police, customs, etc. Governments responded to pressure from these groups by establishing specialist units within criminal justice agencies to address intellectual property violations for example the United Kingdom has the National High-tech Crime Unit and the National Technical Assistance Centre. The United States has the FBI's Internet Fraud Complaint Centre (IFCC). Interpol has established an Intellectual Property Crimes Unit in 2002. Countries with wide varying levels of economic development and abilities have considerable differences in strength of laws and enforcement (Yar, 2005). In the past, copyright violations have been largely dealt with through civil remedies available to copyright holders. Prosecutors were reluctant to be involved in this complex domain of law. In recent years we have seen the incorporation of additional provisions for criminal sanctions into both international treaties and national laws. On international level, Article 61 of TRIPS establishes a mandatory requirement for signatories to make criminal provisions against 'commercial' copyright violations. Criminalization has become necessary because it has become socially accepted that intellectual property violations are not genuinely wrong and harmful comparing to "real" crimes such as theft, homicide and rape (Yar, 2005).

High costs of enforcement may discourage some governments from administering their obligations effectively (Maskus, 1998). When disputes among nations cannot be resolved, the Dispute Settlement Understanding (DSU) is invoked. Parties to the DSU are countries and not individuals or firms (Yueh, 2007).

## **IS THERE ADVANTAGE IN INTELLECTUAL PROPERTY RIGHTS?**

It is doubtful that firmer global copyright protection would result in significant additional amounts of literary, music and entertainment production. Similarly, better protected trademarks in developing countries seem unlikely to expand incentives for product and brand development in developed countries. However, innovation in developing countries may increase as they raise their level of intellectual property rights (Maskus, 1998).

The emerging global system of protection for intellectual property as embodied primarily in the TRIPS agreement, rebalances global policies in favour of information developers. At the same time there are concerns that protected firms will choose to exercise their stronger rights in anti-competitive ways, raising prices and license fees and reducing international access to technology. The TRIPS agreement provides wide discretion for enacting pro-competitive implementation strategies and competition rules. Countries must bear two things in mind. First there need to be a balance between maintaining competition and promoting local innovation on the one hand and encouraging commercial activity from abroad. Secondly, over-enthusiastic pursuit of means to limit the benefits of TRIPS will invite future trade dispute (Maskus, 1998).

## **CONCLUSION**

The necessity for global protection of intellectual property rights is not a perception, it is an imminent reality. Developed countries will hardly invest in countries without an adequate intellectual property rights system. Intellectual property rights systems attempt to strike a balance between providing adequate incentives to develop new technology and products and ensuring effective distribution of inventions into the economy without free riders on board.

Even where the law makes provision for criminal prosecution of intellectual property violations, there are few such actions. Intellectual property crimes are seen as low priority by criminal justice agents. Enforcement of TRIPS is expensive, which might discourage some governments from administering their obligations.

Without protection of intellectual property rights, innovation will slow down. Quality of products will deteriorate and consumers will be uncertain about quality of all products. Life important products for example medicine, aeroplane- and motor vehicle parts quality may become questionable. Global protection of intellectual property rights is not important...it is imperative for a healthy economic and social environment.

## REFERENCES

- Bretonnière JF “Some *practical key issues in the management of an international trademark portfolio*” lawyer and head of Baker and McKenzie Attorneys [www.bakermckenzie.com](http://www.bakermckenzie.com) [Date of use: 15 February 2011]
- Eisend M and Schuchert-Güler “*Explaining Counterfeit Purchases: A Review and Preview*” Academy of Marketing Science Review volume 2006 no 12 <http://www.amsreview.org> [Date of use: 16February 2011]
- Maskus KE “*The International Regulation of Intellectual Property*” Weltwirtschaftliches Archive Volume 134(2) pg 186-208 (1998)
- Maskus KE “*Intellectual property rights in the global economy*” Institute for International Economics, Washington pg 27-84 (2000)
- Nia A&Zaichkowsky JL “Do Counterfeits Devalue the Ownership of Luxury Goods?” Journal of Product and Brand Management Vol 9 no 7 (2000), pg 485-497 [www.thesis.lib.ncu.edu.tw](http://www.thesis.lib.ncu.edu.tw) [Date of use: 1 March 2011]
- Yar M “The global ‘epidemic’ of movie ‘piracy’: crime-wave or social construction? Media, Culture & Society pg 676-692 (2005) <http://mcs.sagepub.com/content/27/5/677> [Date of use: 28 January 2011]
- Yueh LY “Global Intellectual property rights and Economic Growth” Northwestern Journal of Technology and Intellectual Property Volume 5 Issue 3 Summer (2007) <http://www.law.northwestern.edu/journals/njtip/v5/n3/3> [Date of use: 17/01/2011]

# **ORGANISATIONAL CLIMATE AND CULTURE SUSTAINABILITY THROUGH EMPLOYEE ENGAGEMENT AND CUSTOMER EXPERIENCE CAUSALITY**

**Adri Drotskie, University of Johannesburg, South Africa  
Rica Viljoen, Da Vinci Institute, South Africa**

## **ABSTRACT**

*This paper is based on the assumption that an employee experience leads to a customer experience. The root cause leading to the effect of a change in customer experience is the employee experience which comprises employee engagement. This paper presents an integrated systemic approach of a framework that materialised through Grounded Theory. Customer experience is seen as strategic differentiator in organisations interacting with customers, leading to a sustainable competitive advantage. The understanding and application of this causal effect therefore has significant implementation for national and international business managers and leaders.*

## **INTRODUCTION**

Customer experience is seen as a strategic differentiator in organisations interacting with customers, leading to a sustainable competitive advantage and changes in profitability. The customer experience however is the effect of the employee engagement approach within the organisation (Drotskie, 2009). Therefore, the employee experience leads to the customer experience. As the customer experience is the effect of something it cannot be directly changed in itself. The root cause leading to the effect of a change in customer experience is the employee experience, which comprises employee engagement. Employee engagement is determined by the interplay of perceptions on individual, group and organisational level (Viljoen, 2009). Management has a critical role to play in creating a culture conducive for engagement and customer experience.

This paper presents an integrated systemic approach of a framework that materialised through Grounded Theory. It has significant implications for national and international business managers and leaders.

In Figure 1 below, Heskett, Sasser and Schlesinger (1997) depict the customer service profit chain which indicates that the changes inside the organisation (people, processes and systems) leads to a certain value proposition which leads to a change in the customer experience which leads to profitability.

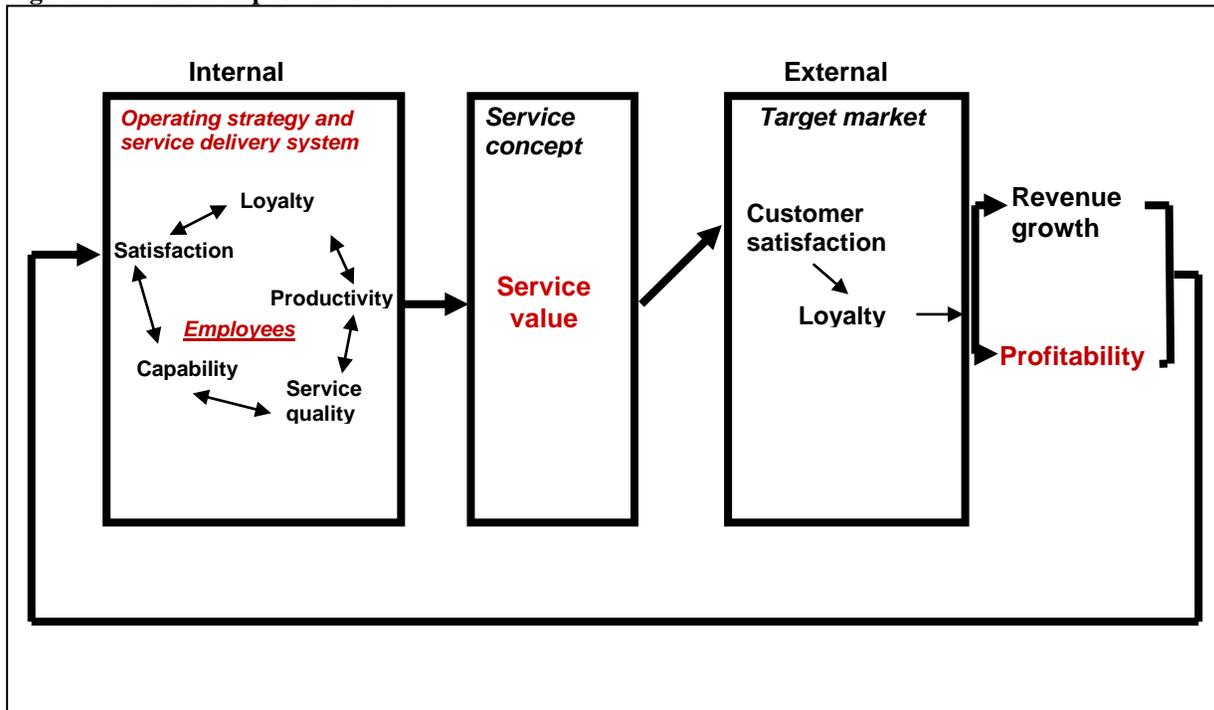
It is clear from Figure 1 above that employee satisfaction will impact on the service value that will directly impact on customer satisfaction. Since 1997, the field of employee satisfaction developed and employee engagement is currently view as significant contributor to organisational success. Similarly customer satisfaction developed into a much more refined construct, namely customer centricity.

## **PROBLEM INVESTIGATED**

An understanding of the external environment (in this case the world of the customer) may assist in creating insights, reawakening instincts and cultivating organisational change. Schutte (2004) explored the impact of happenings in the internal environment on the external environment. Jung (1953) years ago held

similar beliefs and based his insights on the age-old alchemy paradox - “as within so without”. If a person or an organisation would like to address something in the external environment, the real work must happen internally. Mutwa, Teish and Larsen (2003) described the same duality, namely, if people treat each other with trust within the internal environment then they will also treat customers in the same way. Customers appreciate an organisation that encourages the truth through customer feedback and then addressing all customer problems honestly (McKenna, 1991).

**Figure 1: The service profit chain**



Source: Adapted from Heskett, Sasser & Schlesinger, 1997: 19

As employee engagement within the context of organisational culture and climate causes the customer experience to change, this causality is of utmost importance for management understanding and organisational sustainability.

## RESEARCH OBJECTIVES

The research objectives are:

- Explore the pre-requisites for improved employee engagement
- Explore the pre-requisites for a changed customer experience
- Determine the causality between employee engagement and customer experience

## LITERATURE REVIEW

In this section of the paper, employee engagement within the context of organisational culture and climate and the customer experience are reviewed as two separate concepts.

### Organisational culture and climate

*“If the leadership dimension isn’t properly in place, a company simply cannot be successful. Organisations do not run by themselves. They need people – the right people in leadership positions to make them perform.”*

de Vries, 1984: unknown

Kets

It is assumed that organisations are social systems (French & Bell, 1999). Different employees often see the same thing but interpret it differently based on their own unique way of thinking (Salisbury, 1999). Therefore, in order to understand the way in which decisions are made and strategies implemented within an organisation, one would need to acknowledge and understand how employees within the organisation view the system and what constitutes their worldviews. It thus becomes critical for the leadership within an organisation to firstly value diversity and secondly ensure that all employees contribute significantly to the implementation of the organisational strategy thereby ensuring enhanced shared understanding and alignment (Viljoen, 2009). A culture, thus a system of shared meanings, may guide the way in which organisations act and the way in which individuals view and interpret the corporate world (Novinger, 2001). Schein (1985), Meek (1988) and others believed that a leader creates culture.

The way in which things are done in an organisation will contribute to how employees experience the workplace (Viljoen, 2009). A climate (a shared set of attitude in human affairs) conducive for engagement, involvement and participation should be engendered by leadership within the organisation (Botha and Schutte, 2003) to customer satisfaction. Organisational benefits will materialise from such a climate.

## **The philosophy of engagement**

Engagement can be described as “*the act of committing, pledging or engaging oneself*” or “*the state of being bound emotionally or intellectually to a course of action or to another person or persons*” (Macey & Schneider, 2008:3). Macey and Schneider (2008) offers a comprehensive description of engagement and describes it as discretionary willingness. An engaged employee is a person who is fully involved in, and enthusiastic about, his and her work. Viljoen (2009) defined engaged commitment as “*the trait of sincere and steadfast fixity of purpose, a man of energy and commitment*” and “*the act of binding oneself to a course of action*”.

In the model that will be presented in Figure 2, commitment is viewed as the emotional experience of the phenomenon engagement. Employee engagement, thus, is a concept that is generally viewed as managing discretionary effort, that is, when employees have choices, they will act in a way that furthers their organisation’s interests.

Statistics have shown that only 29% of employees are actively engaged in their jobs (Leadership Council, 2004). These engaged employees work with passion and feel a profound connection to their company. People that are actively engaged help move the organisation forward. A total of 84% highly engaged employees believe they can positively impact the quality of their organisation’s products, compared with only 31% of the disengaged. 72% of highly engaged employees believe they can positively affect customer service, versus 27% of the disengaged. 68% of highly engaged employees believe they can positively impact costs in their job or unit, compared with just 19% of the disengaged. It is clear that in employee engagement has positive impacts on business results such as customer service.

Engaged employees feel a strong emotional bond to the organisation that employs them (Viljoen, 2009). This is associated with people demonstrating willingness to recommend the organisation to others and commit time and effort to help the organisation succeed. It suggests that people are motivated by intrinsic factors (e.g. personal growth), working to a common purpose, being part of a larger process) rather than simply focusing on extrinsic factors (e.g., pay/reward) (Leadership Council, 2004).

According to the Leadership Council report engaged employees are inspired to go above and beyond the normal call of duty in order to exceed organisational goals and that engagement can contribute to an increase in total share holder return of up to 47% through the reduction of absenteeism, enhanced customer feedback, less shrinkage of inventory and higher sales achievements (Leadership Council, 2004).

Except for limited efforts on the part of Jackson (2004), Katz and Miller (2003) and LeBaron (2005) no academic research could be found that either positions the concept of inclusivity as a radical transformational strategy as proposed by Viljoen (2009). This paper aims to contribute to the emergence of insights on

engagement and inclusivity and how it manifests in organisational success indicators such as customer centricity. In specific pre-requisites for engagement are identified.

## Customer experience

Over the past few years, there has been an increasing trend towards creating “experiences” for customers, particularly for those in the services sector. Because of this trend, authors such as Pine and Gilmore (1999:ix-x) are of the opinion that the service economy has been transformed into an attention economy, an entertainment economy, a dream society, an emotion economy or an experience economy. As the commoditisation of many service offerings continues, organisations have to devise new ways to achieve a competitive advantage, and in particular by focusing on the design and management of customers’ experiences. Experiences are inherently emotional and personal (Pullman & Gross, 2003:215).

To compete successfully in the customer experience territory, a growing number of organisations are systematically applying the principles and tools of total customer experience (TCE) to generate, strengthen and sustain enduring customer loyalty. Marketers today believe that engineering TCE and lasting customer loyalty are important in maintaining a customer focus and in creating customer preference (Mascarenhas, Kesavan & Bernacchi, 2006:397).

Organisations that apply total customer experience principles have the following features in common (Mascarenhas, et al., 2006:398-399):

- Anticipating and fulfilling customer needs and wants better than competitors do.
- Providing real customer experiences.
- Providing a real emotional experience.
- Providing experience as a distinct market offering.
- Utilising experiences as interaction.
- Changing experiences into engaging memories.

These principles listed above imply the customer experience is applied throughout the organisation. The customer experience is in the DNA of the organisation – its people, processes and architecture, thus the organisational culture.

It is clear from the many definitions of customer experience (Drotskie, 2009) formulated over time that the total customer experience is a concept that evolved over time to become a systemic and holistic concept focused on the customer. It is about a “human” interaction and therefore the emotions of customers are a vital part of an experience.

Drotskie (2009) accepts the definition by Seybold (2002:108) namely “a total customer experience is a consistent representation and flawless execution, across distribution channels and interaction points, of the emotional connection and relationship you want your customers to have with your brand” encompasses all the most important aspects of the total customer experience and is therefore adopted for this paper.

The customer experience is felt in all interactions with an organisation and therefore it is important to understand that customers interact with an organisation through various means and the experience must always be the same. This is true for any services organisation, for example financial services.

From the definition of total customer experience given above it is clear that a total customer experience consists of a variety of elements.

The following key elements of customer experience are entrenched across the organisation (Shaw, 2005: xix), namely strategy, culture, customer expectations, processes, channel approach, marketing and brand, systems, people and measurement.

According to Shaw (2005:xix), each of these elements represents an area in the organisation that has an extensive effect on customer experience.

## RESEARCH METHODOLOGY

The method of research applied in this paper is grounded theory.

The methodology of grounded theory was originally developed by Glaser (1978, 1992) and Strauss (1987) (Glaser & Strauss, 1967). Strauss (1987) who was influenced by Hughes (1956) and Blumer (1969), contributed to the methodology by highlighting the need for field research in order to develop a discipline as the basis for social action, and to acknowledge the complexity and variability of both phenomena and of human action. The importance of an awareness of the interrelationships between conditions, actions and consequences was highlighted. Glaser (1978, 1992) identifies the need for comparisons of data in order to identify, develop and relate concepts.

Strauss (1990) and Corbin (1991), describe an axis coding process for the development of **grounded theory**. This approach may be used during theory construction to "*think systematically about data and to relate them in very complex ways*" (Strauss & Corbin, 1990: 99). During axial coding the researcher attempts to identify which types of phenomena, contexts, and causal and intervening conditions and consequences are relevant for the domain under study. Axial coding may be viewed as evolving out of the work of Strauss and Glaser (Strauss and Corbin, 1998).

Two frameworks emerged from the grounded theory approach, applied by the researchers to determine a framework explore employee engagement and customer experience.

### Pre-requisite of employee engagement

The next step in content analysis involves combining and cataloguing related patterns into sub-themes. Patterns emerge when sub-themes are gathered in order to obtain a comprehensive picture of the information. These patterns may be tested with the interviewees. In this research stories emerged that had influenced the researcher's understanding of the phenomenon of inclusivity and, throughout the research process; the questions had been adapted slightly in order to test for new insights.

Viljoen (2009) adapted a technique of Strauss and Corbin (1998, xiii) to classify data. Categories are considered to be saturated when new data gathered no longer leads to new theoretical insights, neither does it reveal new properties in respect of the core theoretical categories (Charmaz, 2006). Ultimately, the insights gained are tested against, integrated into and presented in the Engagement Framework. A valid argument is then constructed for the choice of the themes. This is carried out by studying relevant literature.

The themes that emerged as pre-requisites of engagement are clustered on individual, group and organisational domain through grounded theory methodology. It was clustered as I-engage factors – factors needed on individual level to engage; We-engage factors – factors needed on group domain to engage; and Org-engage factors – factors on organisational level needed to engage (Viljoen, 2009). These pre-requisites are displayed in Figure 2.

It is not the intent of this paper to define the different factors as described in this Figure. What is important is how employees in the organisation experience and describe the factors and not how the researchers define it. Individuals and groups in organisations should engage around these factors and identify what is important for that specific system, and plan around it.

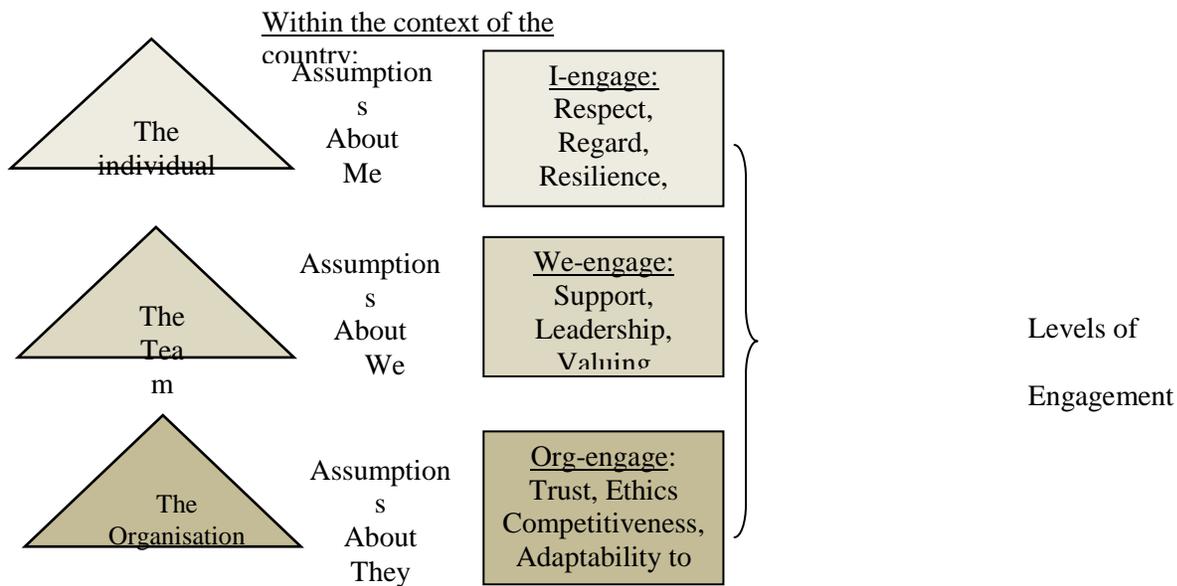
As depicted in Figure 2 above, the pre-requisites of employee engagement can be described as and synthesis between the following constructs:

- **Respect** refers to an assumption/showing of good faith and value towards another person.
- **Regard** refers to having a positive self-view and self-awareness. It further refers to both the perceived weak and strong points of an individual and how he or she deals with it.

- **Responsibly** refers to the extent to which an individual takes accountability for his or her behaviour.
- **Support** refers to the extent that individuals feel encouraged, cared for and assisted by others.
- **Supervisor leadership** refers to the leadership capability that is needed by managers to effectively manage and lead employees. It also specifically applies to the depth of leadership on supervisory level as effectiveness on this level has a direct impact on the achieving of organisational goals.
- **Diversity** refers to the degree to which diversity of thought; race, gender, age, language and nationalities are valued.
- **Accountability** refers to the degree to which an individual is held responsible for his or her contribution and behaviour by their team.
- **Trust** refers to the degree to which the intent of others is believed to be authentic and pure.
- **Alignment** refers to the degree to which teams have shared understanding of the values of the organisation and the strategy of the organisation.
- **Change resilience** refers to the ability of the organization and individuals to deal with change effectively
- **Inclusivity** refers to the degree to which an individual feel that they are been made part of the organisation. The practice of co-creating plans and strategies are utilised.
- **Ethics** refers to the sense of the individual that the right things are done in the organisation

The descriptions above crystallised from the Grounded Theory approach.

**Figure 2: Pre-requisites of Engagement**



Source: Viljoen, 2009

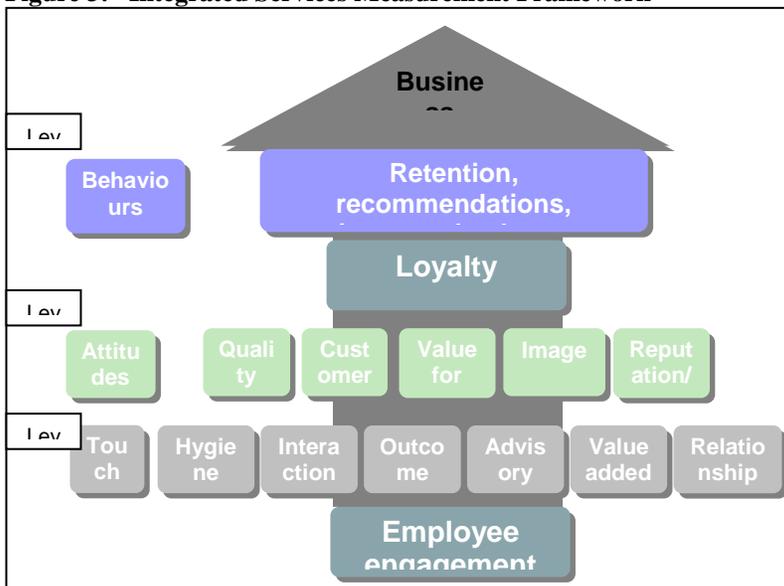
Leaders in organisations must create a space in which the wisdom, insights and gifts – the skills for which the individual was employed in the first place – are brought to the organisational table in order to create an environment in which diverse views, paradigms and perspectives may create a synergistic, sustainable outcome that manifests in organisational benefits such as optimal customer experience (Viljoen, 2009).

In this paper the researchers argue that through a process of inclusivity, employees can co-create strategies on customer experience and on values that will manifest in employee engagement and ultimately a positive customer experience.

## Pre-requisites of customer experience

The researchers developed a framework to determine the pre-requisites of a total customer experience, namely the Integrated Services Measurement (ISM) framework presented in Figure 3 below.

**Figure 3: Integrated Services Measurement Framework**



Source: Adapted from Markinor (2004). Copyright: Walker Information.

The ISM framework as depicted in Figure 3 indicates measurement of the customer experience on three levels, namely a touch point level, an attitudinal level and a behavioural level. To align customer experience being defined, as more than customer service, but including service, the basic service needs of customers were included in the framework. Customer experience is also defined as including the emotions and behaviour of customers and therefore the framework includes a measurement on an attitudinal and on a behavioural level as well as loyalty of customers towards an organisation.

**Level 1: Service needs.** This level describes the interaction between the customer and the organisation (i.e. the touch point). It represents the entire customer experience during interaction, fulfilling all service needs as described in the elements of the total customer experience. In customer-measurement terms, the touch point may be summarised in terms of attributes to provide the most comprehensive definition of the interaction (e.g. look and feel, timeliness, outcome [accuracy and speed], professionalism, communication [understanding, language, clarity during interaction]).

**Level 2: Attitudes** as emotional and intellectual dispositions caused by customer experience during interaction to meet service needs. These are the “feelings” customers have that will in turn affect their behaviour towards the service provider. Elements of the attitudinal level are quality of the organisation, customer focus, reputation and brand.

**Level 3: Behaviours.** These are intended actions that will make money for the service provider. Behaviours are initiated in response to and caused by customer attitudes.

## RESULTS / FINDINGS

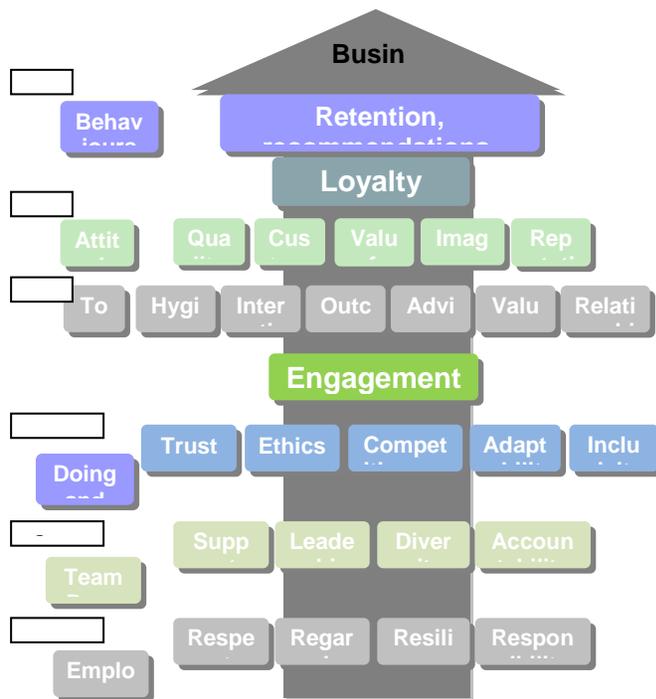
Through grounded theory methodology the pre-requisites of employee engagement crystallised (see Figure 2). The pre-requisites for a changed customer experienced are described in Figure 3. Viljoen (2009) argues that employee engagement will result in a positive customer experience. Drotskie (2009) argues that a positive customer experience is reliant on employee engagement.

The researchers of this paper argue that focusing on external factors in the world of the customer cannot change customer experience. To influence the customer experience, the employee engagement within the organisation should be optimized. Jung (1959) stated years ago that what happens inside, would manifest outside. The researchers agree with this philosophy and argue that an integrated approach towards optimising customer experiences should be followed.

The causality between employee engagement and customer experience are displayed in Figure 4, where a synthesis of the two frameworks discussed earlier is presented.

The Integrated Systemic Customer Experience Framework in Figure 4 above indicate that through rewiring the perceptions of the individual, the group and the team through a process of inclusivity, around the Doing and the Being – thus, the Strategy which includes customer experience factors and the values of the organisation – virtuous energy is released in the system that will impact on customer experience. Through optimising the customer experience at the touch points, the customer attitudes and behaviours can manifest in organisational benefits and ultimately in organisational success and sustainability.

**Figure 4: Integrated Systemic Framework of Customer Experience**



Source: Adapted from Viljoen (2009) and Markinor (2004)

## CONCLUSION

Culture, climate and customer experience should be studied simultaneously and systemically in order to gain a better understanding of causalities between these dynamics. An understanding of the external environment (in this case the world of the customer) may assist in creating insights, reawakening instincts and cultivating organisational change.

Optimising employee engagement can optimise customer experience. The enhanced customer experience will directly impact on business success and sustainability

The interrelated nature of Employee engagement and customer experience ask of leaders in the global context to elevate these topics into the strategic agenda. Employee engagement and customer experience can be the distinguishing factors in the New World of Work.

## REFERENCE LIST

- Benson, J.M. (1999). *The true meaning of commitment*. Bryant Business Online <http://bryantbusiness.bryant.edu/summer99/commitmen.shtml>. Accessed on 07/02/26.
- Blumer, K.P. (1969). *Symbolic interactionism: perspective & method*, Englewood Cliffs. New Jersey: Prentice Hall.
- Charmaz, K. (2006). *Constructing grounded theory: a practical guide through qualitative analysis*. Thousand Oaks, CA: Sage Publications.
- Corporate Leadership Council of Canada. (2004). *Report on driving performance and retention through employee engagement*.
- Drotskie, A. (2009). *Customer experience as the strategic differentiator in retail banking*. Doctoral dissertation. Stellenbosch: USB.
- French, W.L.& Bell, C.H. (1999). *Organizational development*. New Jersey: Prentice Hall.
- Gershon, R.R.M., Stone, P, Bakken, S.& Larson, E. (2004). Measurement of organizational culture and climate in healthcare. *JONA*, 34(1): 33-40.
- Glaser, B.G. (1978). Theoretical sensitivity. *Sociology Press*: 164.
- Glaser, B.G. (1992). Basics of grounded theory analysis. Mill Valley, CA: *Sociology Press*
- Glaser, B.G.& Strauss, A. (1967). *The discovery research*. New York: Aldine de Gruyter
- Heskett, J.L., Sesser Jr, W.E. & Schlesinger, L.A. (1997). *The service profit chain*. New York: The Free Press.
- Hughes, J.L. (1956). Expressed personality needs as predictors of sales success. *Personnel Psychology*, 9: 347-357.
- Jackson, T. (2004). *Cross-cultural theory and methods: management and change in Africa*. London: London: Routledge.
- Jung, C.G. (1953). *Collected works*. Princeton: Princeton University Press.
- Katz, J.H.& Miller F.A. (2003). Building inclusion and leveraging diversity as a way of doing business management, in *Handbook of diversity management* edited by DL Plummer. Oxford: University Press of America. Inc: 447-472.
- Kets De Vries, M.F.R. (2001). *The leadership mystique*. London: Prentice Hall.
- LeBaron, M. (2005). *Bridging cultural conflicts: a new approach for a changing world*. San Francisco: Jossey-Bass.
- Mascarenhas, O.A., Kesavan, R. & Bernacchi, M. (2006). Lasting customer loyalty: a total customer experience approach. *Journal of Consumer Marketing*, 23(7):397-405.

- Macey, H.& Schneider, B. (2008).*The Meaning of Employee Engagement. Industrial and Organizational Psychology*, 1, 1: 3-30.
- McKenna, R.(1991). Marketing is everything. *Harvard Business Review*, 1/2: 65–79.
- Meek, V.L. (1988). Organizational culture, origins and weaknesses. *Organizational Studies*, 9: 453-473.
- Mutwa, C.V., Teish, L.&Larsen, S. (2003).*Zulu shaman: dreams, prophecies, and mysteries*. Johannesburg: Destiny Books.
- Novinger, T. (2001).*Global intelligence: seven pillars for new global leaders, a cross-cultural reference of business practices in a New Korea*. Quorum Books. [dhtw.tce.rmit.edu.au/Tom-THESIS-PDF/Tom-DPM-Thesis.pdf](http://dhtw.tce.rmit.edu.au/Tom-THESIS-PDF/Tom-DPM-Thesis.pdf). Accessed on 07/06/09.
- Pine, B.J. & Gilmore, J.H. (1999). *The experience economy*. Boston: Library of Congress Cataloguing in Publication Data.
- Pullman, M.E. & Gross, M.A. (2003). Welcome to your experience: where you can check out anytime you'd like, but you can never leave. *Journal of Business and Management*, 9(3):215–32.
- Salisbury, D.F. (1999). *Five technologies for educational change*. New Jersey: Educational Technology Publications.
- Schein, E.H. (1985).*Organizational culture and leadership: a dynamic view*. San Francisco: Jossey: Bass.
- Schein, E.H. (1992).*Organizational culture and leadership: a dynamic view, 2<sup>nd</sup> edition*. San Francisco: Jossey-Bass.
- Schutte, P.C. (2004). *Employee satisfaction and customer service: a literature perspective*. Johannesburg: IGH. Unpublished.
- Seybold, P.B. (2002). *The customer revolution*. London: Business Books.
- Shaw, C. (2005). *Revolutionalise your customer experience*. New York: Palgrave Macmillan. Strauss, A.L. (1987).*Qualitative analysis for social scientists*. Cambridge, England: Cambridge University Press.
- [Viljoen, R.C. 2009. Sustainable Organisational Transformation through Inclusivity.http://uir.unisa.ac.za/bitstream/10500/726/2/00thesis.pdf](http://uir.unisa.ac.za/bitstream/10500/726/2/00thesis.pdf) Accessed on 3/3/10

# **AN EXPLANATORY STUDY: PROBLEMS FACED WITH MAINTENANCE OF AIRPORT NAVIGATION AIDS IN TURKEY**

**Erdal Dursun, Directorate General of Civil Aviation, Turkey**  
**Vildan Durmaz, Anadolu University, Turkey**

## **ABSTRACT**

*The keypoint in the phase of preserving and improving of professional qualifications of technical personnel working on air navigation service procurements is the trainings given within a certain programme. Ensuring flight safety and eliminating possible risks paralleling with national and international regulations will be possible with setting up a trained and competent personnel structure. The adoption of working with a principle of zero mistake of Turkey, who has been taking a great test in the adaptation process to the European Union, will make her take a great path. Preventing possible mistakes and ensuring not to repeat what had been happened is directly related to technical personnel who will carry out the work in this area.*

## **INTRODUCTION**

The day-by-day growing acceleration of aviation sector has brought along the need of qualified personnel. At this point, reaching the desired competency level has exposed the need of a good quality theoretical training first of all and then an intensive on job training. In order to provide a safe air navigation service, training, periodical maintenance studies, and audits based on documentation have a great importance.

## **COMMUNICATION NAVIGATION SURVEILLANCE (CNS) AUDITS**

The authority of all kinds of arranging, auditing, and establishing rules authority concerning civil aviation activities in Turkey are legally belong to Turkish Directorate General of Civil Aviation. The required regulation studies in order to provide flight safety and its continuity are made by the Authority.

In this context, by Air Traffic Safety Electronics Personnel Certification and License Regulation (SHY-5), which was come into force in February 24, 2010; procedures and principles concerning determining health and training conditions, granting certificate, license, and degrees, maintaining them, renewing them, and cancelling them with a definite or an indefinite time which all civil technical personnel, who need to have and who carry out to plan technical infrastructure, to operate it and to provide its maintenance and operational duties concerning safety, at airports in Turkish air space of air traffic safety electronics services which are a base for the flow of air traffic in a safe, proper, and fast way, were established.

To assure the Air Traffic Safety Electronics Personnel Certification and License Regulation (DGCA, 2010) to have international norms, it has been applied some sanctions parallel to decisions in ESARR-5 (Safety Regulatory Requirement) Air Traffic Management Services' Personnel arrangement published by European Organization for the Safety of Air Navigation (EUROCONTROL) with Annex 10 to the Convention on International Civil Aviation (ICAO, 1995).

There are three Communication Navigation Surveillance (CNS)/Air Traffic Management (ATM) Technical Service Provider Organization authorized by the Ministry of Transportation of Turkey. The process to carry out maintenance activities of air navigation aids which take place in CNS services granting by the said organizations, are made in the context of Electronics Systems, Control, Maintenance, and Repair Directives prepared by themselves.

The qualifications of the personnel who will work in the context of this Directive were explained in SHY-5. According to the item "Safety Rules" of EUROCONTROL ESARR-5, the person who is responsible for providing air traffic services can't carry out this duty unless he is declared as qualified and unless he is authorized to carry out this duty (EUROCONTROL, 2002). On the other hand, according to the decisions explained in "CNS/ATM Technical Service Provider Organizations' Duties and Responsibilities" of Air Navigation Safety Electronics Personnel Certification and License Regulation, CNS/ATM technical service provider organization is responsible for the personnel who carry out the job towards air traffic safety electronics service, to have a valid license, degree or degrees available to the service provided.

## **METHODOLOGY**

In this study, the problems faced in the maintenance activities of airports' navigation aids, one of maintenance activities showing varieties in the aviation sector, and recommendations to these problems were presented. In order to obtain the required data, 40 (forty) CNS technical audit findings at various airports made by Turkish Directorate General of Civil Aviation have been utilized.

Before audits, the units were informed about the time and context of audits. When it was reached to related airport, it was negotiated with airport's senior chief, independent department managers, and technical personnel separately. All system and devices within the context of auditing, were examined at stations where they exist in terms of hardware and software specifications included in application procedures and also within the quality management system; maintenance forms, incident records, and technical fault reports belonging to the past periods were examined fastidiously.

Arranging and auditing actions taken by national authorities will light the way for the sector to better and will make the system interrogate itself. In this context, main problems faced in the maintenance activities of navigation aids devices in Turkish airports are:

- personnel not authorized by means of a license degree and a degree level,
- personnel working operationally without a sufficient training,
- personnel who have not been made a difference and who make a non-comprehensive maintenance,
- not having maintenance or having a mistaken maintenance,
- to fill out the related blanks by mistake at maintenance forms,
- to read mistaken values from the devices.

## **RESULTS AND DISCUSSION**

All findings obtained from all audits were gathered in a pool, then were analyzed and were determined that faults were generally come out parallel to the problems explained in six headings arrayed above and a fault triggered a different problem. Small faults in aviation can transform to bigger problems, when they are not sufficiently cared, by growing in the form of chain circles connected to each other. In spite of this, aviation needs to have a sensitive and fastidious operational approach. The reason is that the rules of aviation are written with blood.

When the problems arrayed are assessed, according to Organizations' Electronics Systems, Control, Maintenance, and Repair Instructions and flight safety requirements, it could be said that some weaknesses happen during periodical maintenances of navigation which are required to be done and also some maintenances were not made. On the other hand, it is obvious that it is necessary to set a personnel structure who will make control, maintenance, and repair procedures of navigation aids without interruption. As a result of periodical

control and maintenances interrupted, it could be said that navigation aids will be inactive by way of breaking down and some damages both hardware and software on the systems will cause.

It is useful to stress not having been established duty, authorization and responsibilities in electronics departments; not having been carried out job distribution and studies done within unit by an effective and a productive way; not having been assessed professional competencies according to EUROCONTROL ESARR-5 and not having been made any planning in order to develop knowledge and competency.

The solutions which could be suggested in the context of problems ordered are showed below:

- a good quality technical training,
- preserving and continuous control of professional competency,
- auditing maintenance activities orderly,
- remote control supported observation applications
- setting up an electronic registration in maintenance activities and following those.

For the only personnel who take place in the maintenance organizations of CNS/ATM technical service providers, it is significant to provide professional adequacy, preserve it by continuous control. In this context, parallel to international arrangements (EUROCONTROL, 2008), it will be useful to give trainings listed below.

## **1. Beginning Trainings**

1.1. Basic Training: It is the training process that it is necessary to be given basic knowledge and skills available to the discipline which will be followed in the area of aviation technical services.

1.2. Adequacy Training: It is the theoretical and on-the-job training which is needed to be given in order to gain required knowledge and skills in the areas which will be followed connected with the authorization.

## **2. Responsibility Trainings**

2.1. System/Device Training: It is the training which will be required to give to the personnel to reach adequacy level in order to gain necessary knowledge and skills relevant to system and devices. In this training's context, it must be theoretical system/device training and in-plant training.

2.2. In-Plant Training: Under inspection of assessment expert in the working environment, it is the process of integrating methods and skills relevant to the job gained before with the application. The point which must be given importance here is to transfer knowledge and skills in the operational environment rather than learning.

## **3. Continuation Training**

It is the training which needs to be designed in order to increase existing knowledge and skills of the personnel and/or to prepare a new technology.

3.1. Renewal Trainings: It is the training which needs to be designated to review, reinforce or increase existing knowledge and skills of the personnel.

3.2. Emergency and Extraordinary Situation Training: This training is the training which needs to be designated to gain necessary knowledge, skills, and behaviors in order to intervene an emergency, an extraordinary or a regressed situation.

3.3. Transformation Training: It is the training which needs to be designated to gain available knowledge and skills for the changes in the area (a new system/device responsibility), in the environment (new procedures, a new location) or in the system.

## **4. Progressive Training**

It is the training which needs to be designated to gain additional knowledge and skills for the situations like change of work profile, promotion, trainer, assessment expert, training manager etc.

Among duties and responsibilities of CNS/ATM Technical Service Provider Organizations are to maintain professional adequacies of the personnel continuously by theoretical and applied assessments. In this context, at units belonging to the degrees of the personnel who have, minimum working hours within a certain time period must be followed and the related personnel must be given refreshment trainings in order to be regain professional adequacies to the personnel who have stayed away from the active working with various reasons.

In the context of auditing maintenance activities continuously, periodical maintenance and repair forms belonging to navigation aids at airports in which CNS/ATM technical service providers give service are sent to Directorate-General of Civil Aviation with systematic time periods for examining by an unique center. At this point, parameters and numerical values on maintenance forms must be carefully examined and done the checks that momentary values read from devices are included in tolerances ascertained in relevant arranging regulation. On the other hand, relevant forms can be checked in the form of visiting stations where devices exist during the audits.

From the audits, it has been determined that many developed navigation aids examined have the support of remote control that they can be checked and followed from the regions out of stations where they exist. However, to establish data connection links of remote control system which will provide to work between related stations and technical block in which the personnel was located could lead to various additional costs. With this reason, these systems could not be kept active by some management units but by this way some weaknesses could happen in terms of keeping it under interrupted observation. In these occasions, necessary checks must be done by visiting stations in which the devices exist with frequent intervals by related technical personnel.

Today's modern navigation aids can record momentary data belonging to the system during the operation and warnings and dangers electronically. In the events of shutting down the system itself when it fails to work by various breakdowns of the devices; the investigations of these records backwards provide greater use. However, it was observed during the audits that navigation aids, whose lives of use were consumed, can't keep these records with various reasons and can be affected negative from energy interruption of memory units. In these events, first of all, it will be appropriate to switch the related units but if this doesn't bring a solution, in terms of safety, it will be appropriate to renew the whole system completely and to investigate the whole data backwards.

## CONCLUSION

As a conclusion, it has appeared that the existing periodical maintenance system belonging to navigation aids cause a risk and a weakness for aviation safety. The paper revealed the need of rebuilding and follow-up auditing is inevitable for the sustainability of the aviation. The findings strongly support this view. This paper provides contribution to the further studies about implementation and comparison of training models.

## REFERENCES

DGCA - Turkish Directorate General of Civil Aviation. *Air Traffic Safety Electronics Personnel Certification and License Regulation (SHY-5)*. 24 February 2010.

ICAO - International Civil Aviation Organization. *ANNEX 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications*. 20 March 1995

EUROCONTROL - European Organisation for the Safety of Air Navigation. *EURCONTROL Safety Regulatory Requirement (ESARR) – 5: Air Traffic Management Services' Personnel*. Edition No. 2.0. 11 April 2002.

EUROCONTROL - European Organisation for the Safety of Air Navigation. *Guidelines for a Common System/Equipment Rating Training for Air Traffic Safety Electronics Personnel (ATSEP)*. Edition No. 2.0. 14 November 2008.

# **JOB EVALUATION UNDER FUZZINESS**

**Mehmet Ekmekçioğlu and Ahmet Can Kutlu**  
**Istanbul Technical University, Turkey**

## **ABSTRACT**

*Job evaluation, an important function of a human resources management of an organization, is a technique for systematically determining a relative internal value of a job within the organization. The most comprehensive method used in job evaluation process is the point-factor method where a set of compensable factors are identified for determining the worth of a job. In this study, a Fuzzy Analytic Hierarchy Process (F-AHP) approach is developed for job evaluation. In this approach, initially, factors are weighted by pair-wise comparisons and then jobs are evaluated with respect to job evaluation criteria by experts. At last the scores for each job are obtained as a base for an ideal compensation system.*

## **INTRODUCTION**

Job Evaluation is a technique for systematically determining a relative internal value of a job in an organization. It is used to establish a base for developing and maintaining a pay structure by comparing the relative similarities and differences in the content and the value of jobs (Milkovich and Boudreau, 1990). The main objective is ensuring equal pay for work of equal value. The private sector extensively implemented job evaluation practices in the early 20th century during World War II in response to the National War Labor Board permitting wage increases only for the purpose of correcting demonstrated inequities in wage structures (Treiman, 1979).

The most widely used method applied in job evaluation process is the point-factor method. In this method, for determining the worth of a job, a set of compensable factors are identified. Therefore job evaluation process can be considered as a complex multi-criteria decision-making problem with multiple factors and sub-factors in the evaluation process (Dagdeviren et al., 2002). In general preference of decision makers is to express their feelings with verbal expressions. As considering the uncertainty in information flow and the vagueness in the human feeling and recognition, the real life multi-criteria decision-making problems include vagueness and imprecision. Thus experts may prefer to use intermediate judgments rather than certain judgments. As a result the fuzzy set theory, first introduced by Zadeh (1965), makes the comparison process more flexible and capable to explain preferences of the experts (Kahraman et al., 2003). Thus, in job evaluation process, while dealing quantitatively with imprecision in the expression of the importance of each factor, the use of some fuzzy multi-criteria decision-making methods can be relevant.

In this study, the job evaluation problem is solved under fuzziness. A fuzzy AHP methodology for a point-factor job evaluation system is proposed. Initially factors are weighted by utilizing Chang's (1996) fuzzy AHP. Subsequently, fuzzy AHP scoring approach is considered for scoring the jobs with respect to the obtained weights and these scores establish a base for an ideal compensation system. The rest of the paper is organized as follows; in the following section, a literature review for job evaluation methods is given. In the next section, the proposed methodology is explained and in Section 4, an application case study is presented for the developed model. In the last section, the paper is concluded.

## **JOB EVALUATION METHODS**

There are four main job evaluation methods such as ranking, classification, factor comparison and point system (McCornick, 1979). The most popular method of them is the point-factor method (Kahya, 2006) where a set of compensable factors is identified to determine the worth of a job. This method is commonly used in industry for its reliability in generating accurate results (Das and Garcia-Diaz, 2001). In the point-factor job evaluation method, while determining the worth of a job, it enables to express the value of the job in monetary terms. The method is practically applicable to a wide range of jobs and also to newly generated jobs. In a typical point-factor method total points of job content evaluation plan are the sums of each of the factor ratings of the plan (Pittel, 1999) and the evaluation of the jobs is based on a multi-attribute value system (Spyridakos et al., 2001). The typical factors employed for the point-factor method are mainly categorized as skills, responsibilities, effort, and working conditions which were specified in the Equal Pay Act of 1963 (Davis and Sauser, 1993).

Most of the job evaluation studies emphasize on the weighting the factors. Kahya (2006), Charnes et al. (1955), Llewellyn (1964), Gupta and Ahmed (1988), and Ahmed (1989) used linear programming models in order to obtain the factor weights. These models consider the factor weights as the decision variables and the levels of each job for each factor as the parameters; and the wages in the market as the constraints. The most important disadvantage of these models is that they ignore the definitions of the levels while obtaining the level weights. Another disadvantage of these models is the difficulty to define constraints as many as the number of jobs and variables as many as the number of factors.

Kahya (2006) used surveys and interviews to determine the factor weights by consensus in a company in the metal industry. Weinberger (1995) developed a statistical model by using multivariate regression analysis to obtain the factor weights. The model includes the levels of the jobs for each factor as the independent variables and the wage in the market as the dependent variable. The relationship levels of the factors with each other were obtained by the correlation matrix. Das and Garcia-Diaz (2001) developed a computerized statistical method based on the central distribution and correlation measures in order to obtain the factor weights. The factors which have low effects or measure the same function can be determined and removed from the system by applying four statistical tests proposed in this study. Besides, the weights of the factors can be properly determined by using their partial correlation coefficients. Pittel (1999) presented the update of the factor weights by using the market weights of the jobs in his regression analysis model. Spyridakos et al. (2001) developed a model that determined the weights of the levels for each factor by using a value function and applied the model to evaluate the jobs in a big scale company. Davis and Sauser (1993) compared four weighting methods; an unweighted raw score composite, equal unit weights, committee judgmental weights and multiple regression weights. The results show that the weighting methods differed in their relative impact on the male and female dominated jobs. Dağdeviren et al. (2002) utilized Analytic Hierarchy Process (AHP) in the job evaluation process to obtain the factor weights by the pair-wise comparison of factors and sub-factors.

In real-life determination of the weights of the factors include vagueness and imprecision. The fuzzy set theory provides a proper framework for description of uncertainty related to vagueness of natural language expressions and judgments. In the job evaluation literature, Gupta and Chakraborty (1998) handled the job evaluation problem in a fuzzy environment by constructing a fuzzy mathematical model. They showed that the results of their analysis were close to the choices of the decision makers. Our paper proposes a fuzzy AHP approach for the job evaluation problem.

## **PROPOSED METHODOLOGY**

In the proposed methodology, initially, factors and sub-factors are defined upon the determination of job evaluation factors and sub-factors by the Union of Turkish Metal Industrial Producers (MESS, 1996). These factors are listed in Table 1. Subsequently appropriate linguistic scores of each factor and sub-factor are determined. In the next stage the weights of the factors and sub-factors are calculated by implementing Chang's fuzzy AHP method. Later, by using the linguistic scores of each job, planned to be evaluated, with respect to the weights of sub-factors, jobs are scored. At last these scores are used to establish a base for an ideal compensation system.

**Table 1: Factors and sub-factors used in the study**

Skills (S)	Education and basic knowledge
	Experience

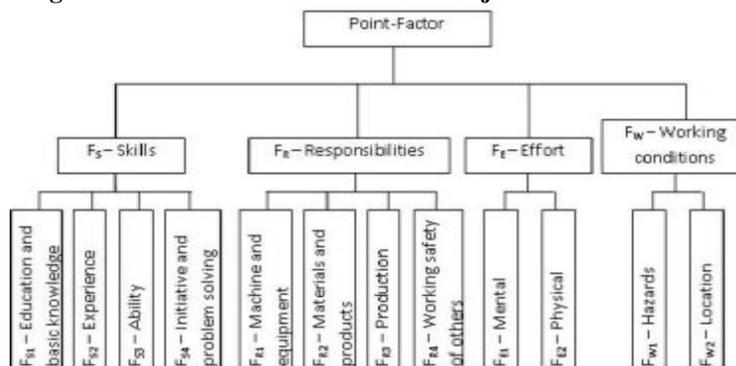
	Ability
	Initiative and problem solving
Responsibilities (R)	Machine and equipment
	Materials and products
	Production
	Working safety of others
Effort (E)	Mental
	Physical
Working conditions (W)	Hazards
	Location

## Factors and sub-factors

The hierarchical structure for job evaluation factors and sub-factors is illustrated in Figure 1. The skills factor measures the level of skills required for the job. The sub-factors of this factor are determined as education and basic knowledge, experience, ability, and initiative and problem solving. Education indicates an employee's formal education level that makes him/her gain the required knowledge to be able to do the duties of the job in a satisfactory level. For example, the job that is evaluated can require an education background with a minimum level of university graduation with a bachelor degree.

The experience sub-factor measures the extent of experience gained for the person who has an adequate education level to fulfill the job in a satisfactory level. Experience covers the time to learn the methods, procedures and techniques about the application of the theoretical knowledge to the jobs. Ability is the sub-factor defined for measuring the abilities to fulfill the related job in a satisfactory level. The abilities of an employee may be; speaking level of a foreign language, number of the foreign languages he/she can speak, using knowledge of a specific software package program, etc. Initiative and problem solving sub-factor measures how difficult to solve the problems in the job are. The difficultness of the solutions depends on the job structure, the data type used for the identification of the problem and development of the solution and the method used for finding the solutions. A job structure can be classified as routine jobs, routine but sometimes-changeable jobs, different and complex jobs and new and dynamic jobs. Data can be classified by known amount or number and the method can be classified by its complexity.

**Figure 1: The hierarchical structure for job evaluation factors.**



The responsibility factor measures the results or effects of the wrong or inappropriate decisions or behaviors. The results can be in terms of materials, equipment or monetary. The results of the failures can be evaluated considering the appearance of the failure, prevention and the seriousness of the results. Working safety of others measures the loads of the jobs or number of the people who are supervised related to working safety.

The sub-factors; mental effort and physical effort measure the loads resulted from the mental or physical energy to fulfill the job. This factor is determined due to the type of the effort or the time consumed for the effort. Working conditions factor evaluates the effects of the conditions and the environment where employee works in. These conditions include heat, noise, light, etc. This factor takes care of the duration that an employee works under these conditions.

## Fuzzy AHP

AHP is one of the well-known multi-criteria decision making techniques that was first proposed by Saaty (1980). The classical AHP takes into consideration the definite judgments of decision makers (Wang and Chen, 2007). Although the classical AHP includes the opinions of experts and makes a multiple criteria evaluation, it is not capable of reflecting human's vague thoughts (Seçme et al., 2009).

As the uncertainty of information and the vagueness of human feeling and recognition, it is difficult to provide exact numerical values for the criteria and to make evaluations which exactly convey the feeling and recognition of objects for decision makers. Therefore, most of the selection parameters cannot be given precisely. Thus experts may prefer intermediate judgments rather than certain judgments. So the fuzzy set theory makes the comparison process more flexible and capable to explain experts' preferences (Kahraman et al., 2003).

Weight vector of factors can be obtained by either directly assigning or indirectly using pair-wise comparisons. Here, it is suggested that the decision makers use the linguistic variables in Table 2 to evaluate the weight vector risk factors.

**Table 2: Fuzzy evaluation scores for weight vector**

Linguistic terms	Fuzzy score
Absolutely Strong (AS)	(2, 5/2, 3)
Very Strong (VS)	(3/2, 2, 5/2)
Fairly Strong (FS)	(1, 3/2, 2)
Slightly Strong (SS)	(1, 1, 3/2)
Equal (E)	(1, 1, 1)
Slightly Weak (SW)	(2/3, 1, 1)
Fairly Weak (FW)	(1/2, 2/3, 1)
Very Weak (VW)	(2/5, 1/2, 2/3)
Absolutely Weak (AW)	(1/3, 2/5, 1/2)

After comparison is made, it is necessary to check the consistency ratio of the comparison. To do so, the graded mean integration approach is utilized for defuzzifying the matrix. According to the graded mean integration approach, a fuzzy number  $\tilde{M} = (m_1, m_2, m_3)$  can be transformed into a crisp number by employing the below equation:

$$P(\tilde{M}) = M = \frac{m_1 + 4m_2 + m_3}{6} \quad (1)$$

After the defuzzification of each value in the matrix, CR 'consistency ratio' of the matrix can easily be calculated and checked whether CR is smaller than .10 or not.

## Steps of the Methodology

The proposed fuzzy multi-criteria job evaluation can be implemented by succeeding the following steps:

*Step1:* Appropriate linguistic variables for factors and sub-factors are determined by experts.

*Step2:* Pair-wise comparison matrices are constructed, and experts' linguistic evaluations are aggregated to get a mean value for each pair-wise comparison.

*Step3:* Chang's extent analysis approach is used to obtain the weights of each factors and sub-factors.

*Step4:* The linguistic variables for evaluations are compared pair-wise and a mean value for each pair-wise comparison for each variable is aggregated.

*Step5:* Jobs, planned to be evaluated, are determined.

*Step6:* After determining of jobs, Fuzzy AHP scoring model is utilized by using experts' linguistic evaluations of each job with respect to sub-factors are aggregated to get a mean value as scores.

*Step7:* According to the scores, jobs are ranked to support a compensation system.

## CASE STUDY

The proposed methodology is applied to a medium scale firm operates in an electronic industry and manufactures sound systems and equipment. The job evaluation factors and sub-factors determined by the Union of Turkish Metal Industrial Producers (MESS, 1996) are considered for evaluating the blue collar jobs in the firm. The selected nine jobs determined by the experts.

## Evaluations of Factors, Sub-factors and Assessment Variables

After the determination of factors and sub-factors, the evaluations of the four experts in linguistic variables are used to determine the importance of factor and sub-factors by pair-wise comparison according to the linguistic variables defined in Table 2. The evaluations of the pair-wise comparisons and the weight vectors are shown in Table 3.

**Table 3: Pair-wise Comparisons for Factors and Sub-Factors**

	F <sub>S</sub>	F <sub>R</sub>	F <sub>E</sub>	F <sub>W</sub>	Weight Vector CR=0.030<0.1
F <sub>S</sub>	E,E,E,E	SS,E,SS,FS	VS,FS,FS,VS	VS,FS,FS,VS	0.421
F <sub>R</sub>		E,E,E,E	FS,FS,SS,SS	FS,VS,FS,SS	0.324
F <sub>E</sub>			E,E,E,E	SS,E,SW,E	0.134
F <sub>W</sub>				E,E,E,E	0.121
	F <sub>S1</sub>	F <sub>S2</sub>	F <sub>S3</sub>	F <sub>S4</sub>	Weight Vector CR=0.028<0.1
F <sub>S1</sub>	E,E,E,E	SS,SS,E,SW	E,SS,SS,SS	SW,E,FS,SS	0.268
F <sub>S2</sub>		E,E,E,E	E,SW,FS,FS	SW,E,VS,FS	0.326
F <sub>S3</sub>			E,E,E,E	E,E,SS,E	0.211
F <sub>S4</sub>				E,E,E,E	0.195
	F <sub>R1</sub>	F <sub>R2</sub>	F <sub>R3</sub>	F <sub>R4</sub>	Weight Vector CR=0.028<0.1
F <sub>R1</sub>	E,E,E,E	VS,FS,SS,E	VS,SS,SW,E	FS,FS,SS,SS	0.340
F <sub>R2</sub>		E,E,E,E	SS,E,FW,SW	SW,SW,SS,SS	0.193
F <sub>R3</sub>			E,E,E,E	FW,SW,FS,SS	0.244
F <sub>R4</sub>				E,E,E,E	0.223
	F <sub>E1</sub>	F <sub>E2</sub>	Weight Vector		
F <sub>E1</sub>	E,E,E,E	SW,FW,SW,SW	0.411		
F <sub>E2</sub>		E,E,E,E	0.589		
	F <sub>W1</sub>	F <sub>W2</sub>	Weight Vector		
F <sub>W1</sub>	E,E,E,E	E,SS,FS,SS	0.607		
F <sub>W2</sub>		E,E,E,E	0.393		

In the next stage, the overall weights of the sub-factors are calculated by the multiplication of the factors and their sub-factor according to the hierarchy as illustrated in Table 4. The most importance sub-factor is found experience for job evaluation with the value of 0.138 and the second one education and basic knowledge with the value of 0.113. The least important sub-factor is location in working conditions with value of 0.047.

**Table 4: Overall weights of sub-factors**

Sub-factors	Overall Weights
Education and basic knowledge	0.113
Experience	0.138
Ability	0.089
Initiative and problem solving	0.082
Machine and equipment	0.110
Materials and products	0.062
Production	0.079
Working safety of others	0.072
Mental	0.055
Physical	0.079
Hazards	0.073
Locations	0.047

Later, the pair-wise comparisons of the linguistic variables (Very Poor – VP, Poor – P, Medium – M, Good – G and Very Good – VG) for the assessment are conducted. Subsequently a mean value for each pair-wise comparison is aggregated. The results are expressed in Table 5.

**Table 5: Pair-wise Comparisons for Linguistic Variables for the Evaluation**

VP	P	M	G	VG	Weight Vector
----	---	---	---	----	---------------

VP	E,E,E,E	SW,SW,SW,SW	FW,FW,FW,FW	VW,FW,FW,VW	AW,VW,VW,AW	0.049
P		E,E,E,E	SW,SW,SW,SW	FW,SW,SW,FW	VW,FW,FW,VW	0.128
M			E,E,E,E	SW,SW,SW,SW	FW,FW,FW,FW	0.204
G				E,E,E,E	SW,SW,SW,SW	0.265
VG					E,E,E,E	0.355

## Jobs

The experts selected nine jobs determined by for the study briefly explained below:

*Job 1 - Workshop worker:* The duties are performing a variety of general manual labor tasks including, lifting and moving materials, loading and unloading vehicles, digging and refilling holes, and other activities in a helping or assisting mode, performing simple repairs on machinery or minor repairs to buildings, transporting materials, tools, and equipment to and within work sites as required and participates in special projects as required.

*Job 2 - Assembling worker:* The duties are assisting and supporting in structures assembling and installations, understanding layouts, blueprints and other design drawings relating to assembly functions and assembling structural components as per specifications provided, executing structural assembly functions like bulkheads, reworking and fittings, performing trimming, altering, reforming and assembling of structural parts. Assembling and fabricating gussets, shims, splices, metal pieces, plastic frames, wires and chords. .

*Job 3 - Electrical-electronics technician:* The duties are performing electrical lines, fixing equipment and machines when there is an error or a fault caused by electrical problems and assembling, maintaining and controlling other electrical and electronics devices.

*Job 4 - IT support worker:* The duties are answering technical questions, analyzing technology problems, providing assistance when computers crash and using technology protocols, such as live chat and diagnostic programs, to communicate and assist technology users and also investigating technical issues and determine solutions to fix the problem. They advise and train users on the proper use of hardware and software, and also help other technologists plan for new systems.

*Job 5 - Manager assistant:* The duties are controlling of required documentation, dealing with internet enquiries and general office administration and using computer for paper work such as writing documents, using calendar or agenda.

*Job 6 - Quality control worker:* The duties are working alongside teams of assembly operatives on the production process and he is responsible for testing, inspecting and checking the quality of the products ensuring that the finished product is of the highest standard.

*Job 7 - Sales assistant:* The duties are assisting customers in locating merchandise and answering a variety of questions concerning general merchandise, demonstrating use of merchandise upon request stocking shelves, keeping merchandise orderly and neat in appearance, counting and balanceing cash register and receipts, stamping or attaching price tags on merchandise and/or checks tagged prices to verify accuracy referring to price list, informing designated staff member of needs or places orders with outside sales representative within established limit, setting up promotional displays, making signs or arranging merchandise on counters or tables to promote sales, training new sales staff in basic operations and procedures and cleaning shelves, counters or tables.

*Job 8 - Technical designer:* He is responsible for standardizing quality across the range of products, categories and brands. The duties are participating in knowledge acquisition and knowledge management processes and interacting with design analysts and entities that have been engaged by them to deliver their products or services for their companies.

*Job 9 - Workshop foreman:* He is responsible for running the workshop, managing the workshop team, accounting management and development and dealing with factory, maintenance, groundwork, restoration and

fabrication. The duties include involving in pricing and following the product through to dispatch and reading drawings and dealing with fabrication.

After determining the jobs, they are evaluated with respect to the sub-factors and the results are shown in Table 6. The calculated scores are expressed in Table 7 with transformation of the scores to points out of 1000 to form a base for a pay system.

**Table 6: Experts' evaluation scores for jobs with respect to sub-factors**

	F <sub>S1</sub>	F <sub>S2</sub>	F <sub>S3</sub>	F <sub>S4</sub>	F <sub>R1</sub>	F <sub>R2</sub>	F <sub>R3</sub>	F <sub>R4</sub>	F <sub>E1</sub>	F <sub>E2</sub>	F <sub>W1</sub>	F <sub>W2</sub>
<b>Job1</b>	P,VP,P	P,F,P	P,VP,P	P,VP,VP	G,G,G	G,G,G	G,VG,G	G,G,G	P,P,P	VG,G,VG	G,G,VG	G,VG,G
<b>Job2</b>	P,VP,P	P,F,G	P,VP,P	P,VP,P	G,G,G	G,G,G	G,G,G	G,G,G	P,P,P	VG,G,VG	VG,VG,VG	VG,VG,G
<b>Job3</b>	G,G,F	F,F,G	G,G,G	P,F,F	G,G,G	G,G,F	G,G,G	G,G,F	F,F,F	G,G,G	VG,G,VG	G,G,G
<b>Job4</b>	G,G,G	G,G,G	G,G,G	G,G,G	P,F,P	F,P,F	P,P,P	F,F,P	VG,G,G	G,F,F	P,F,VP	P,P,P
<b>Job5</b>	F,F,G	G,G,G	F,G,F	G,G,G	P,P,VP	P,P,P	VP,VP,VP	VP,VP,VP	G,G,G	G,G,F	P,VP,P	P,VP,VP
<b>Job6</b>	F,P,F	P,F,F	P,F,MP	G,G,F	G,G,G	G,G,VG	G,G,G	G,VG,G	P,F,F	G,G,G	G,G,G	G,G,G
<b>Job7</b>	P,P,P	G,F,G	G,G,F	G,G,G	F,P,F	P,P,P	F,P,P	P,P,VP	G,G,F	P,P,F	P,VP,VP	P,VP,P
<b>Job8</b>	G,G,G	G,G,VG	G,G,VG	F,F,F	F,P,G	F,F,F	F,F,G	G,G,G	VG,G,G	P,VP,F	P,P,P	VP,VP,VP
<b>Job9</b>	G,F,G	G,G,VG	G,G,G	G,G,G	G,G,G	VG,G,VG	VG,VG,VG	VG,VG,VG	P,P,P	F,G,G	MG,G,G	F,G,G

**Table 7: Job scores**

	<b>Job1</b>	<b>Job2</b>	<b>Job3</b>	<b>Job4</b>	<b>Job5</b>	<b>Job6</b>	<b>Job7</b>	<b>Job8</b>	<b>Job9</b>
Scores	0,204	0,216	0,248	0,212	0,175	0,231	0,174	0,223	0,274
Points	204	216	248	212	175	231	174	223	274

## CONCLUSION

Job evaluation process can be thought as a complex multi-criteria decision-making problem considering multiple factors and sub-factors in the evaluation process. This study proposes a fuzzy AHP approach for the point-factor job evaluation method enabling decision makers to realize a hierarchical structure and an effective vague assessment of weights of factors and sub-factors having different characteristics under uncertainty. By utilizing the Chang's FAHP method, the weights of sub-factors are determined and subsequently the determined jobs are assessed with respect to weights of these sub-factors to score and rank the jobs considering the scoring approach.

The weight vector of criteria with certain values recommended by the Union of Turkish Metal Industrial Producers is [0.400 0.400 0.200 0.200] whereas it is found [0.421 0.324 0.134 0.121] by the FAHP method employed in the study. The proposed method provides more realistic and flexible results for a point-factor job evaluation system which considers human thinking style. The proposed methodology can be applied to any different job evaluation problem in any industry or service system.

In the future applications, the job evaluation under fuzziness can be integrated for other methods to gain a pay structure. Furthermore, the other fuzzy multi-criteria decision making approaches can also be used and the result of further studies can be compared with the result of this paper.

## REFERENCES

- Ahmed, N.U., 1989. An analytic technique to develop factor weights in job evaluation, *The Mid-Atlantic Journal of Business*, 25(5): 1–6 .
- Chang, D.Y., 1996. Applications of the extent analysis method on fuzzy AHP, *European Journal of Operational Research*, 95: 649–655.
- Charnes, A., Cooper, W.W. and Ferguson, R.O., 1955. Optimal estimation of executive compensation by linear programming, *Management Science*, 1(1): 138–151.
- Dağdeviren, M., Akay, D. and Kurt, M., 2002. Analytic hierarchy process and application in job evaluation process, *Journal of Fac. Eng. Arch. Gazi Univ.*, 19(2): 131-138. (in Turkish)
- Das, B. and Garcia-Diaz, A., 2001. Factor selection guidelines for job evaluation: A computerized statistical procedure, *Computers & Industrial Engineering*, 40: 259- 272.

- Davis Jr. R.K. and Sauser Jr., W.I., 1993. A comparison of factor weighting methods in job evaluation: Implications for compensation systems, *Public Personnel Management*, 22(1): 91–106.
- Gupta, J.N.D. and Ahmed, N.U., 1988. A goal programming approach to job evaluation, *Computers and Engineering*, 14: 147–152.
- Gupta, S. and Chakraborty, M., 1998. Job evaluation in fuzzy environment, *Fuzzy Sets and Systems*, 100: 71-76.
- Kahraman, C., Cebeci, U. and Ulukan, Z., 2003. Multi-criteria supplier selection using fuzzy AHP. *Logistics Information Management: an International Journal* 16 (6): 382-394.
- Kahya, E., 2006. The development of job evaluation system for a company in metal work branch, *Journal of Industrial Engineering*, 17(4): 2–21. (in Turkish)
- Llewellyn, R.W., 1964. Linear Programming, Holt, Rinehart and Winston, New York.
- McCornick, E. M., 1979. Job Analysis: Methods and application, New York, AMACOM.
- MESS, 1996. Jog grouping system in metal industry, İstanbul. (in Turkish)
- Milkovich, G.T. and Boudreau, J.W., 1990. Personnel/Human Resource Management (diagnostic approach), 5th ed., Richard D. Irwin, INC, Homewood, Illinois.
- Pittel, M., 1999. Recalibrating point factor job evaluation plans to reflect labor market pay levels, *Workspan*, 42(10): 29–33.
- Saaty, T.L., 1980. The Analytic Hierarchy Process, McGraw-Hill Book Company, New York.
- Seçme, N. Y., Bayraktaroğlu A. and Kahraman, C., 2009. Fuzzy performance evaluation in Turkish Banking Sector using Analytic Hierarchy Process and TOPSIS, *Experts Systems with Applications*, 36: 11699-11709.
- Spyridakos, A., Siskos, Y., Yannacopoulos, D. and Skouris, A., 2001. Multicriteria job evaluation for large organizations, *European Journal of Operational Research*, 130: 375–387.
- Treiman, D.J., 1979. Job evaluation: An analytic review. Washington, DC: National Academy of Sciences.
- Wang, T. C. and Chen, Y. H., 2007. Applying consistent fuzzy preference relations to partnership selection, *International Journal of Management Science*, 35: 384–388.
- Weinberger, T.E., 1995. Determining the relative importance of compensable factors: The application of dominance analysis to job evaluation, *Compensation and Benefits Management*, 11(2): 17–23.
- Zadeh, L.A., 1965. Fuzzy Sets, *Information and Control*, 3, 338.

# THE FACTORS AFFECTING THE ATTITUDE OF CONSUMERS' PURCHASING PRIVATE LABELS

**Ebru Enginkaya**  
**Yildiz Technical University, Turkey**

## ABSTRACT

*Private labels in the consumer packaged goods have experienced a worldwide growth in availability and market share in recent years. Retailers offer private labels in many different product categories to attract new consumers and gain sustainable consumption. The growing penetration of private labels in a markets and acceptance by the consumer provides sales and profits for retailers. The changes in consumers' life styles, purchasing behaviours and expectations led changes in consumption patterns. This research aims to investigate the dimensions that are important to consumers during their purchase of private labels. The main purpose of this study is to investigate the relationships between private label attitude and consumers' shopping orientations and to examine the differences about private label attitude according to gender and income.*

## INTRODUCTION

Private labels have seen enormous growth in the last couple of decades in many countries and in many product categories. The market shares based on volume are generally higher than value shares, indicating that most private labels are sold at lower prices than their national brand counterparts. Private labels are an important phenomenon in retailing and increasing in importance. Some consumers will consider switching to the private label for a sufficiently large price differential (Gabrielsen and Sorgard, 2007). The roles and importance of private labels, brands that are exclusive to a particular store chain and compete in several product categories with major manufacturer's brands, have changed dramatically over the past decades. Private labels are evolving into full-fledged alternatives, capable of competing successfully with these manufacturer's brands on quality as well as on price and contributing substantially to profitability, store differentiation and store loyalty. Sales volumes and market shares of private labels, as well as their appeal to consumers have steadily increased. Many retailers appear to view themselves increasingly as active marketers of their own store brands, rather than as passive distributors of manufacturers' brands (Semeijin et al., 2004).

Private labels assist building loyalty by differentiating the retailer. These brands are available at one retailer exclusively whilst manufacturer brands are available at many competing outlets. Consumers who purchase private label brands regularly do not only become loyal to that particular brand but also to the retailer through which it is sold. Over the last decade, private labels have become omnipresent and have achieved enormous success, thus providing a base for the improvement in branding activities. Private labels have changed from inferior generics to brands in their own right with value beyond functional attributes (Bencke, 2010).

The growth in private labels has traditionally been attributed to two major causes. First, retailers use private labels to compete profitably in the price-sensitive segment. Second, these products enable retailers to get better deals from manufacturers in the form of lower prices on national brands. It is commonly believed that when the economy picks up, consumers go back to buying national brands. However, most recent trends show that private label sales are growing faster than national brands and have achieved much higher levels of penetration. Penetration of private label varies across countries and product categories. For instance Nielsen reports indicate that in developing markets, although the overall private label share is relatively low compared to the mature European and U.S. markets, there is a significant growth rate. This could be attributed to large multi-national retailers that expanded geographically, building new stores and introducing their private label brands into the marketplace (Boutsouki, Zotos and Masouti, 2008). Private labels are consumer products produced by

or on behalf of, distributors and sold under the distributor's own name or trademark through the distributor's own outlet (Burt, 2000).

Private labels have long been recognized as a low-cost alternative to national brands. Furthermore, the objective quality level of private labels has been steadily increasing, greatly narrowing the quality gap between private labels and national brands (DeIVecchio, 2001). Private labels can help retailers attract customer traffic and create loyalty to the store by offering exclusive product lines and premium products (Baltas and Argouslidis, 2007, Corstjens and Lal, 2000, Binninger, 2008).

## **Consumer Perceptions and Private Labels**

Consumer are today willing to purchase private label products and are delighted to have private label brand ranges available in stores. Several factors drive consumer willingness to purchase private label products such as demographic factors, economic factors and psychographics. Demographic factors include household income, the number of children in the household, gender, etc. Economic factors are related to the economic cycle while psychographics involve value consciousness, risk awareness, price-quality inferences, self-smart shopper perceptions, etc. (Chandon and Diallo, 2011).

Consumers with favorable attitudes toward private label brands are extremely price conscious and tend to focus almost exclusively on paying low prices, essentially minimizing or disregarding other factors in brand evaluations (Burton et al.,1998). Especially after the economical recessions, as the buying abilities of the consumers are decreasing, the consumers change their traditional shopping habits. After the economical recessions, the consumers tend to go to shop less than before, or they tend to search the cheaper products.

Private labels have been for a long time affected by negative stereotypes such as low quality goods designed for low income consumers. For this reason, private labels have low market shares in some product category and can be found mainly in low added value product ranges. So, consumer attitude towards private labels was often negative at the beginning of private labels offer. However, this attitude towards private labels is now changing as retailers are launching higher value added product. Improved quality of private labels products has lead consumers to develop stronger preferences for private labels in most product categories (Chandon and Diallo, 2011).

Private labels provide consumers with a competitive alternative to national brands. Private labels offer lower prices owing to their lower manufacturing costs, inexpensive packaging, minimal advertising and lower overhead costs. For retailers, store brands offer an opportunity to increase store traffic and build store loyalty. Although private labels are generally priced lower than national brands, the higher margins earned on these products enable retailers to expand into lower volume categories for which success depends on greater per unit contribution margins. More importantly, the availability of proprietary brands not sold elsewhere may encourage store loyalty and increase store traffic (Dick et al.,1996). Consumers choose the brand with a better image to reduce the perceived risk. This affects the level of price consciousness and on the purchase intention. Therefore, perceived risk and price consciousness may be the mediator for the private label image and the purchase intention (Wu, Yeh, Hsiao, 2011).

Private label strategy that retailers applied was mostly focused on the cost advantage at the beginning. Although this tendency continues today, it has been to associate with the quality as well. Private labels have been strengthen and it has become the rival for producer brands as the competition in delivery channels oriented towards the retailers and their market portion increased.

Private Label creates a variety of images in the mind of consumer. In some parts of the world, the traditional perceptions of private label were once of low quality, unbranded alternatives, attracting the most cost-conscious consumers. Retailers have provided private labels as the low-priced high-volume alternatives for years. In today's private label market, however, although there may still be private label products of low cost and quality in existence, a different level of products has emerged – the premium “branded” private label product. The emphasis on the quality of store brands combined with the improved packaging and promotional programs was designed to increase customer awareness and sales of own brand products. These products offer consumers a

quality private label choice as well as providing to retailers a unique selling point for merchandising in their stores (Boutsouki, Zotos and Masouti, 2008).

## RESEARCH METHODOLOGY

### Objective of the Study

In Turkey, the retailing sector is growing rapidly with the increase in the market share of supermarkets since 1990s. Changes in expectations of consumers, growth and demand of private labels, competition, changes effect the retail sector. There are numerous factors influencing the attitude of consumers towards private label products. In this study it is aimed to examine consumer attitudes related to private labels. The variables which have effect on the attitudes that consumers develop towards the private label products were examined.

### Data Collection

In this study, the data is collected using a questionnaire and applied to clarify and sort out the demographics and attitudes of consumers' purchasing preferences about private labels.

Survey research which is known as the best suited approach for descriptive research is used to collect primary data in Istanbul. Face to face interviews were conducted with consumers who prefer to buy private label products from Carrefour, Migros, Bim, Metro and Diasa in Istanbul. Before the implementation, the questionnaire was pre-tested on 30 consumers in order to test the questionnaire. Data was collected over a period of three months. Total 40 variables were measured by face to face interviews. Questionnaire contains open and close ended questions. Close ended questions are constructed multiple choice and five-point likert scale ranged from "strongly agree" to "strongly disagree". Shopping orientations were measured with 4 variables. These variables are: Price consciousness, value consciousness, perceived quality and consumer innovativeness.

Convenience sampling method is used in face to face survey to select and collect data from 447 consumers who buy private labels. 500 respondents were interviewed, 53 questionnaires eliminated and 447 questionnaires were included in the research. The data analyzed by SPSS program.

Before testing the hypothesis reliability and validity of the scales were examined using Cronbach's alpha coefficient and factor analysis. Results are presented in Table 1, indicate that both the reliability and validity of the scales are above the acceptable limits.

**Table 1: Validity and Reliability Results**

Scales	Number of Variables	Alfa Coefficients	Total Variance
Price consciousness	8	0.77	61.27
Value consciousness	9	0.84	58.72
Perceived quality	5	0.74	67.42
Consumer innovativeness	11	0.71	54.67
Private Label Attitude	7	0.81	72.48

### Research Hypothesis

Consumers' propensity to purchase private labels depends on certain demographic factors, such as income, family size, age and education, certain individual difference variables, such as the degree of reliance by the consumer on extrinsic cues (those more reliant on such cues preferring national brands) and the consumers' tolerance of ambiguity (intolerant preferring safer national buys), and certain consumer perceptions of the particular category (degree of perceived quality variation, level of perceived risk, and perceived value for money), as well as the degree of consumer knowledge increasing private label choice. (Batra and Sinha, 2000)

In this study, we assess the impact of various shopping orientation on private label attitude. Although many factor effect private label attitude, in this study we examine price consciousness, value consciousness,

perceived quality and consumer innovativeness. Also differences between attitudes according to gender and income level were examined. In this study the hypotheses are:

- H1a: There is a significant difference between private label attitudes according to gender.
- H1b: There is a significant difference between shopping orientations according to gender.
- H2a: There is a significant difference between private label attitudes according to income level.
- H2b: There is a significant difference between shopping orientations according to income level.
- H3: There is a significant relationship between price consciousness and attitudes towards private labels
- H4: There is a significant relationship between value consciousness and attitudes towards private labels
- H5: There is a significant relationship between perceived quality and attitudes towards private labels
- H6: There is a significant relationship between consumer innovativeness and attitudes towards private labels.

## RESULTS

### Sample Characteristics

The sample characteristics were measured in terms of gender, age, and income level. Demographic profile of respondents including their gender, age and personal income levels is presented in table 2.

**Table 2: Sample characteristics**

	Frequency	Percentage
<b>GENDER</b>		
Female	294	65.7
Male	153	34.3
<b>AGE</b>		
Below 25	24	5.4
25-34	121	27.1
35-44	137	30.6
45-54	96	21.5
55-64	44	9.8
65 and above	25	5.6
<b>INCOME</b>		
500 million or less	14	3.2
501- 1000 tl	48	10.7
1001-2000tl	115	25.7
2001-3000tl	165	36.9
3001-4000tl	84	18.8
More than 4000tl	21	4.7

The sample included 294 female (65.7%) and 153 male (34.3%) respondents. 24 (5.4%) of the respondents were younger than 25. 121 (27.1%) respondents were between the ages of 25-34, 137 (30.6%) were between the ages of 35-44, 96 (21.5%) were between the ages of 45-54, 44 (9.8%) were between the ages of 55-64. The percentage of the respondents who are above the age of 65 is 5.6 ( 25). In terms of income level distribution, the majority of the respondents (36.9%) belonged 2001-3000 TL income levels.

### Private Label Purchase Attitudes

In order to test if there are any differences of attitudes towards private label attitude and shopping orientations between female and male respondents, independent sample t-tests were conducted. The results can be seen on Table 3. As seen on table 3, it is found that there is a significant difference between male and females concerning value consciousness. According to results, male respondents' value consciousness is higher than female respondents. Men give more importance to value than women. Although men and women respondents

have different opinions on value consciousness, no difference existed between males and females concerning private label attitude, price consciousness, perceived quality and consumer innovativeness. As a result, H1a and H1b rejected.

**Table 3: t-test Results**

	FEMALE		MALE		<i>t</i>	<i>p</i>
	Mean	Standard	Mean	Standard		
Price consciousness	19,0205	4,63355	20,2949	4,28058	-2.152	.323
Value consciousness	7,3203	2,38545	7,7699	2,02307	-1.578	.045
Perceived Quality	7,7729	1,79806	7,6962	1,86532	.320	.803
Consumer Innovativeness	43,7331	4,95803	44,1766	4,79471	-.686	.586
Private Label Attitude	15.4659	3.12279	15.9666	3.38477	-1.180	.198

To investigate the differences between income levels Anova tests were conducted. According to the results significant differences concerning price consciousness, perceived quality and private label attitudes were founded. There was no significant difference between income levels according to value consciousness and consumer innovativeness. As a result H2a was accepted and H2b was rejected.

Post-hoc analysis revealed that as income level decreases, the consumers generate more positive attitudes towards private labels.

The main purpose of this study is to explore the relationships between price consciousness, value consciousness, perceived quality, consumer innovativeness and private label attitudes. Before conducting regression analysis, pearson correlation coefficients were computed in order to understand if regression analysis can be performed.

According to the result of the correlation analysis there are positive relations between attitude towards private labels (dependent variable) and independent variables [price consciousness (0,206), value consciousness (0,192) and consumer innovativeness. (0,235)]. The analysis revealed that these three factors are related to private label attitudes significantly ( $p=0,000 < 0,05$ ). But there was no relation between perceived quality and private label attitude (0,005). Thus H5 was rejected. As no relationship determined between perceived quality and private label attitude, the perceived quality variable was not included in regression analysis.

**Table 4 : Regression Analysis Results**

	<i>Standardized Coefficients</i>			
	$\beta$	Std. Error	F	Sig.
Price consciousness	,407	,057	51,217	,000
Value consciousness	,204	,059	11,777	,000
Consumer innovativeness	,141	,059	5,659	,000

R= 0,84 R<sup>2</sup>= 0,67 p=0,000

Dependent Variable= Private Label Attitude

The regression value (R= 0,84) shows that there are positive relationships between dependent and independent variables. Price consciousness, value consciousness and consumer innovativeness account for % 67 of the variation in the attitude of private label purchases. Price consciousness, value consciousness and consumer innovativeness variables have an influence on consumers' attitude towards private labels. Price consciousness variable has the greatest effect on private label attitude ( $\beta=0,407$ ). According to correlation and regression analysis H3, H4, H6 were accepted.

## CONCLUSION

The private labels have important improvements both in developed and developing countries. Turkish consumer and retail market has been growing rapidly within the last decades. The most important factor supporting these improvements is continuously increasing power of retailers in consumer markets. Looking for new ways to differentiate, retailers are creating a new brand on which their names are written. The value retailers give on products and services is increasing day by day with the created private labels. As the power of retailers increases in the market, the importance of private label also increases.

In today's competitive environment, there is a significant raise in the expectations of the consumers. Retailers feature private label products in order to provide awareness in market and meet consumer needs and expectations. Private label strategy that retailers applied were mostly focused on the cost advantage at the beginning. Although this tendency continues today, it has been to associate with the quality as well.

Demographic characteristics and shopping orientations and attitudes are the variable groups measured in this research. When perceived quality is evaluated, it is seen that perceived quality is not related with private label attitude. There is no relationship between perceived quality and attitudes towards private labels.

The findings also demonstrated that price and value consciousness are the major determinants of consumers' purchase decision of private labels. Price consciousness is the most important factor on the consumers' attitude towards private labels and purchase behavior. Consumers who are more sensitive to price and value, prefer private label products while shopping. According to their experiences these consumers believe that private labels are reliable and can be used instead of expensive alternatives. Price advantage of private labels is the major drive when buying private labels. The main advantage provided by private labels to consumers is the low price. Consumers prefer to use private label products produced. Especially in economic stagnation periods consumers switched their preferences to retailer brands because of economic conditions. Economic conditions and income level have a important effect on private label preference.

## Limitations

There are several limitations of this study. The major limitation of this study is this research conducted only five supermarket consumers. Second a convenience sampling technique was used to reach consumers and last limitation of this study is data consists of responses obtained from consumers located in Istanbul. Research to be conducted in the future about this study should use diverse retail market consumers.

## REFERENCES

- Baltas, G. and Argouslidis, C., "Consumer characteristics and demand for store brand", *International Journal of Retail and Distribution Management*, Vol.3, No.5, (2007): 328-341.
- Batra, R. and Sinha I., "Consumer-Level Factors Moderating The Success Of Private Label Brands", *Journal of Retailing*, Vol. 76, No.2, (2000): 175-191.
- Beneke J., "Consumer perceptions of private label brands within the retail grocery sector of South Africa", *African Journal of Business Management*, Vol.4 No.2, (2010): 203-220.
- Binninger, A.-S., "Exploring the relationships between retail brands and consumer store loyalty", *International Journal of Retail and Distribution Management*, Vol. 36, No.2, (2008): 94-110.
- Burt, S., "The Strategic Role of Retail Brands in British Grocery Retailing ", *European Journal of Marketing*, Vol.34, No.8, (2000):875-890.
- Burton ,S., Lichtenstein, D.R., R. G. Netemeyer and Garretson, J.A., "A Scale for Measuring Attitude Toward Private Label Products and an Examination of Its Psychological and Behavioral Correlates", *Journal of the Academy of Marketing Science*, Vol. 26, No. 4, (1998): 293-306

Chandon J-L., and Diallo M.-F., “Consumer choice of Private Label Brands in the French market: Proposition and test of a partial mediation model”, *10th International Conference Marketing Trends*, Paris, (January 2011):1-25.

Boutsouki C., Zotos Y., Masouti Z., “Consumer Behaviour towards Own Label: monitoring the Greek experience”, *Agricultural Economics Review*, Vol. 9 No. 1, (2008): 81-92.

Corstjens, M., Lal, R., “Building store loyalty through store brands”, *Journal of Marketing Research*, Vol. 37, (2000): 281–291.

DelVecchio D., “Consumer perceptions of private label quality: the role of product category characteristics and consumer use of heuristics”, *Journal of Retailing and Consumer Services*, Vol. 8, (2001):239-249.

Dick A., Jain A., Richardson P., “How Consumers Evaluate Store Brands”, *Journal of Product & Brand Management*, Vol. 5 No. 2 (1996):19-28 .

Gabrielsen T.S., Sorgard L., “Private labels, price rivalry, and public policy”, *European Economic Review*, Vol. 51, (2007): 403–424.

Semeijn, J., Riel A., Ambrosini A.B., “Consumer Evaluations of Store Brands: Effect of Store image and Product Attributes ”, *Journal of Retailing and Consumer Services*, Vol.11, Iss. 4, (2004): 247-258.

Wu P. C.S., Yeh G. Y.-Y, C. Hsiao , “The effect of store image and service quality on brand image and purchase intention for private label brands”, *Australasian Marketing Journal*, Vol. 19, (2011): 30–39.

# **EVALUATING THE SERVICE QUALITY PERCEPTIONS OF CUSTOMERS TOWARDS PRIVATE SHOPPING WEB SITES**

**İbrahim Kırcova, Ebru Enginkaya and Hakan Yılmaz  
Yildiz Technical University, Turkey**

## **ABSTRACT**

*Considering the rapid growth of the private shopping web sites, evaluation of the web sites' service quality levels perceived by the customers gains importance. In order to provide insights about the relation between the customers' behavioural intentions and the service quality they attribute to their favourite web sites, a quantitative research was administrated. Analyzing the web site decisions, shopping frequencies, demographic characteristics and service quality perceptions of the customers may reveal important facts for both theoretic and practical aspects. Also findings may shed light on to the development process of e-marketing.*

## **INTRODUCTION**

Internet has quickly become one of the most valuable assets in modern technology and is developing as an integral part of modern commerce. More and more businesses are using the internet to carry out business and to market, buy and sell products and services to a wider audience. The concept of e-business strategy addresses the issue of how the internet can reshape companies and provide competitive advantage. Success is dependent upon management being openminded to understand and derive real value from internet. Internet provides a valuable new form of communication and is a growing source of information that help people make decisions (Bauer et al., 2010).

One of the most activities that have changed in the light of the internet is shopping. Online shopping is developing rapidly and increasingly worldwide today. E-tailers try to transform users to shoppers. The Internet is becoming a means for both firms and consumers to conduct business. E-shopping decreases the cost for manufacturer and the price for the customer. Manufacturer, by use of eprocurement, can find the best supplier and get a low price. Price transparency and information overload decrease the manufacturer's power to charge higher price. Because of the low switching cost, customer switches to another seller. On the other hand, today the competition in e-shopping is a price-based competition. Internet provides far more choices for the e-shoppers (Azizi and Javidani, 2010). E-shopping could lift the time and space constraints of the shopping process and enable more flexibility, ultimately, leading to a fragmentation of the shopping activity in time and space (Farak et al., 2007). E-retailing is promoted widely as a convenient avenue for shopping. Shopping online can economize on time and effort by making it easy to locate merchants, find items, and procure offerings. Consumers do not have to leave their home nor travel to find and obtain merchandise online. They can also browse for items by category or online store. These time and browsing benefits of online shopping are likely to be manifested in more positive perceptions of convenience and e-satisfaction (Szymanski and Hise, 2000). More and more people are going to prefer to make purchases online, thus getting a massive change in the online shopping trends. Online shopping allows people with a broad range of products in different categories. It also gives a chance to compare the same product with the others and also shows the best deal. Online shopping has become a significant part of our life as a result of the growing internet (Rastogi, 2011).

Market place sahibinden.com, auction house gittigidiyor.com and online multi-category retailer hepsiburada.com are the three leading e-commerce players in Turkey. Online multi-category retailer hepsiburada.com reached revenues of USD 164 million in 2008. Markafoni.com, an online private shopping site founded in 2008, reached 430 thousand unique visitors from Turkey in April 2010, biletix.com, an online shop selling event tickets, had more than 1 million registered customers in 2008 and sells approximately 3.5 million tickets per year. Online food delivery yemeksepeti.com currently works together with 3,500 member restaurants and gets more than 15 thousand daily orders from over 610 thousand registered customers (ystats.com, 2011). The numbers show that e-commerce and online shopping is growing faster each year.

## Private Shopping

A new “group buying” trend is emerging on the web, in which consumers effectively band together to get better deals or discounts when purchasing products and services. One of the flagship group buying web services, GroupOn, was recently valued at over \$1 billion providing a sense of just how big this sector could become. Groupon has effectively achieved “top-of-mind” status on this new category of group buying facilitators. Most group buying sites tend to offer localized deals and discounts in specific cities. Typical offers include percentage discounts at participating restaurants, coupons for savings off a minimum purchase at retail stores, two-for-one event ticket specials and other similar deals. Typically, each promotion only becomes valid if enough members sign up for it, encouraging viral sharing of individual deals. If the minimum sign-up is not met, the deal does not proceed and no one’s credit card is charged. Another way to look at the group buying trend is less as something entirely new and more as a novel twist on the long existing practice of rewarding your best customers with special deals and promotions. Companies have been placing paper coupons in circulars, sending snail mail flyers, and offering discounts online for years. Now, businesses are adding the “group” component to the equation, bringing with it a dimension of new customer attraction (mashable.com, 2010). Group purchasing companies such as Groupon allow consumers to come together to buy products in bulk and save money (Guo et al., 2011).

## Importance of Websites

The issue of e-store design has emerged as a major issue in online retailing. Currently, many e-tailers adopted advanced web technologies, such as customized solutions and computer-aided analytical tools, to improve online service in order to win the ultimate competition. web surfers are motivated to conduct online shopping activities because of the stimulation effect of interesting websites. The website is the primary interface for an e-tailer during consumers’ service encounter, consumers may not be interested in continuing their online navigation if they dislike the interface, although this e-tailer can actually offer benefits such as cheaper merchandise, analytical assistance, and faster delivery (Wang et al., 2011). The quantity and quality of individually customized information that the internet can provide, with minimal effort and cost, can facilitate better decisions and can make the decision-making process more efficient. This greater access to information in online environments has a significant impact on how consumers form consideration sets. However, while online stores offer consumers greater choice and convenience, finding products or brands that match needs may not be an easy task. If deciding which products or brands should be included in the consideration set becomes too difficult, consumers may abandon the online store, either to search in another online store or to abandon the decision process (Parra and Ruiz, 2009). Recent findings by industry analysts such that online consumers are impatient, easily dissatisfied and are likely to abandon their shopping carts and move to a different retailer if a website’s features fail to meet their expectations. The Forrester Consulting report also finds that attributes such as fast loading of pages, ease of navigation, efficient search and detailed product content are some of the features that online consumers expect from retail sites and decrease the likelihood that consumers will leave sites without making purchases. In addition convenience, customization, availability of information, ability to interact with the site and efficiency of the shopping process are important to online consumers (Papatla, 2011).

# RESEARCH METHODOLOGY

## Objective of the Study

As a relatively new e-business model, private shopping websites are achieving significant growth both globally and locally in Turkey. This study aims to evaluate the service quality levels and the relative effect on the customer loyalty of these web sites as well as to validate the E-S-QUAL and E-RecS-QUAL (Parasuraman, et. al, 2005) applicability in different market places. Therefore the research hypotheses developed as follows;

**H1:** Private shopping customers who perceive higher levels of service quality from their most preferred web sites are more likely to have higher loyalty toward the web site.

**H2:** Private shopping web sites which handle the non-routine encounters of their customers better can maintain higher customer loyalty.

## Data Collection and Sampling

In order to evaluate the perceived service quality of the private shopping websites and examine the relationship between the customers' service quality perception toward a website and their loyalty a survey was administrated. Convenience sampling method was used to collect the data where any random sampling was not possible because the web sites do not share their customer data bases with the legal and commercial concerns. Twenty-one post graduate students in the marketing class who have private shopping memberships were appointed to collect the surveys from the users of private shopping web sites whom they previously referred to subscribe to the various web sites and twenty surveys were distributed for each student. This method was chosen because the private shopping membership procedures are carried out with the reference system through the invitation e-mails sent by the existing members. 352 available surveys were collected with a response rate of 84 %.

## Measurements

Service quality perception of the web sites was measured with the E-S-QUAL scale of Parasuraman et. al.(2005). Aforementioned study comprises two scales; E-S-Qual and the E-RecS-Qual. As the former measures the service quality perception and consists of four dimensions; efficiency (8 items), system availability (4 items), fulfilment (7 items) and privacy (3 items), the latter is used to measure the web sites' handling quality of the customers' non-routine encounters and consists of three dimensions; responsiveness (5 items), compensation (3 items) and communication (3 items). Considering the differences of cultural profile and e-shopping behaviour in Turkey along with the cross-sectoral differences from the original study, exploratory factor analyses were administrated to assess the adaptation of both scales and reliability levels were tested with the coefficient alpha values. Consequently, in order to assess the relevance of the scales, both constructs'(E-S-QUAL, E-RecS-QUAL) effect on customer loyalty were tested through separate regression analyses. Loyalty construct was measured with the 5 item scale of Zeithaml et. al (1996) and the average of the scale items for each respondent was defined as the dependent variable in the regression models. Participants' demographic profiles were also measured in the survey to determine their gender, age, education, occupation and marital status.

## RESULTS

The demographic profile of the sample is presented in the Table 1. The majority of the respondents were female (65%) and single (68%). Mode class of the age distribution was 25-34 group with 186 respondents (58%) and most of the respondents were educated at university level (65%). Mode class of the occupation variable was white collared employees (45%).

## Reliability and Factor Analyses for E-S-QUAL

Cronbach's alpha score of the E-S-QUAL scale which consists of 22 items and 4 dimensions was 0.882 and no item had a major negative effect on the scale's reliability. Consequently an exploratory factor analysis with principal components extraction and varimax rotation procedures was administrated. Factor solution and the factor loadings were observed and the results did not present an adequate fit with the original scale and dimensions. Factor solution presented 6 dimensions and high cross loadings for some items on multiple

dimensions. After the examination of communality and factor loading values for each item, “(EFF6) This site is simple to use” question excluded from the scale and another factor analysis was administrated.

**Table 1: Sample characteristics**

Gender		Age		Education		Job		Marital Status	
Woman	229	18-24	102	Primary school	1	Entrepreneur	6	Single	239
Man	123	25-34	186	High School	22	Executive	37	Married	113
		35-44	51	University	229	Self employed	15		
		45-54	10	Grad School	92	Technical Specialist	16		
		55-64	2	PhD.	8	Public Employee	31		
		65 +	1			White Collar	159		
						Blue-Collar	4		
						Other	84		
<b>TOTAL</b>	<b>352</b>		<b>352</b>		<b>352</b>		<b>352</b>		<b>352</b>

The second factor solution represented a better fit with the original scale and the dimensions. The rotated factor solution presented 4 dimensions and the reliability scores were as presented in table 2. Although total variance explained decreased to 52% from 60 % , a more interpretable solution extracted.

3 items of the fulfilment dimension in the original scale converged with the efficiency factor in the present study. After the examination of the 4 remaining fulfilment items, its concluded to change the dimension’s name as the “delivery” and combine the first dimension as the “fulfilment efficiency” factor. Another shifted item was “(EFF5) It loads its pages fast” and it correlated with the “system availability” dimension which is an expectable circumstance.

**Table 2. E-S-QUAL Factor Analysis**

Rotated Component Matrix				
	Component			
	Fulfilment Efficiency	System Availability	Delivery	Privacy
(EFF1) This site makes it easy to find what I need.	,631			
(EFF2) It makes it easy to get anywhere on the site.	,626			
(EFF3) It enables me to complete a transaction quickly.	,458			
(EFF4) Information at this site is well organized.	,416			
(EFF7) This site enables me to get on to it quickly.	,625			
(EFF8) This site is well organized.	,441			
(FUL5) It has in stock the items the company claims to	,644			
(FUL6) It is truthful about its offerings.	,598			
(FUL4) It sends out the items ordered.	,522			
(SYS1) This site is always available for business.	,503			
(EFF5) It loads its pages fast.		,611		
(SYS2) This site launches and runs right away.		,690		
(SYS3) This site does not crash.		,655		
(SYS4) Pages at this site do not freeze after I enter my		,553		
(FUL7) It makes accurate promises about delivery of			,753	

(FUL3) It quickly delivers what I order.				,743
(FUL2) This site makes items available for delivery within				,763
(FUL1) It delivers orders when promised.				,723
(PRI2) It does not share my personal information with				,822
(PRI3) This site protects information about my credit card.				,722
(PRI1) It protects information about my Web-shopping				,715
Reliability test scores( $\alpha$ )	0,814	0,628	0,831	0,742

\* The letters mentioned in the parenthesis symbolise the related dimension in the original scale.

\*\*“(EFF6) This site is simple to use” item is excluded from the scale

## Predicting Loyalty with E-S-QUAL

In order to evaluate the effect of perceived S.Q. attributed to the private shopping web sites by their customers on the loyalty toward the web site regression analysis was administrated. Exploratory factor analysis results and the revised dimensions of the E-S-QUAL were included as the independent variables into the analysis. Using the factor analysis with multiple regression helps researcher to combine a large number of variables into smaller number of dimensions (Hair, et. al. 2002). Another benefit of factor analysis is the orthogonal rotation option that avoids multicollinearity through multiple regression. Average of the 5 loyalty items for each respondent was identified as the dependent variable in the regression model. ANOVA results revealed a significant effect on loyalty according to the model ( $F=82.163$ ,  $p<.001$ ,  $R^2=.486$ ). T values and the beta coefficients for the dimensions of the scale are listed with the Table 3.

**Table 3. Multiple Regression Analysis**

	Unstandardized Coefficients		Std.Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3,797	,023		164,688	,000
Fulfilment Efficiency	,326	,023	0,5433	14,121	,000
Delivery	,179	,023	0,2977	7,739	,000
Privacy	,162	,023	0,2705	7,031	,000
System Availability	,103	,023	0,1717	4,462	,000

Each factor had significant positive effect on consumer loyalty and the H2 supported with the regression model. “Fulfilment-Efficiency” dimension has the greatest relative effect on the loyalty in the model. The model accounted for the 48 percent of the total variance in the average loyalty values of the respondents.

## Reliability and Factor Analyses for E-RecS-QUAL

Second scale of the Parasuraman et. al.’s (2005) study was E-RecS-QUAL which measures the web sites quality of handling the problems of their customers about their orders. The scale consists of three dimensions; responsiveness (5 items), compensation (3 items) and communication (3 items). 109 respondents in our existing sample had non-routine encounters after their purchases from private shopping web sites. E-RecS-QUAL scale’s internal consistency was tested according to the data collected from these 109 respondents. The reliability tests for the 11 scale items resulted with an alpha score of 0.894 and no item had a negative effect on the overall reliability. In order to assess the applicability of the E-RecS-QUAL scale in the private shopping context, an exploratory factor analysis was administrated with the principal components extraction method and varimax rotation. Scatter plots and eigen values were evaluated and a 3 factor solution was obtained with a 69.959% variance extracted. However the explained variance was relatively high, single item observations revealed a multiple high correlation of the item “(COM3) It picks up items I want to return from my home or

business” with two factors. Consequently another factor analysis was administrated after the elimination of the mentioned variable from the scale. Extracted rotated factor solution is presented in Table 4.

Only two of the ten items; “(RES4) It tells me what to do if my transaction is not processed” and “(RES5) It takes care of problems promptly” were loaded under the compensation dimension instead of the expected responsiveness dimension. Nevertheless the total variance extracted with the factor solution was 73.266%.

## Predicting Loyalty with The E-RECS-QUAL Scale

Another aim of the study was to examine the possible effects of the web sites’ ability of resolving the customers’ problems which occur in their orders to the overall loyalty levels of these buyers. H2 hypothesis which was developed in this manner was tested by the multiple regression analysis. Three dimensions which were extracted by the previous factor analysis were identified as the independent variables in the regression model where the average loyalty value was appointed as the dependent variable. Model’s significance was tested with the ANOVA and it is revealed that there is a small but significant effect on the customer loyalty ( $F=9.069$ ,  $p< .001$ ,  $R^2= .206$ ). Subsequent to the t-tests, only the responsiveness factor was found to be significantly effective on the customer loyalty according to the model.

**Table 4. E-RECS-QUAL Factor Analysis**

	Rotated Component Matrix		
	Compensation	Responsiveness	Contact
(RES1) It provides me with convenient options for returning items.		0,868	
(RES2) This site handles product returns well		0,851	
(RES3) This site offers a meaningful guarantee.		0,582	
(RES4) It tells me what to do if my transaction is not processed.	0,762		
(RES5) It takes care of problems promptly.	0,684		
(COM1) This site compensates me for problems it creates.	0,79		
(COM2) It compensates me when what I ordered doesn’t arrive on time.	0,725		
(CON1) This site provides a telephone number to reach the company			0,741
(CON2) This site has customer service representatives available online.			0,803
(CON3) It offers the ability to speak to a live person if there is a problem.			0,731
Reliability test scores( $\alpha$ )	0,826	0,861	0,766

## CONCLUSION

Proliferation of the private shopping web sites created a new and promising domain in the e-business models. These sites also known as “deal of the day web sites” or “group shopping web sites” and they offer to their subscribers customized discount coupons on daily basis through their e-mails and mobile applications. Retailers who seek to increase their recognition, to create product / service trial or to maintain inventory turnover intend to cooperate with these web sites. In this sense private shopping web sites send the offer to their customers and present a now or never deal. These customized offers and relatively higher reliability that customers attribute to these sites direct them to make impulsive buying more often by creating an ease of choice sensation.

The aim of the study was to evaluate the e-service quality of the private shopping web sites and examine its influence on the customers’ loyalty. Initially internal consistency and applicability of E-SQ and E-RecSQ were tested in the private shopping domain considering its new and specific structure. Both scales presented satisfactory relevance with some modifications. Later on, effect of E-SQ and E-RecSQ on the loyalty levels of customers were analyzed. The findings revealed that the E-SQ and each of its four sub-dimensions

(Fulfilment-Efficiency, System Availability, Delivery and Privacy) are very important factors to maintain a loyal customer base. Previous research which studied the influence of E-SQ on loyalty in different e-shopping environments also supported our findings (Yang and Tsai, 2007; Carlson and O’Cass, 2010). Hereupon the private shopping web sites may harvest valuable outcomes investing in their service on these four dimensions. On the other hand E-RecSQ had a smaller influence on the loyalty construct according to the findings. The only significant factor was identified as the responsiveness whereas no significant effect was observed by the compensation and contact factors. The main reason of this situation may be the immature private shopping experience of customers and limited number of problems occurred along with their purchases.

Limitations of the research mainly based on the absence of non random sampling. Although the findings may shed light on the electronic service quality’s influence on customers’ loyalty, results can not be generalised over the whole population of e-shopping consumers. However this study reveals significant relationship between E-SQ and loyalty, there are other important factors such as price sensitivity (Choi et al., 2006), web site design, customer service (Wolfinger and Gilly, 2003) in the e-shopping context which are also critical determinants of web site preference. Future research may maintain a more comprehensive model to present the e-service quality along with the other determinants of behavioural intentions of customers in the private shopping domain which is a new and promising business model.

## REFERENCES

Azizi S., Javidani M., “Measuring e-shopping intention: An Iranian perspective”, *African Journal of Business Management*, Vol. 4, No.13, (2010): 2668-2675.

Bauer O., Nemcova Z., Dvorak J., “E-commerce and its Impact on Customer Strategy”, *Economics and Management*, Vol.15 (2010): 397-407.

Carlson, J., O’Cass, A., “Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites”, *Journal of Services Marketing*, Vol. 24/2 (2010): 112-127.

Choi, D.H., Kim, C.M., Kim, S.I., Kim, S.H., “Customer Loyalty and Disloyalty in Internet Retail Stores: Its Antecedents and Effect on Customer Price Sensitivity”, *International Journal of Management*, Vol. 23, No. 4, (December 2006): 925-944.

Farag, S., Schwanen, T., Dijst, M., Faber, J., “Shopping online and/ or in-store? A structural equation model of the relationships between e-shopping and in-store shopping”, *Transportation Research*, part A, Vol.41, (2007):125-141.

“Group Buying: Should Small Businesses Jump In?”, <http://mashable.com>

Guo S., Wang M., Leskovec J., “Role of Social Networks in Online Shopping: Information Passing, Price of Trust, and Consumer Choice” , *12th ACM Conference on Electronic Commerce*, 2011.

Hair, J.F., Bush, R.P., Ortinau, D.J., *Marketing Research: Within a Changing Information World*, Avenue of the Americas, New York, NY, McGraw-Hill/Irwin, 2003.

Parasuraman, A., Zeithaml, V.A., Malhotra, A., “E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality”, *Journal of Services Research* Vol. 7, No: 3, (February 2005): 213-233.

Papatla P., “Do online shopping styles affect preferred site attributes? An empirical investigation and retailing implications”, *Journal of Retailing and Consumer Services*, (2011): [doi:10.1016/j.jretconser.2011.04.002](https://doi.org/10.1016/j.jretconser.2011.04.002)

Parra J.F., Ruiz S., “Consideration sets in online shopping environments: the effects of search tool and information load”, *Electronic Commerce Research and Applications*, Vol.8 (2009):252–262

Rastogi A.K., "Online Shopping: A Modern Approach of Buying", *International Referred Research Journal*, Vol.11, Iss. 26, (2011): 45-46.

Szymanski D., Hise R.T., "e-Satisfaction: An Initial Examination", *Journal of Retailing*, Vol.76, (2000): 309–322.

"Turkey Top 100 e-commerce players", [www.ystats.com](http://www.ystats.com).

Wang Y.J., Minor M.S. , Wei J., "Aesthetics and the online shopping environment: Understanding consumer responses", *Journal of Retailing*, Vol. 87, No.1, (2011): 46–58.

Wolfinger, M., Gilly, M.C., "eTailQ: dimensionalizing, measuring and predicting etail quality", *Journal of Retailing*, Vol. 79, 2003: 183-198.

Zeithaml, V.A., Berry, L.L., Parasuraman, A., "The Behavioural Consequences of Service Quality", *Journal of Marketing*, Vol. 60 (April 1996): 31-46.

# **BARRIERS FOR PRODUCT INNOVATION IN SMALL AND MEDIUM TECHNOLOGY-BASED FIRMS IN BRAZIL**

**Miguel Artur Feldens, University of São Paulo, Brazil  
Emerson Antonio Maccari and Marcos Paixão Garcez,  
University of Nove de Julho, Brazil**

## **ABSTRACT**

*Innovation and entrepreneurship can help developing one country's economy. Innovative products can bring remarkable advantages in competitive markets, especially in the international competitive arena. Some distinctive products can introduce innovations that generate the odds of growing the market size and market share or even creating a completely new market. Considering that the innovation is the main tool of the entrepreneur and that entrepreneurship can be learned and promoted at scale, this study aims to identify the main barriers to product innovation in small and medium technology based companies in Brazil. Although Brazil can be considered one entrepreneurial nation, accordingly to GEM reports, the rate of firms' surveillance is still low. In order to reach that goal, we analyzed the innovation process and its obstacles, using one qualitative research, by interviewing several agents involved in the innovation process, including entrepreneurs, venture capital investors, and managers of business incubators. For instance, the venture capital funds are so important for the generation of new businesses, since they support the entrepreneurs with the seed money. Although it can be considered still incipient in Brazil, this activity showed one growth rate of 50% from 2005 to 2008, reaching one amount of 11 Billion dollars in capital investments (GVcepe, 2008). The forecasts for the next years of this activity growth in Brazil are auspicious, aligned to the new economic scenario in the country and infrastructure investments.*

*However, although several public policies are being implemented and the private investments show one important growth, there are still some gaps to be surpassed, like the lack of convergence between the academic knowledge creation and its transformation to innovation. In 2008 the Brazilian scientific production reached more than 20.000 articles indexed to the Institute of Scientific Information (ISI), corresponding to the 13<sup>o</sup> score in the world ranking (MCT, 2009). Nevertheless in the same year, the patents register accounted only 101 patents in the United States Patent and Trademark Office, the 29<sup>o</sup> score in the world ranking (USPTO, 2009). As reference, Brazil has the fifth population and accounts by the 5<sup>o</sup> position in internet users and is nowadays the 8<sup>a</sup> economy in terms of GDP (CIA, 2010).*

*Based on the literature review regarding the barriers for innovation and entrepreneurship, the conceptual model was created to guide the data collection and analyses, and comparing two points of view, from the entrepreneurs and investors. As main findings, the study points out some interesting evidences. First, the entrepreneurs in general perceive huge difficulties concerning legal barriers, the capital costs and capital availability and, in some cases, to hire qualified professionals to engage in the emerging companies. These limitations impose to the entrepreneurs some deviations from the original purpose, blocking the orientation to high impact innovations and then driving them to search more conservative alternatives, which enable the generation of low term cash flow entries. In the other side, the investors claim for more ambitious projects with high growth potential. Here, there are additional problems: the lack of investors for the next steps of the business development and the lack of exit modes for the existing investors, raising the investment cycles compared to international averages and imposing one more selective posture to them in the portfolio election. One positive result shows that since the investment is decided, the investors participate close to the entrepreneurs in the business management.*

*Second, in both perspectives, it is consensual the difficulty to find technical and management qualified professionals to engage in new and uncertain businesses. Besides this, the cultural aversion to risks is another relevant barrier, inducing both the entrepreneurs as the investors to be more conservative in the decision making. Finally, regarding the capital availability, there is the sense of one positive view to the next future, tied to the capital availability economy growth. Remain several questions regarding activities that should be carried out by the government in order to emulate this kind of activity, by means of reducing the capital costs and performing more effective education investments in the entrepreneurship arena.*

*As contributions, this research allows to understand the scenario where innovative entrepreneurship happens, as well as the issues that slow down or cause failure in the process. Understanding these issues is the first step to address them systematically. Entrepreneurs that have this information can plan ahead and take measures to accelerate innovation in their businesses. Investors that are willing to support early stage businesses, and knowing the obstacles in this environment, will provide them with better chances to act and mitigate risks of failure in their investment portfolio. The study has limitations derived from its qualitative nature privileging more the understanding of the landscape than to identify specific relations. It is justified since its explorative characteristic. As suggestions for future studies, so on it could be extended to cover this kind of causal relations, by means of one quantitative study covering more extensively the target population and considering control variables like the sector influence.*

## **INTRODUCTION**

In the context of companies and entrepreneurship, innovation is a means to create competitive advantage, by increasing a company's share in an existing market or even by creating entirely new markets. Innovation is also good for customer, since it allows delivering better products. Besides being of interest of entrepreneurs, companies and countries, the subject has also allowed the growth of venture capital industry in Brazil, since venture capital firms can often back some businesses in early maturity states, in areas of greater potential growth. (GVcepe, 2008). In order to reach their innovation goals, companies and government define their strategies in R&D, create mechanism to enable innovative enterprises, and to induce innovation in specific areas. In the last few years, we can also observe in Brazil an important change in the attitude of government agencies and policy makers in this area, towards privately owned companies (MCT, 2009). One example is the release by FINEP, the most important agency to finance this area, in 2006, of the first non-refundable financing call for projects from private companies (Economic Subvention). This is being released yearly since then, and aims to accelerate innovation and competitiveness of Brazilian companies, applying non refundable public resources, directly in companies, sharing with entrepreneurs the risks and costs that are inherent to innovation (FINEP, 2010). Its third edition, launched in 2008, distributed R\$ 450 Million (roughly US\$ 300 Million) to 245 selected projects, from 223 companies.

On the companies' side, although Brazil is not well ranked in terms of number of patents and investments are still low when compared to world average, the share of private investments in innovation has been growing. According to the Ministry to Science and Technology of Brazil, in 2007 the companies were responsible for 47.05% of the investments in R&D, and the target is to grow it to 55% by 2011 (MCT, 2009). In this area, venture capital firms have an important role enabling businesses, specially in innovative areas. A research by GVcepe points out that this activity has grown by 50% between 2005 and 2008, reaching US\$ 11 Billion in investments (GVcepe, 2008).

On the other hand, despite the growth of public and private investments, there is still a huge gap between research and actual introduction of innovative products. In 2008, while the scientific production in Brazil surpassed 20,000 papers according to Institute of Scientific Information (ISI), taking Brazil to 13<sup>th</sup> position in the world (MCT, 2009), the country was 29<sup>th</sup> in number of patent deposits in United States Patent and Trademark Office, with 101 patents (USPTO, 2009).

This gap can be explained by the difficulties to create a company that is able to generate and sustain differentiation through innovation. In this paper, we analyze the challenges of innovative entrepreneurship, focusing in technology based companies, introducing product innovations in the market. These challenges include funding startups but go way beyond that (Owens, 2010). We believe that identifying the barriers to

product innovation is the first step to allow companies to take action, address these issues and become more efficient in the process of introducing new products in the market.

Innovation, either incremental or disruptive (Christensen, 1997), have risks, which raises the cost of capital to be invested – compared to financing the expansion of a mature business – and makes unfeasible traditional financing options. Especially in Brazil, given the high interest rates and the existence of mature business models with good potential gains, even established companies will prefer to invest in lower risk areas, like growing production of already introduced products. Therefore, there are few alternatives for entrepreneurs to get backed up to develop, prototype and produce a new product concept. Even the existing alternatives from the government or venture capital areas are not well known by most entrepreneurs. Besides that, barriers to innovation go beyond funding, and include a wide range of challenges that go from culture to legal and social restrictions to innovation in certain areas (Owens, 2009). We believe that understanding these issues in a broad way allows identifying practices that can be adopted to surpass these barriers and that can be replicated in other businesses. By identifying these issues, this paper will answer to the question: “What are the main barriers to innovative entrepreneurship in Brazil? “.

## **THEORETICAL BACKGROUND**

### **Types of innovation and impact in diffusion of innovations**

According to the “Oslo Manual” (OECD, 2005) the concept of innovation assumes some degree of novelty of a product that, at the minimum, must be “new or significantly improved to the organization”. But it can occur in different levels: new to the organization, to a certain market or to the world. The scope of this research includes innovations to a certain market or to the world, in other words, when a company was the first to introduce a product with certain characteristics in the Brazilian market or in its industry.

These degrees of innovations also have an impact in another concept that is relevant to this research, the diffusion of innovations. This is a theory about how, why and how fast new ideas and technologies are introduced in different cultures. The study of diffusion of innovations started in psychology and is useful in strategic decisions of the entrepreneur or innovator, when she wants to introduce a new product in a given market. Rogers (1962) proposes that this process is influenced by four main elements: (i) The innovation itself, its characteristics and impact to users; (ii) The communication channels to the market; (iii) Time necessary for the product to be adopted by users; and (iv) The social system where users live in.

Based on the elements above, we can notice that diffusion of a new product is a communication process, through certain channels, throughout time, targeting individuals that are members of a social system. The goal of this communication is to push these individuals through 5 steps: (i) Awareness of the innovation; (ii) Persuasion, when the individual actively seeks information; (iii) Decision to adopt an innovation, based on the analysis of pros and cons; (iv) Implementation of the innovation, when the individual starts using it, evaluates the real usefulness and may seek more information; and (v) Confirmation, when the individual decides to keep using it or use the full potential of the innovation.

Analyzing cases of diffusion of innovation, Rogers also identified different types individuals (or organizations), according to the way they react and speed of adoption of innovation: (i) Innovators are the first to adopt the novelty, they accept the risks associated with it and have financial resources to absorb failures; (ii) Early adopters are the second fastest, their opinions generally have higher influence to others, because they use more judgment than innovators to make a decision; (iii) Early majority have a great variance in the time to adopt an innovation, taking significantly more time than early adopters, and rarely have the status of influencers; (iv) Late majority will adopt an innovation after most individuals (or companies) started using it, they are normally skeptical and resistant to change; (v) Laggards are the last movers, with strong aversion to change agents. There are other ways to classify innovations, according to the degree of novelty, which may interest the innovator. In the following session, we will analyze innovation according to incremental, radial or disruptive impact.

### **Incremental, radical and disruptive innovations**

Now that we explored the concept and degrees of innovation, as well as the process of diffusion of innovations in a social system, it is also important to understand how organizations innovate. There are several models, according to its degree and impact, two of which are explored below. Most innovation theories are strongly influenced by the work of Joseph Schumpeter (Schumpeter, 1934), which demonstrates that there is an impact in economic development based in innovation, where new technologies replace old ones, in a dynamic process of “creative destruction”. According to his vision, there is “radical innovation”, which generates fundamental changes in the industry where it occurs. Incremental innovations, on the other hand, represent the continuous process of change and product improvement. Schumpeter’s vision is mostly focused on biggest changes that may change an industry.

According to Christensen (1997), innovation is important to the development of companies, and these have two options to grow their businesses. The first approach is to take market from a competitor, through “sustaining innovations”. Alternatively, companies can grow with disruptive innovations. The latter approach can be divided in two categories: (a) Disruptive innovations that create an entirely new market; and (b) Disruptive innovations that initially have lower performance than incumbent technologies, and appeal to lower end consumer at the beginning. Digital photography is in that category, since it was considered a lower quality alternative and eventually eroded most of the market of professional photography.

Christensen’s work explores the innovator’s dilemma, which occurs with established companies, since the introduction of disruptive innovations can cannibalize and destroy their main business. On the other hand, not launching disruptive innovations allows new entrants to grow and eventually take the established company from the market. Despite the differences in naming and the fact that the first author is more concerned in the economic impact and the second talks about companies’ point of view, these theories have a lot in common. For the purposes of this research, it is important to notice that are innovations that improve product performance, without destroying value and not compromising or changing an industry. This group includes examples like ethanol-fueled automobiles, and multi-core processors. There is also innovations like the car itself, which reduced the carriage industry, and cloud computing, which is still in infancy, but many experts say that will destroy the traditional software licensing business.

We are interested in both groups, but it is important to recognize the differences and the implications in speed and ease of diffusion and introduction into the market. Once we understood the concept of innovation and some ways to classify them, we can now analyze what makes some companies able to constantly introduce innovations.

## **Innovative company and management practices**

A company is considered innovative, by definition, when it implemented at least one innovation, no matter if it is a product innovation, a process or an innovation of any other nature (OECD, 2005). The focus of this section is more sharp, and we want to understand why come companies are able to recurrently introduce products that are completely new or significantly improved, not just sporadically innovating, but having it as an effective practice, easily recognized by the nature of the products it introduces in the market. Studying some cases of successful and innovative companies, we expect to identify management practices that are common to these organizations, which can explain the capacity to transpose the obstacles to innovation. This analysis doesn’t intend to be prescriptive, since different companies, teams, products and markets may require different ways to stimulate innovation. But these cases still allow entrepreneurs to evaluate and take advantage of practices that make sense in their own business.

The Business Week magazine and Boston Consulting Group annually publish a ranking with the 50 most innovative companies in the world (Business Week & Boston Consulting Group, 2010). It is interesting to notice the changes over the years. Historically, rankings like this invariably include companies like 3M, and most academic programs related to innovation would include cases like “Post It”, a product of the same company. In fact, many practices created by 3M still have a strong influence in organizations in different industries. Nowadays, companies like Apple and its iPad, as well as companies like Google, are the most frequent examples of companies that make innovation an essential business practice. At the top of the most recent ranking from Business Week are: Apple, Google, Microsoft, IBM and Toyota.

The example of 3M is still an important reference, since that company has been innovative for more than a century, and there must be something to be learned about maintaining a culture and business practices that favor innovation. Much of that culture come from McKnight, ex-President and Chairman from 1949 to 1966, who would tell managers to “delegate responsibilities and encourage collaborators to take initiative” (3M, 2002). Also according to McKnight, “...a manager that makes destructive criticism kills initiative. It is essential to have many people with initiative, to make a company grow”. But the only way a culture like this can generate results is through concrete actions and appropriate business practices. According to Larry Wendling, VP of Research at 3M, no company is innovative by chance and the secrets of 3M can be translated into what he called “The Seven Habits of Highly Innovative Companies” (Arndt, 2006):

1. Starting with the CEO, all levels of the organization must be committed to innovation, and that includes a generous budget for research and development;
2. Culture must be preserved, and that is why 3M preserved innovation even having, in average, a different CEO each 5 years, during the last 40 years. That requires hiring excellent professionals at all levels, let them do their work and have tolerance for mistakes;
3. Innovation requires a wide technology base, since the domain of different technologies allows the company to combine ideas from different projects into new products;
4. Talk, talk, talk! The company encourages researchers in different areas to create relationships between them, using formal and informal mechanisms, and that allows a researcher to quickly access the knowledge from another area;
5. Define individual goals to each collaborator and reward professionals with outstanding results;
6. Measure research efforts and identify the percentage of revenue that is related to research performed in recent years, identifying if investments are being made in the right areas;
7. Research has to be directly related to clients’ needs, and professionals have to devote time to understand their needs to be able to create valuable products.

A noticeable emphasis is felt on the tolerance culture and power delegation, reinforced by public recognition of successes and by the research area impact on the businesses accomplished. One sees that the edification of an innovative organization depends, therefore, on the alignment of research and development, with the practice of people, compensation and sales management. The innovative management should be supported by the highest level of the organization and articulated among the various functional areas, in order for this to become a sustainable practice.

Another case frequently studied is that of Google enterprise, since it is an enterprise recognized for pushing the frontier of technology innovation for the Internet, for introducing new products and ideas in an accelerated pace, given that these products come to change fundamentally the relationship that people establish with information. Marissa Mayer, VP of Google Search Products has shared some of the principles that keep the company innovative (Salter, 2008) (Mayer, 2006), summarized as follows:

- Innovation, not instantaneous perfection: some companies look to launch products only after they are perfect, facing the risk of investing for too long to find out that the market does not demand such product. At Google the idea is to launch early through the platform “Google Labs” – environment visited by most innovative users and “early adopters” – and only after mastering its perfection, taking into consideration what the market demands;
- Ideas come from all places: the company has mechanisms that allow anybody within the company to launch their ideas for discussion and to submit them to their peers’ “vote”;
- License to follow dreams: Google engineers can have 20% of their time dedicated to a project which they find interesting. Something similar had already been adopted by 3M and generated some of Google’s most interesting products;
- Transform projects instead of getting rid of them; even if a product is not successful, it has at its core good ideas that can be adopted in other projects. This belief is related to mistake tolerance and risk acceptance that is often a determining factor for an organization to remain innovative;
- Share all the information possible: the more information about products, projects and strategies are shared in the company, the greater the possibilities of cooperation between teams, diminishing the risk of duplicate efforts;

- Users, users, users: if the product is really relevant to the user, a sustainable business pattern should be possible. The thought should be focused on the interest and experience of the user in the first place, even if this means sacrificing revenue in short term or sustaining a non-profitable product for a long period;
- Apolitical data: decisions should be made based on concrete data all the time. Even user interface decisions are treated like a science: performing experiments, collecting data and proving the best approach. Google performs between 50 and 100 experiments with real transit (presenting a differentiated product to user samples and measuring the impact) all the time, to improve their products;
- Creativity loves restrictions: the current technology limitations or of any other nature are the fuel and motivation for engineers that seek out approaches which have never been tried before. Incorporating this perspective into the culture of Products and Engineering, the company encourages a behavior characterized by a search for creative solutions;
- If you are brilliant, we are hiring: recruiting the best talents is a recognizable key component to keeping the innovative culture and ability.

The elements above indicate also that in Google's case the tolerance for failure is a key factor in the maintenance of an innovative company. In this case, tolerance is made feasible by the fact that the company has a role in an industry that requires little capital mobilization to create a product (in comparison to the pharmaceutical industry, for example) and is accelerated by practices such as quick launching, without seeking perfection and transforming projects and profiting from good ideas, even when a product is not successful. The company also recognizes the importance of recruiting the best talents to make feasible the culture in which innovation may come from all places, and the freedom is given so that the collaborators may develop their own projects, evidently in the expectation that some of these projects may turn into big products.

Creating an organization with practices that encourage innovation and invest in innovative products demands financial resources compatible with the challenge. In order to withstand long development cycles without a generating a revenue, financing the cycle for innovation diffusion in the market and being tolerant with product failure, these financial resources can rarely be obtained through the traditional financing mechanisms. What follows is a panorama of the encouragements to innovation available in Brazil, which can be explored by entrepreneurs - innovators.

## **Previous research about innovation barriers**

The innovation theme is becoming ever more popular, in a way demonstrating that people and businesses still have many doubts and difficulties in relation to this subject. A search for the word "innovation" on Amazon.com currently lists more than forty-two thousand distinct titles. Despite the academic research and all the non-academic publications, the companies keep struggling to become more innovative, combating barriers of different natures, since they understand themselves to be "killing" ideas and causing the failure in the attempts to innovate (Owens, 2010).

In the academic area, this theme is studied under different disciplines. In a general way, the academic studies tend to be descriptive of a defined perspective on a problem. Below are examples of some research areas that deal with this theme:

- The area of people management, aspects such as organization culture and the profile of the recruited collaborators, impact the ability to innovate;
- The area of strategy is strongly linked to the innovation theme, because it makes feasible the implementation of the strategy as well as it is able to focus on development of new products and technologies;
- The area of technology, evidently, is interested in the innovation theme, dealing with the barriers that restrain innovation.

Non-academic authors also bring important contributions to the theme, presenting their cases, experiences and implemented solutions in specific businesses. These reports can eventually include solutions to problems difficult to be addressed and tend to be prescriptive in regards to very specific themes - that are not always re-applicable to other businesses.

Owens' analysis is based on two perspectives – academic and practical – and on an ample research with managers in different areas and levels, identifying six great themes in which barriers restraining innovation are frequently settled. Even if the focus of this research has been the innovation of existing companies, a great number of these concepts are applicable to innovative enterprises. Following are the types of barriers to innovation (OWENS, 2010):

- Individual: the resistance to change is a present characteristic, in lower or higher level, in practically all human beings. These psychological barriers also labor within an organization that seeks to develop innovation, as well as in the moment that the innovation is introduced into the market.
- Group: the resistance imposed by the group to an innovation may take the form of the organization's culture, fear, or aversion to risk. This resistance blocks the organization from generating, evaluating and implementing innovations.
- Organizational: the following level of restriction to innovation occurs when various groups unite in an organization. These barriers are generated by the strategies, organizational structures, management processes and practices, and have a direct impact on the ability to innovate.
- Industry: this type of restriction is a consequence of the way that the organizations compete in their sectors. For example, companies in a not very competitive industry or with products that have no differentiation will tend to be less innovative.
- Social: in a wider way, society has mechanisms to protect itself against possibly destructive changes; these are implemented as politics, norms, moral patterns, ethics, laws, rules and other forms of control. The mechanisms can limit severely the innovator's options and creativity.

Owens' focus in his research was on identifying the barriers which restrain existing companies from keeping themselves innovative. He tried to find out how the companies "killed innovation", evidencing that there are many barriers beyond the "innovator dilemma" (Christensen, 1997) previously introduced. This model is generic enough to be applied to the universe of innovative entrepreneurs, in starting-up companies whose focus is development of innovative products. In this way, this model, along with the knowledge of practices within innovative companies, the knowledge about the process of diffusion and of the innovation types, serve as base to structure the interviews and analysis that will be presented in the following chapters.

## METHODOLOGY

According to this study's objectives and to the bibliographical survey about innovation, this chapter demonstrates the methodological procedure used for the research, including the chosen method, the criteria for the choice of interviewees, as well as their profiles and those of their organizations.

### Research method

The research consisted of interviews of exploratory and inductive nature with different agents of innovation value in small technology-based businesses. The process was divided into two phases, the first being realized in a pilot interview, in which beyond data collection, the proposal was to validate the script used for the interviews and to identify other agents in the innovation process to be investigated.

Once these initial interviews were realized and the results analyzed, this research focused on a second group of qualitative interviews, with at least one representative of each one of the links of the chain which were identified.

All the interviews were realized with consent of the interviewee, taped and transcribed for a later analysis. The data available on the sites of the organizations offered the context, such as area and manner of performance, objectives, products and available services, etc.

### Criteria for the choice of interviewees

Six interviews were realized, one of which considered "pilot", which allowed perfecting the script of interviews and identify the other interviewees. All the interviewees in this stage worked in one or more of the following links in the chain of innovation:

- Entrepreneur in businesses with technology-based products which have innovative characteristics and are already generally commercialized;
- Manager of technical mechanism in innovation, as for example, incubator;
- Projects' evaluator for financial mechanisms for instigating innovation in businesses, as for example, FINEP edicts geared toward businesses;
- Manager of funds investment regarding Venture Capital or Private Equity;

## **Data collection criteria**

The main mechanism for data collection was the open interview, based on a previously defined script, seeking to identify the barriers for innovation in the perspective of each one of the interviewees. The scripts for the pilot interview and the subsequent interviews are, respectively, in Attachments A and B of this study. The interviews were complemented with secondary data, including the Internet sites of the organizations where each of the interviewees currently works.

## **Research limitations**

Opting to realize a series of qualitative interviews capable of covering several links in the chain of innovation, the chosen view demonstrated the scope of the problem. On the other hand, the view of the entrepreneurs in different stages of maturity in their businesses was not explored. A complementary study to this one could be a quantitative research, using the tools based on this study's findings, addressed to entrepreneurs in different situations:

- Incubators that already have a commercialized product;
- Those that have received investment of Venture Capital;
- Entrepreneurs with products in commercial stage;
- Entrepreneurs who have performed an exit strategy, as for example a strategic purchase, funding capital, among others.

Beyond quantitative researches, deepening the study could be done through case studies, not only with successful businesses according to the determined criteria, but also with businesses that did not reach their objectives.

# **RESULTS**

In this section the results of the pilot interview will be presented, in terms of approach refinement, the profile of the people interviewed and those of their organizations and analysis of the results per se.

## **Pilot interview**

The first person interviewed in this stage, other than being an entrepreneur at a business that has an innovative product, has experience in management of the incubator and has had a role in evaluating business projects, submitted to CNPq. The script of the pilot interview included questions about the organization and a great number of questions that sought to cover each of the dimensions presented by Owens (Owens, 2010). It was observable that an interviewee that is willing to take the challenge of innovation, and that works directly with this issue, is capable of covering spontaneously a great part of the themes, with a smaller number of open questions.

From this, the specific questions that sought to address each of the dimensions individually were eliminated. Also it led to the conclusion that the organizational data and previous projects of the businesses should be obtained as secondary sources (business site, for example), leaving more interview time to explore the main theme, which resulted in the scrip presented in Attachment B, adopted in the subsequent interviews.

The answers in the pilot interview were considered in analysis later, along with the answers of the other interviewees.

## Profile of the interviewees and organizations

In the following, the profiles of the interviewees as well as those of the organizations for which they worked are shown, indicating their connection with the theme of this research:

Berthier Ribeiro Netto – Google Diretor Founder of Akwan Information Technologies, acquired at a later time by Google, company in which he works as Engineering Director. Akwan was founded by Universidade Federal de Minas Gerais [Federal University of Minas Gerais] to offer research services to final users and companies in Brazil, and was responsible for the search engine [www.todobr.com.br](http://www.todobr.com.br), a search mechanism designed for searches on the Brazilian Internet. With this purchase, Akwan turned into the Center of Research and Development of Latin American Google.

Carlo Dapuzzo – Monashees Partner Monashees is a venture capital company that invests in “high risk” enterprises, focused on big markets (> R\$ 1 Billion) or that can create new markets with this potential. The typical investment made by Monashees varies between R\$ 250 Million e R\$ 5 Million, since its focus is on the seed stage or series A. The areas of operation are the Internet and Education, and the manner of operation consists of establishing a long term relationship, performing not only financial contribution but aggregating to the business management.

Guilherme Ary Plonski – Anprotec President / Professor at Universidade de São Paulo [University of São Paulo] Anprotec (Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores – National Association of Entities Promoter of Innovative Enterprises) represents the interests of incubators, technological parks and enterprises, through an offer of activities that build capacities, articulation of public politics, generation and dissemination of knowledge. After 22 years, Anprotec aggregates 272 entities, that represent 400 incubators and 6300 enterprises, which come to a total of 33 thousand work placements.

Marcos Simões - Empreender Endeavor Institute The Empreender Endeavor Institute started up from a partnership with Endeavor Initiative Inc., an international non-profit organization that promotes entrepreneurship in developing countries. Endeavor’s objective is to make Brazil a global reference in entrepreneurship, through promoting high impact entrepreneurship. The model of the performance consists of selecting entrepreneurs, strengthening their businesses through a net support of mentors – volunteers and partners that advise and support these businesses, and multiplying the experience, so as to disseminate their stories and experiences in society.

Mara Abel – Endeepert Partnet / CEI-UFRGS Ex-Director Founded the company ENDEEPPER, that develops solutions for characterization of petroleum reservoirs and knowledge management in the area of “petrology”, and that began as a spin-off of Intelligent Database Group that is coordinated by UFRGS (Universidade Federal do Rio Grande do Sul – Federal University of Rio Grande do Sul). Professor at UFRGS, she was also director of the Institute Entrepreneurship Center of Computing Technology Institute at the Federal University of Rio Grande do Sul, a technology-based incubator that encourages projects with innovative character, in the area of Computing Technology.

Sílvio Meira – Chief Scientist CESAR / Member of the Council of Porto Digital / Professor at Federal University of Pernambuco CESAR (Centro de Estudos e Sistemas Avançados do Recife – Center of Studies and Advanced Systems) is a private center of innovation, which creates products, services and companies with Computing Technology and Communication. Created in 1996, CESAR has developed products and services that cover the whole process of innovation, from the idealization to the projects’ realization for companies and industries that perform in different sectors. Porto Digital is a cluster that shelters companies of Computing Technology and Communication in the city of Recife, created 10 years ago and that provided setup of dozens of companies, among which the production of management, financial, health, games and safety softwares deserves special mention.

## Analysis of the data from the interviews

The analysis of the data from the interviews will be shown bellow. This analysis is divided into three parts:

Firstly, the main barriers that each of the interviewees cited were identified and put together according to the pattern introduced by Owens (Owens, 2010), adapted to the context of innovative technology-based entrepreneurship;

Next, patterns in the answers were identified, which resulted in “groups” of interviewees, with complementary perspective about the theme studied;

Finally, a consolidation was made, presented in “4.3.3 Consolidated Analysis: Barriers & Groups”, which counters the perspective of the groups interviewed according to the each dimension of Owens’ patterns.

## **Analysis of Barriers Identified by Interviewees**

For this analysis, Owens’ pattern of 6 types of barriers for innovation, a generic standard applicable to the innovation context in established businesses as well as in innovative enterprises, was adjusted to the context, according to the description of each of the sections that follows.

### **INDIVIDUALS’ BARRIERS**

The analysis of individuals’ barriers has as a focus on the characteristics of the entrepreneur himself/herself and those of the remaining people involved in the entrepreneurship, such as collaborators and suppliers. The function of this section is to identify eventual obstacles related to capacitance, personal profile, educational background, abilities, cultures and beliefs. Barriers of this nature were mentioned spontaneously by all the interviewees, many times as the most relevant obstacle to the innovative entrepreneurship in Brazil. There are many individual aspects that intervene in the innovative entrepreneurship; the following are some of the ones most frequently mentioned:

Cultural barriers and of mentality, which limit the quantity of entrepreneurs and projects that have a “high impact” perspective, with potential to win over the high growth market or to create an entirely new market with a high growth potential. The majority of enterprises end up having a perspective of the business as a “lifestyle” (only sufficient to be economically sustainable) instead idealizing a great business;

In the perspective of investors and other agents that foment the innovation, predominates among the entrepreneurs an idea of the “business owner”, and few are willing to allow the access to new partners, divide the decisions with the new partners and professionalize the management, conditions considered essential by the investors to mitigate the business’ risks;

The entrepreneurs-innovators in high technology areas tend to be technicians, focused on solving obstacles in the constitution of a product within their specialization area. These individuals are not always capable of translating a product to the client’s language, unable to leave the technical speech to pinpoint the benefits to the final client. This deficiency can be fatal to the process that disseminates the innovation.

### **GROUP BARRIERS**

The concept of “group” adopted related to the environment where a knowledge construction takes place which makes feasible innovative products; this includes university and research centers. Regarding this perspective, the interviewees highlighted the following points:

- Difficulty of the public university, where a great part of the basic research in Brazil takes place, to look kindly upon entrepreneurial activity, which complicates the usage of the scientific knowledge in enterprises. Frequently the result is that the knowledge reached based on public resources turns into publications, many times internationally and with high visibility, but rarely makes a business feasible, which would turn knowledge into generation of value, jobs and revenue;
- Lack of favorable culture to the innovation in broader terms, which could be fomented throughout the education process, and that means that a very small parcel of those leaving universities have ambition to start up a business and, of those, few seem to have a perspective of high impact business, besides an even smaller parcel effectively putting this ambition into practice.

### **ORGANIZATIONAL BARRIERS**

In this research, the concept of organization has been understood as the environment where the development of innovative products happens, such as incubators as well as the environment inside the micro and small technology-based businesses that invest in innovative products, besides the organization of client businesses, in which the implementation of new products takes place. The aspects mentioned most frequently by the interviewees were:

The great part of incubators and research centers have a bigger focal point and are densely taken over by people interested in surpassing the technical barriers for a product creation, rather than focusing on a business problem or deepening the knowledge of the users' needs. There are few that work on the other stages of the innovation process, such as articulation with investors, approximation to businesses, etc;

In the case of products concentrated on the corporate market, there is a natural resistance to changes, when the products reformulate the way people work and, especially in client businesses that are not exposed to the international competition, there is no search for products and other efficient processes, and there is little receptivity to innovative products, even if these generate significant productivity profit and competitive.

## **INDUSTRY BARRIERS**

Since we have dealt with innovative entrepreneurship, the concept of "industry" that was adopted corresponds to the environment that allows the development of these enterprises and their transformation into businesses, such as risk capital, fomentation mechanisms and partnership businesses in the development of new products. Some barriers frequently mentioned by the interviewees:

The chain value of risk capital has been little developed in Brazil, and the few investors willing to finance the development of innovative products have difficulty in finding alternative exists (start-up capital, investors in subsequent stages or strategic buyers for the invested businesses);

In the investors' perspective, since they need to be willing to perform for a long cycle until the egress or even be willing to stay with the business, these become more selective in the projects. At the same time, they do not find businesses with a high impact perspective to justify their entrance.

## **SOCIAL BARRIERS**

The social barriers in this study have to do with legal, regulatory and cultural issues in the country. The problems highlighted by the interviewees were:

Highly bureaucratic business environments, which generates costs, a misplacement of the entrepreneurial focus, and imposes the same complexities and obligations as on a big business;

Legal barriers which complicate the usage of governmental purchase power to ferment innovation, besides there are regulatory difficulties in other areas, such as the creation of investment funds, the usage of tax incentive in innovation activities by a greater part of the businesses.

Low tolerance to failure, in a cultural point of view as well as in the legal one, which ends up limiting the view of the entrepreneurs.

## **TECHNICAL BARRIERS**

Little by little the technical barriers were highlighted in a general way and, in some cases, explained as "irrelevant" in comparison to the others. This perspective seems consistent with the current unsteadiness between scientific production in the country and the production of innovative enterprises and patents. The barriers more frequently mentioned also relate to people and education:

Intensive enterprises in highly qualified manpower, especially those that attempt to develop competitive products internationally, still face difficulty in recruiting the necessary talent. Despite the dimension of the academic production in Brazil, the schools with international standards are still few; There is difficulty in finding qualified people to fill key positions to transform enterprises in big businesses.

## Interviewees' grouping

An important finding from the analysis of the interviews' transcripts, after relating the main obstacles identified by each of the interviewees, was the fact that these people were able to be placed into clearly-defined groups. In each group, there is a great conscience of prioritizing in terms of the innovation obstacles. A contradiction of perspectives was not notorious, however a clear different in the order of priorities was perceivable.

## PERSPECTIVE OF THE ENTREPRENEURS

The interviewees directly involved in enterprises generally speak of these main barriers:

- Availability of qualified manpower and suppliers with whom to establish partnerships. Even though none of them identified the technical knowledge as a barrier in itself, the little availability of well-educated people to work in intensive companies is an obstacle to the business growth that depend on manpower;
- The university does not favor the emergence of innovative enterprises and, in some cases, there is an ideological view by part of the academic groups, who are opposed to transforming the research results into commercial products;
- Few options of "low costs" capital, feasible to an innovative company, which will many times be effective for years without generating revenue, ends up limiting enterprises to less innovative products, less risky, which can generate revenue in a short time;
- High complexity and high costs of managing a company in Brazil, in case of a micro or small business, demand an investment in the administrative area which is equal to or greater than the investment in the product itself.

## INVESTORS AND INNOVATION INDUCING AGENTS' PERSPECTIVE

Here not only fund of risk capital was considered, but also those who perform as investors in a natural person, as "angels" and agents that ferment or induce innovation. Some coherence in the perspective of these different agents was found, among which:

- Few entrepreneurs and few projects with a "high impact" view, in other words, with potential for quick growth, exploring a big marketing and growth potential, or that can create an entirely new market with high potential. The majority of the projects have a perspective that they call "lifestyle", capable of growing up to a point, generating revenue, but stopping at a limit, which makes them unattractive for this type of investor;
- Many entrepreneurs have a perspective of the "owner", more than one appropriate to the "entrepreneur", finding it difficult to accept, along with the capital disbursement, the aggregation of a partner with whom to divide decisions and difficulties in accepting the managing professionalization;
- Little post-innovation culture in the country as a whole, which along with a culture of little tolerance for failure, does not favor the outbreak of entrepreneurs with a bold views;
- In the level of public politics, a lack of comprehension about the great diversity within the business universe in Brazil and its different needs. This cognitive dissonance complicates the process of addressing the obstacles of governmental competence in a systematic and efficient manner;
- Difficult in finding and engaging key people, capable of joining the entrepreneurs' group that are capable of transforming a small entrepreneurship into a great company. This is related to the lack of professionals as well as to the lack of availability to join a business in a beginning stage.

## Consolidate Analysis: Barriers and Groups

Table 1 show the barriers cited by the interviewees which groups were previously described. The "Entrepreneurial Perspective" shows the barriers highlighted by the interviewees directly involved in innovative enterprises. The column "Investor and Inducing Agents' Perspective" contain the points highlighted by agents related to financing and to the induction of enterprises. Chart 1 summarizes this research's findings and confronts the different agents' perspectives, offering a more extensive view of the research theme. We noticed that there were no contradictions among the perspectives, but a difference of emphasis and a difference of rank in terms of the most relevant obstacles.

# CONCLUSIONS

Based on the theoretical reference regarding the innovation theme, the interviewees with different agents in the innovative-entrepreneurship context and the analysis of the obtained data, the present study presented a very ample qualitative view of the innovation environment in Brazil. The theoretical reference research established the foundation for the study, offering subsidies for the stage of data collection with interviewees and their analysis. The interviewees established a view applied to the Brazilian scenery and the innovation entrepreneurship technology-based context. Among the conclusions from the initial stage (that of a bibliographical survey) is the fact that the innovation is related to economic development (Schumpeter, 1934), through the creation of differentiated products and exporting possibilities. Another finding reported that the innovation is something concrete, susceptible to being measured and verified (OECD, 2005), which is a pre-condition for its management, be it in the business' environmental or governmental level. Another point, verified in the literature as well as in the practice of companies considered innovative, is that the innovation can be learned and encouraged (Drucker, 1993). Therefore, once the comprehension of this process (and its barriers) has been attained (Owens, 2010), it is possible to take concrete actions to accelerate the innovative entrepreneurship.

Table 1: Barriers for Innovation in two perspectives

Type of Barrier	Entrepreneurial Perspective	Investors and Inducing Agents's Perspective
<b>Individual</b> (Entrepreneur / innovator)	Little availability and low manpower quality and available service rendering in Brazil make difficult the constitution of teams and well as the relationship with suppliers; The entrepreneurial mentality tends to be focused on internal market, not seeking the creation of innovative and competitive products on a global scale; The innovator – entrepreneur generally has a technical profile and has difficulties in turning the technical speech into one of benefits for the clients.	Few entrepreneurs have a view of entrepreneurship of “high impact” – with high potential for transformation of an industry and growth potential – predominating the “lifestyle” entrepreneurship; Cultural barriers of great part of investors, such as view of the “owner” and not of the partner, which complicates agreements with investors and limits business growth; Overestimation of the idea in itself, in relation to the business execution, limiting the search and the agreement with partners and reimbursement of “smart money”, necessary for a high impact entrepreneurship; Loss of focus by entrepreneurs, because of the view regarding technology and their possibilities, in detriment of the spotlight on business applications and/or on the final client.
<b>Group</b> (environment where the erection of knowledge occurs for innovator – entrepreneurship, such as university, Research Center, etc.)	The university as a public institution has difficulty taking kindly to commercial entrepreneurial activity, complicating the emergence of innovative enterprises from academic origin.	Little encouragement to a pro-innovation culture and entrepreneurship, which reflects on the fact that a minority of those leaving university undertake the practice and, among these, predominate a “lifestyle” perspective.
<b>Organizational</b> (environments where the products and clients of innovative products are developed)	In the case of products with a focus on corporate market, for industries less exposed to the international competition, there is little interest in and receptivity for innovative products and productivity revenues through technology; Few big companies in Brazil see the possibility of open innovation and licensing developed technologies for innovative entrepreneurs, which could be incorporated in their products; Introduction of innovative products in client companies, which alter the way in which people work, faces natural oppositions to change and companies are not prepared to manage these changes; Some industries in Brazil are dominated by international chains and have little autonomy to decide the purchase of innovative products in Brazil, which complicates the introduction of products with the focus on corporative clients); Few incubators are capable of being effective beyond establishing a basic infra-structure, making easier investments and connections (with investors, companies	Incubators and research centers generally are filled by those who seek research and solve problems of technical domain, but there are few people focused on the search of the most appropriate technology to solve big problems and create businesses, built on the perspective of the final client; The majority of innovative enterprises do not have all the management competencies to become great businesses, not all of them count on the support of incubators and not all incubators are equipped with these competencies; Enterprises focused on solving technical problems, and when seeking capital – be it public or private – seek imbursement of money and not “smart money” (Money, connections with the market, etc.).

Type of Barrier	Entrepreneurial Perspective	Investors and Inducing Agents's Perspective
	that could license technology those incubated, with the market, etc).	
<p><b>Industry</b> (capital and instigation for enterprises)</p> <p><b>Industry</b> (capital and instigation for enterprises(continuation))</p>	<p>The chain of value is still underdeveloped, with few investors willing to disburse money in innovative businesses;</p> <p>Alternative exits for the investors are limited (there is a lack of investors in intermediary stages, low probability of opening capital and few strategic purchases), demands that the investor have willingness for a long term investment.</p>	<p>Lack of projects with perspective of high growth (aiming at a high growth market or that can create an entirely new market), that are attractive enough to mobilize investors;</p> <p>The products proposed bring few innovations or bring innovations only in a regional scale, which are not competitive internationally;</p> <p>Investors in initial stages need to be prepared for a cycle of maturation which tends to be long in Brazil in relation to other countries, due to the shortage of investors for all the stages (especially intermediary stages);</p> <p>Based on the facts above, funds of venture capital tend to be more selective, moreover they are still limited to great centers, such as São Paulo;</p> <p>Financial support with public Money to develop innovative products is limited to some areas of interest to MCT e FINEP, and many are limited to aspects of technical support and do not include the stages of introducing a product into the market;</p>
<p><b>Social</b> (country, including legal, regulatory and cultural questions)</p>	<p>Highly bureaucratic environment raises the costs of making business and takes the way the focus of the entrepreneur in regards to the innovation, in order to dedicate great part of the energy to meet legal, fiscal and bureaucratic requisites;</p> <p>Lack of legal and fiscal regimes for innovative enterprises, expose micro and small businesses to the same costs and complexity of manage as those of a mature and established business.</p>	<p>Lack of a perspective that there is a great diversity in the universe of 5.5 million effective businesses in Brazil, generates a cognitive barrier for the problems to be tackled systematically in terms of defining public policies and incentives to innovation entrepreneurship;</p> <p>Legal and regulatory barriers still difficult to the constitution of new investment funds of investment capital, reducing the scope of investors;</p> <p>Current legal framework complicates the use of the State buying power to instigate innovation, since the innovative product is frequently disqualified in terms of the public edicts;</p> <p>The legislation that allows companies to obtain fiscal benefits to invest in innovation favors a limited number of companies;</p> <p>High transaction cost makes difficult for bigger businesses to invest on innovation in smaller businesses, with imbursement of capital to suppliers that develop innovative components for their products;</p> <p>In the cultural aspect as well as in the legal one, there is a low tolerance to failure, discriminating and punishing the entrepreneur that "breaks" a company;</p> <p>Regime of juridical insecurity in the country limits the access to new investors.</p>
<p><b>Technical</b></p>	<p>No technological availability barriers were highlighted (reflecting Brazil's position in terms of scientific production), but these technologies are dominated by very few people, and there is a difficulty in finding manpower for enterprises with high density of knowledge; A limited number of universities is capable of educating people with international standard to perform in companies that intend to compete internationally.</p>	<p>Difficulty in finding people for key positions for transforming an entrepreneurship into a big business.</p>

With these premises in mind, the choice of the criteria for choosing the interviewees, data collection through qualitative interviews and their later analysis were made. The picture portrayed, which related the barriers identified by the agents inserted in the context of innovative enterprises' developments, sought not to attach itself to a pessimistic or optimistic view of reality, but merely to frame the problem in a way as complete

as possible based on the collected data. It is believed that a clear comprehension of the barriers for innovation is an essential step, so that these can be addressed in a systematic way, or so that the entrepreneurs or agents, attentive to the restrictions which are imposed upon them, can anticipate the risks and raise their chance for success.

On one hand, there is the difficulty that the entrepreneurs face regarding the legal barriers, the cost of making business, and the complication of investing capital to their businesses and, in some cases, the difficulty to engage enough qualified manpower. These factors many times leave the entrepreneurs few alternatives for generating short term revenue, taking the focus off the high impact view, leading the entrepreneurs to more conservative decisions. On the other hand, the investors and other agents that work to promote entrepreneurship, tend to highlight the lack of projects ambitious enough, with growth potential, to justify the investment. In Brazil, there are not enough investors for the following stages and there are few exit alternatives, demanding longer cycles of investment than the international average, the investors need to be highly selective in their choices. Once an investment has occurred, there is a worry in placing people in key positions in the invested businesses, to work along with entrepreneurs in order to transform an idea or a product into a great business.

In both of the perspectives, there is always a difficulty to find qualified manpower – technical as well as in management positions – and willing to embark in a new business. In the case when one finds these highly qualified professionals, the cultural barrier, the low tolerance to failure, is a limiting factor. Entrepreneurs as well as professionals who have a difficulty in making the option for a new business with high potential for growth (and the inherent potential for failure) are led toward the “safer” professional decisions, choosing a established or low risk businesses.

Insofar as capital availability, interviewees in both groups admit that the market is still incipient, but also report the fact that Brazil has a short history and a stable economic explains that the venture capital is incipient in the country. Therefore, an optimistic view predominates, that a virtuous cycle is about to begin, since the best enterprises can attract more investors and a greater offer of capital would make creating a high impact business a more attractable idea. It remains to be known whether the actions of the government could support the education of better professionals, reduce the costs of making business in Brazil, and in a concise manner, reduce the difficulties faced by innovative entrepreneurship.

This research has shown a perspective of the innovative environment, where the views of different roles allowed to pinpoint the obstacles that need to be overcome to become successful. The spotted barriers at times slow down or block the success of entrepreneurs, investors and the actions that seek to induce innovation. With this, one hopes to contribute that the problems that are under the regency of these agents may be addressed in a systematic way. Even though some obstacles are beyond the reach of these agents, the conscience of these challenges can contribute to taking the precautions that mitigate risks. The innovators may decide their path, accepting the fact that entrepreneurship like a lifestyle, though making possible the creation of short term revenue and possessing fewer risks, is not very interesting for risk investors. The decision based on this model is not less correct than one based on a high impact choice, but the expectations of the entrepreneurs must be clear in regards to this principal, so as to be able to focus on the realization and search for adequate mechanisms to finance their business, raising the chances of building an economically stable business. Those that opt for high impact entrepreneurship, must have the concept of the potentials that investors look for, the need for a sufficiently big and feasible view, so that the capital investment may be justifiable for a long term, when in Brazil the investor may resort to low cost and profitable alternatives. It is necessary to understand still, that to raise the chances for success, the investor will not only invest capital, but also management capacities and access to a network of relations. Therefore, the entrepreneur should be prepared, when with an investor, to divide the decisions about their business, adopting a truly entrepreneurship perspective and not that of the “owner”.

During the articulation of this research, there was a choice made for a wide-reaching view in terms of innovation environment, covering different agents, such as entrepreneurs, incubators and investors. Facing this diversity of perspective, a qualitative approach to data collection was adopted. Once this view was built, a natural step would be the quantitative research in one of more of the segments of interviewees. Another possibility to deepening, which would be valuable, was the realization of case studies and in-depth research.

The quantitative research among venture capital funds would allow the organization and prioritizing of obstacles in action plan to overcome these obstacles. In the entrepreneurship universe, the research among entrepreneurs in different stages (incubators, companies with products in the market, etc, would allow to identify the obstacles as well as the actions adopted by companies that reach the market, which can be replicated by future entrepreneurs.

## REFERENCES

- Arndt, M. 3M's Seven Pillars of Innovation. **Business Week**, 10 de Maio de 2006. Available in: <[http://www.businessweek.com/innovate/content/may2006/id20060510\\_682823.htm](http://www.businessweek.com/innovate/content/may2006/id20060510_682823.htm)>. Access in 01 Oct 2010.
- BusinessWeek & Boston Consulting Group. 50 Most Innovative Companies 2010: Special Report, 2010. **Business Week**. Available in: <[http://www.businessweek.com/interactive\\_reports/innovative\\_companies\\_2010.html](http://www.businessweek.com/interactive_reports/innovative_companies_2010.html)>. Access in 01 Oct 2010.
- Christensen, Clayton M. **The Innovator's Dilemma**. Boston, MA: Harvard Business School Press, 1997.
- CIA Factbook – Website. Available in: <<https://www.cia.gov/library/publications/the-world-factbook/index.html>>. Access in 01 Oct 2010.
- Drucker, P. **Innovation and Entrepreneurship**. EUA: Harper Collins, 1993. (Kindle Edition)
- FINEP – Financiadora de Estudos e Projetos. Website. Available in: <<http://www.finep.gov.br>>. Access in 01 Aug 2010.
- GVcepe – Centro de Estudos em Private Equity e Venture Capital da FGV/EAESP. **Panorama da Indústria Brasileira de Private Equity e Venture Capital**: Relatório de Pesquisa. Fundação Getúlio Vargas, 2008.
- Mayer, M. Marissa Mayer at Stanford University. **Google's 9 principles of innovation**. Talk at Stanford University. Palo Alto, 2006.
- MCT – Ministério da Ciência e Tecnologia. **Report: Avaliação do Plano Plurianual 2008-2011**. Brasília, 2009.
- OECD – Organization for Economic Co-Operation and Development. **Oslo Manual – Guidelines for Collecting and Interpreting Innovation Data** – 3rd Edition, 2005.
- Owens, D. A. **The Idea Conspiracy**: exposing the plot against new ideas in your organization. Nashville: Vanderbilt University, 2010. (Draft of the book to be published, provided by the author).
- Rogers, E. M. **Diffusion of Innovations**. Free Press, 1962.
- Salter, C. Marissa Mayer's 9 Principles of Innovation. **Fast Company**. February, 19, 2008. Available in: <<http://www.fastcompany.com/article/marissa-mayer039s-9-principles-innovation>>. Access in 1 Aug 2010.
- Schumpeter, J. **The Theory of Economic Development**. Cambridge: Harvard University Press, 1934.
- USPTO – United States Patent Trademark Office. **Patents By Country, State, and Year - Utility Patents**. USPTO: December, 2009.
- Weisz, J. **Mecanismos de Apoio à Inovação Tecnológica**. Protec, SENAI, MC&T, 3ª edição. Brasília: 2006.

# **AN ORCHESTRATED CONSPIRACY OF IGNORANCE? THE RISE AND FALL OF EDUCATION FOR SUSTAINABILITY IN NEW ZEALAND'S TERTIARY EDUCATION STRATEGIES**

**Leon de W Fourie and Peter Mellalieu  
Unitec Institute of Technology, New Zealand**

## **ABSTRACT**

*New Zealand enacted pioneering legislation embracing the notion of sustainable development through its Resource Management Act of 1991. Through its Tertiary Education Strategy (TES) 2007-2012 the Labour government signalled its desire that the country's higher education sector should support its ambitious environmental vision and goals. A strategic audit of the environmental performance of a publicly-funded New Zealand tertiary educational organisation examined the extent to which the institution achieved the environmental goals espoused in its government-approved charter. For several reasons, the institution had retreated substantially from its earlier pioneering commitments to environmental initiatives, initiated from the late 1990s. Specifically, the government's environmental policy aims were not translated into an explicit investment funding priority for the tertiary education sector nor into an appropriate system of monitoring and control. The most recent National government tertiary education strategy, TES 2010-2015, retreats further, condemning the nation's future professional leadership - and tertiary graduates in general - to a deep ignorance about the requirements, risks, and opportunities for sustainable development.*

## **INTRODUCTION**

New Zealand enacted pioneering legislation embracing the notion of sustainable development through its Resource Management Act of 1991 and was an early signatory to the United Nations Framework Convention on Climate Change (1992). The country's gross contribution of 77.9 million tonnes of CO<sub>2</sub>-equivalent (2006) greenhouse gas emissions (GHGs) is very small (0.44 per cent of the global total) and the effect on normal human life imperceptible. (UNFCCC National Greenhouse Gas Inventory Data, cited in Bertram & Terry, 2010, Table 2.3). There are several reasons. The population is small - around 4.5 million - on an island area slightly larger than the isles of Japan or the United Kingdom. The abundance of brisk Pacific winds and rainfall dilutes some wastes so that they are not readily perceived. A large proportion of the country's electricity is gained from renewable resources: hydro, geothermal, and wind. Furthermore, recreationally-attractive lakes, coastlines, mountainous landscapes, or indigenous subtropical forests lie within two hours' drive from most locations. Consequently, since 2000 New Zealand's businesses have promoted world-wide their tourist destinations and export products with variants of the marketing slogan '100% Pure' developed by Tourism New Zealand, a government-funded industry development agency.

New Zealand is however one of the most highly ranked countries for per capita emission of greenhouse gasses. Similarly, the country produces the second highest emission of greenhouse gasses per unit of GDP creation, and ranks highly in per capita material and energy consumption (Skilling & Boven, 2007). Furthermore, since mass European colonisation began from the 1840s, by the 1950s the country had completed extensive deforestation of much of the indigenous sub-tropical rain-forest replacing it with pastoral agriculture, plantation forests, and - to a lesser extent - population centres. Accordingly, New Zealand's unfavourable ranking attracts the spotlight of other countries to focus on the country's industries, exports, tourist destinations, waste production, GHG profile, and 'food miles'. The marketing slogan is not quite 100 per cent true! (Cumming, 2010).

The 2010 Environmental Performance Index (EPI) ranks 163 countries on 25 performance indicators tracked across ten policy categories covering both environmental public health and ecosystem vitality. New Zealand's EPI score (73.4) ranks the country comparable to Chile (73.3) and the United Kingdom (74.2), slightly superior to Mexico (67.3), The Philippines (65.7), Australia (65.7), and the United States (63.5), and inferior to the top-ranked countries of Iceland (93.5), Switzerland (89.1), Costa Rica (86.4), and Sweden (86.0) (Yale Center for Environmental Law & Policy, n.d.). The Environmental Vulnerability Index (EVI) on the other hand rates the relative resilience and vulnerability of a country's physical environment to future shocks, risks and hazards and thereby the proneness of the country's environment to damage and degradation. New Zealand's score of 292 (Vulnerable) rates similar to Chile (287, Vulnerable), Brazil (284, Vulnerable), United States (300, Vulnerable), and Mexico (302, Vulnerable). This compares to more vulnerable ratings assessed for the United Kingdom's EVI of 373 (Extremely vulnerable) and The Philippines (402, Extremely Vulnerable), and more favourable ratings of Australia (238, at risk) and Canada (251, At risk) (South Pacific Applied Geoscience Commission, n.d.).

## **EDUCATION FOR SUSTAINABILITY**

In the context of the aforementioned it could be expected that higher educational organisations in New Zealand to be at the forefront for educating students, conducting research, and advocating appropriate policy initiatives in support of sustainable development. It could also be expected for them to operate using sustainable practices. However, this expectation is not being achieved. For instance, in 2004 New Zealand's Parliamentary Commissioner for the Environment (PCE) recommended that ALL graduates leaving tertiary educational organisations - and schools - should possess "a core understanding of ... environmental sustainability as a result of institutes encouraging Education for Sustainability (EfS) throughout their organisations" (PCE, 2007, p. 8).

A more recent study of New Zealand's tertiary educational sector conducted by the PCE found that its 2004 recommendation had been accepted and implemented in "an ad hoc, isolated, and uncoordinated manner both within and across institutions" (p. 20). For instance, "While environment-specific courses are available, with some [institutions] offering good opportunities for skills and knowledge in sustainability, learning about sustainability is not a core (or even a fringe) component in most mainstream courses." Furthermore, "University students' understanding of sustainable development has not changed dramatically since 2002" (PCE, 2007, p. 20; Stone & Baldoni, 2006). These findings are reinforced by Williams' doctoral thesis that presented a comprehensive assessment of sustainable development activities in New Zealand tertiary institutions. Williams found that campus sustainable development activities relied too much on 'lone ranger' champions, and failed to get adequate support from senior institutional leadership (Williams, 2008).

The 1990 Talloires Declaration (TD) is a ten-point action plan initiated by university administrators for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities. It is noteworthy that no New Zealand university has become a signatory to the Talloires Declaration (Association of university leaders for a sustainable future). In contrast, twenty Australian universities are signatories, eleven in the United Kingdom, and 166 in the United States. One institution in the New Zealand polytechnic sector, Otago Polytechnic, has orchestrated its commitment to sustainable development pioneered through its Chief Executive's membership of The Natural Step (Otago Polytechnic).

This paper analyses Unitec Institute of Technology's strategic response as a tertiary provider to the national educational policy. This paper reveals the dissonance between the policies for institutional academic autonomy, national environmental policy, and the subtle practicalities of negotiating financial investment within the educational sector. The paper concludes with implications for environmental politics and leadership at the institutional and national level, particularly regarding higher education.

## **RESEARCH METHODOLOGY AND APPROACH**

Two research questions emerged early in the outset of this research: Firstly, what is the state of sustainable development and Education for Sustainability at Unitec Institute of Technology and; secondly, to

what extent does the New Zealand government's tertiary education strategy support or hinder the tertiary sector's pursuit of an agenda for Education for Sustainability and sustainable development?

The initial focus was to identify strategic issues - especially as they pertain to sustainability - for the attention of Unitec's top management team. A strategic issue for this purpose is defined as a challenge, threat, weakness, or opportunity that demands top management attention. A strategic issue is framed in such a manner that the problem or challenge is expressed succinctly, that there are several strategic choices available for its resolution, but solutions are not explicitly recommended. Strategic choice, action, and control comes later in the strategic development process.

The information and insights presented in this article result from an overall approach to enquiry that Robson (1993, 2002) defines as Real World Enquiry (RWE). Real World Enquiry is conducted on and with people outside the safe confines of the laboratory. It is 'human' research "not only in the sense of covering studies about people, but also in trying to take account of the advantages accruing from the enquirers themselves being people" (p. xv). RWE is conducted when "one wants to say something sensible about complex, messy, poorly controlled organisational settings" (xvi). RWE contrasts with the traditional - or formal academic - research approach in that RWE focusses on solving problems rather than just gaining knowledge" (Robson, Box 1.1). Although RWE is regarded as of dubious merit by some academics, RWE is conducted in a systematic manner and underpinned by pragmatic 'critical realism': an approach that is a synthesis of features drawn from realism, post-positivism, constructionism, pragmatism, and the ideals of emancipatory research. "Critical realism criticises the social practices that it studies.... If false understandings - and actions based on them - can be identified, this provides an impetus for change" (Bhaskar, 1986, cited in Robson, p 41).

## UNITEC'S CHARTER AND ENVIRONMENTAL SUSTAINABILITY

In 2006, Unitec publicised its charter, a document then required as a basis for negotiating funding with the Tertiary Education Commission. It summarises Unitec's mission, distinctive characteristics, and commitments to several key areas identified by the TEC. The Charter states that Unitec's mission is "to inspire people to discover and apply their intellectual and creative potential and to contribute responsibly to their societies and cultures." Accordingly, Unitec is guided by several values including integrity, innovation, relevance, care, and fairness ... "reflected through the sustainable management of resources, now and in the future...." (Unitec New Zealand, 2006, p. 2).

Elaborating on its values, the Charter states that Unitec is committed to sustainable development. Unitec seeks to apply the principles of sustainability in its teaching and research, and in developing an eco-campus environment that will enhance the learning experience for staff and students alike. In doing so it addresses the issues of investing in sustainability (for example, by teaching and research in business and professional management); designing for sustainability (for example, by teaching and research in architecture, landscape architecture, construction, design, engineering, and the natural sciences) and; advancing sustainable practice (in all disciplines, including trades and technical education). In planning and operating its campuses, and delivering its programmes, Unitec adopted models of natural and physical resource use that are ecologically responsible and economically sustainable. (Unitec, 2006, p. 5)

A strategic audit conducted in 2008 revealed seven 'inextricably interrelated' issues that contributed towards a foundering of Unitec's earlier initiatives in support of environmental sustainability:

- a. Sustainability/'green' issues are rising in importance for Unitec's stake-holders - students, employers, suppliers, and clients.
- b. The government has pronounced an ambitious vision, aims and goals for the New Zealand's sustainable development.
- c. Unitec fails to seek systematic signals from its stake-holders about their needs for education, training, and research for sustainable development.

- d. Unitec is undertaking a period of financial and organisational restructuring to recover from recent financial losses, and projections of future increasing financial deficits.
- e. Unitec's sustainability initiatives - established from the late 1990s through to 2004 - are foundering.
- f. Unitec's implementation of practical steps that demonstrate a commitment to sustainability is ad hoc, isolated, and uncoordinated. There is no strategy, policy, nor organisational culture for sustainability.
- g. There is diffuse but motivated support amongst several dozen staff, students and senior Unitec leadership for a more systematic, orchestrated, and substantive policy for sustainability in terms of teaching, research, advocacy, and campus operational practice. (Mellalieu, 2008b).

In 2008 Unitec conducted a survey of the education and training needs of the Rosebank Business District which included one question about sustainability issues. The survey found that 22 per cent of respondents sought advice on 'Greening the Business' - a level comparable to businesses seeking advice on the categories of 'accounting/finance/law/economics', 'communication and media', and 'research and development', and just a little lower than those businesses requiring advice about marketing and management (Frederick & Chittock, 2008; Mellalieu 2008b). It is noteworthy that whilst Unitec employs about 35 staff teaching the foregoing subjects, none are designated to teach 'greening the business'. As examples of reduced institutional capability, academic programmes in environmental engineering had been terminated, and a programme in horticultural studies, informed by the principles of permaculture and organic practice, was under threat of closure [and later terminated]. Furthermore, the main body of Unitec's Strategic and Investment Plans included one single statement pertaining to environmental sustainability: "[Unitec] will focus on applied research serving educational, social, economic and environmental goals, regionally, nationally and internationally." (Unitec 2007a, b, cited in Mellalieu, 2008b).

At this point it would be apt to determine the role and impact of the Tertiary Education Commission (TEC) has on environmental sustainability in the tertiary sector, and pose the question as to what investment the TEC makes into this area.

## **GOVERNMENT AND TERTIARY EDUCATION STRATEGY**

The Tertiary Education Commission, established formally in 2003, is an agency of the Ministry of Education. TEC is responsible for investment decisions that support the government's strategic direction. New Zealand has an explicit, connected, future-focused Tertiary Education Strategy that directly contributes to broad national, economic and social goals. The Tertiary Education Strategy 2007 – 2012 is a five-year blueprint for a collaborative and co-operative tertiary system that contributes to New Zealand's national goals. (Office of the Minister for Tertiary Education, 2007).

The TES document also incorporated a Statement of Tertiary Education Priorities for 2008 – 2010 (TES/STEP). TES/STEP is the key document that guides TEOs in the development of their own institutional Investment Plans and Strategic Plans. The TES confirms that New Zealanders value its tradition of a broad and inclusive tertiary education system that makes a significant contribution to the economic, social, cultural, and the environmentally sustainable development of our nation" (TES/STEP, 2007, p. 2). From this statement, one anticipates goals for sustainability to be included in the government's agenda for education

Three of the government's thirteen national policy aims pertain to environmental sustainability, that is, almost one-quarter of the total number of aims. This notable proportion of aims is a positive signal that sustainability was recognised as important by the government. In pursuing such goals and aims, the TES document identified several long-term challenges and opportunities that tertiary institutions were anticipated to face, the consequences of which are New Zealand's need to build global awareness; lift productivity and innovation; respond to the changing demographic face of New Zealand; respond to Maori living as Maori in both Te Ao Maori and in wider society and; develop sustainable use of natural resources.

As part of the need to 'Build global awareness' the TES document states that the New Zealand tertiary education system needs to respond and provide education with an increased international dimension that supports New Zealand and New Zealanders to compete internationally and supports New Zealand's contribution to international economic and social development, and environmental sustainability, especially in the Pacific. (p.

9). In terms of the need to ‘Develop sustainable use of natural resources’, TES states that the New Zealand tertiary education system needs to provide knowledge to meet the challenges and opportunities of a changing world and to understand and work within environmental limits. This would imply helping New Zealanders understand and protect its environment because key industries rely on the quality of our natural resources.

The TES therefore elaborated on the government's national goals and aims, and indicated in broad terms the context for how it believes the tertiary education system should contribute. It could therefore be argued that there is an expectation that sustainable development would be an integral component in the TES areas of focus and priorities.

Although the government had high ambitions for the tertiary sector to lead the sustainability development agenda, it did not get any explicit priority from the TEC as investment into sustainable development was minimal.

As a result, Peter Mellalieu (co-author of this paper) sent a letter in 2008 to the then Prime Minister, Helen Clarke. In this letter her public statements of government’s commitment to establishing New Zealand as “a truly sustainable nation” was challenged. Specific mention was made of lack of commitment by the government - through the Tertiary Education Commission (TEC) - to establish an investment priority for sustainable development and education for sustainability. An explanation of this weakness in the government’s investment priority regarding education for sustainability was sought and government was urged to implement an appropriate correction to the Tertiary Education Strategy and Statement of Tertiary Education Priorities (MOE, 2007) to remedy what is regarded as a serious defect in policy activation. (Letter to Prime Minister Helen Clark from Mellalieu, 2008 March 7).

A reply was received from Hon. Pete Hodgson, MP for Dunedin North, Minister for Economic Development, Minister for Tertiary Education, and Minister of Research, Science and Technology. In summary, the Minister confirmed that the government was “committed to making considerable strides in addressing the sustainability challenges ahead of the nation.” As an example he cited the establishment of a \$2 billion ‘Fast Forward’ fund focussed on making New Zealand’s pastoral and food industries “environmentally and economically sustainable.” He pointed out that there were examples of tertiary courses in environmental management and science throughout the country, and that some campuses had adopted sustainable practices across their campuses. He highlighted the example of Otago Polytechnic which embeds education for sustainability in all its courses.

Turning to the crucial issue of the Tertiary Education Priorities, he argued that they had been “identified and strongly supported by the majority of stake-holders responding to consultation in 2006”, thereby giving the government “confidence that the priorities were where the most urgent attention for change should be focussed over the next three to five years [2007-2012]”. Regarding the TES/STEP areas of focus for supporting social, cultural, and environmental outcomes, he emphasised the government’s desire to achieve strong connections between TEOs and the communities they serve. He noted the TEC’s ‘Investment Guidance’ document outlined the engagement process between TEOs and the TEC required for developing TEOs’ Investment Plans. Specifically, the process “requires TEOs to actively engage with their communities in order to contribute to wider social and economic outcomes.”

The Minister concluded by remarking that “the government is not in a position to set curriculum for the tertiary sector, as sections 160 and 161 of the Education Act provide legislative protection for the academic freedom and institutional autonomy of tertiary institutions”. In essence, the Minister indicated the opportunity for TEOs to bring EfS into their curricula through gaining support from their communities and stake-holders. As the audit of sustainability at Unitec identified, there had been no explicit, systematic approach for identifying opportunities for EfS through consultation with its communities.

## **FINANCIAL AND MANAGERIAL RESTRUCTURING AT UNITEC**

In mid-2008 Unitec undertook a major organisational restructuring which included closing down several academic programmes and facilities. In addition, about one half of the senior and upper management left the organisation with approximately 50 people being made redundant. A key short term aim was to replace a convoluted matrix-like organisational structure with a leaner structure with more clearly defined 'command-and-control' managerial responsibilities. An equally important aim was to avert the forecast increase in financial losses that had begun to develop since 2005.

The newly appointed Unitec senior leadership developed a comprehensive corporate strategy in 2009 wherein it signalled that 'environmental sustainability' was one of twenty goals that Unitec intended to pursue. The importance of environmental sustainability at Unitec further surfaced at the annual internal teaching, learning, and research symposium where approximately two dozen staff presented poster displays of their research and teaching for sustainability. This was followed by a one-day 'grass roots' hui (workshop), involving some forty staff who developed a set of sustainability proposals for Unitec's new senior leadership (Mellalieu, 2009c; 2010b, c).

In early 2010, the senior leadership appointed the Executive Dean of Unitec's Faculty of Creative Industries and Business, Leon de W Fourie (co-author of this paper) to establish and head-up a project team to draw from the ideas of the hui a specific funding and investment plan for integrating sustainability into Unitec's teaching, research, advisory services, and campus operations. By December 2010, the strategy, project plan and budget had gained senior executive approval and provisional funding for 2011 (Unitec, 2010b; Clarke, Preston, Phillips & Fourie, 2010; Mellalieu, 2010b, c).

## **UNITEC'S ENVIRONMENTAL SUSTAINABILITY RESPONSE**

Towards the end of 2008 the National Party got voted in and the new Tertiary Education Strategy 2010 stated that high quality tertiary education is central to helping New Zealand achieve its economic, social, cultural, and environmental goals (TES 2010, p. 3). One of the elements of the 'vision' for the tertiary education system is that it should "produce high-quality research to build on New Zealand's knowledge base, respond to the need of the economy, and address environmental and social challenges" (p. 6). This element of the vision is later defined in TES 2010 as being one of the core roles of NZ universities, and Wānanga - but not the polytechnic sector in which Unitec is located (p. 18). The term 'environment' is used once more - almost as a footnote - in an appendix to the TES outlining the trends and context for the chosen strategy:

How did Unitec present to the Tertiary Education Commission its justification for its proposed expenditure on environmental strategy? Unitec's draft Investment Plan 2011-2013 made one reference to meeting the new government's policy aim "To improve the environment and community well-being" (Unitec, 2010a, p. 5). This is one of six outcomes targeted for learners and Unitec's community. Specifically, the TEC's new Sector Planning and Accountability Framework identified several national level outcomes and indicators. 'Environmental Management' is one outcome component. However, the actual indicators supplied by the Ministry of Education intended for use as accountability measurement are limited to economic and social indicators: earnings gained by new graduates; life satisfaction; standard of living; tolerance; social connection; mental and physical health; and social & community (Unitec, 2010a, p. 38).

Finally, Unitec's financial plan presents a table of Key Performance Indicators (KPIs) to be reported in an institutional Statement of Service Performance. The sole reference to environmental sustainability is presented under the component 'Impacts' as "Progressive improvement in resource consumption off 2010 base as per Unitec Environmental Strategy 2010 - 2015" (Unitec, 2010a, p. 39). 'Improving resource consumption' is a rather narrow interpretation of what an environmental strategy might seek to achieve. That thrust to improve resource consumption reflects what any enterprise - for profit or not-for-loss - would seek to pursue in the normal pursuit of its activities. In practice, the main budget line items were identified as energy management monitoring and control systems for several campus buildings, the employment of an environmental management officer, and a \$100,000 fund to seed pilot initiatives by staff, students, and suppliers (Unitec 2010b).

## **AN ORCHESTRATED CONSPIRACY OF IGNORANCE?**

It is clear that the tertiary education strategy under the previous Labour government (1999 - 2008) was - at best - ineffective in its support for TEOs to pursue an agenda for EfS and sustainable development. The government at that time had espoused vigorously an aim to balance economic progress with care for the natural environment. The government's Tertiary Education Strategy 2007-2012 affirmed that the New Zealand tertiary education system needed to assist the country's need to develop sustainable use of natural resources for several reasons. However, the vision, aims, and goals of the strategy were not translated into an explicit investment funding priority for the tertiary education sector. Furthermore, there were no criteria against which an institution's achievements against sustainability were to be monitored and evaluated.

In essence, the Labour government's Tertiary Education Strategy placed no priority for investment in sustainable development or Education for Sustainability within Tertiary Educational Organisations. Consequently, the senior leadership of a typical tertiary educational organisation, Unitec, saw no need for investing in a goal for sustainable development in its strategy. In Unitec's defence, the institution was faced with the need for financial and organisational restructuring - as did many other organisations when the global financial crisis later appeared.

The new National government's Minister for Tertiary Education was presented with an official Briefing from the Ministry for Education that made absolutely no reference to EfS and sustainable development as a priority or concern. This significant de-emphasis was reflected subsequently in the Tertiary Educational Strategy 2010-2015 that removed the aims for and rationale for EfS in the tertiary sector that had claimed a high - but effectively 'green-wash' - profile in the previous Labour administration's TES 2007-2012.

In contrast to the retreat in government's policy vision for EfS in the tertiary sector, Unitec's senior leadership over the same period responded positively to the increasingly orchestrated action by about 40 staff. Ultimately, a comprehensive strategy for environmental sustainability was crafted. A key outcome was the formulation of a strategic plan integrated into the institution's investment planning cycle with a significant budget committed for the 2011 financial year. Nevertheless, the principal justification for the strategy was narrowly stated in the institution's draft Investment Plan for negotiation with the Tertiary Education Commission as a strategy for 'improving resource consumption' [sic].

This case illustrates how the 1999 - 2008 New Zealand Labour government's vision, aims, and goals for sustainable development were not connected to practical investment, measurement, and control policies in the tertiary education sector. Whilst some tertiary educational organisations offered courses and research programs on topics related to sustainable development, the extent comes nowhere near the recommendation by New Zealand's Parliamentary Commissioner for the Environment that "all tertiary graduates leaving TEOs should possess a core understanding of ... environmental sustainability as a result of institutes encouraging Education for Sustainability throughout their organisations".

The failure to build 'connection' between strategic vision, aims, goals, investments, performance measurement, and controls is a fundamental flaw in any strategic management or policy making process.

The case of New Zealand reflects the results of a recent OECD review of Education for Sustainable Development. The review found several recurring barriers to greater adoption of EfS, including the inflexibility of education systems, and problems in promoting interdisciplinary approaches (OECD, 2008).

The 'rise and fall' of government policy for Education for Sustainability in New Zealand condemns graduates of Tertiary Educational Organisations to the consequences of what appears to be a 'conspiracy of ignorance' orchestrated by administrators in the Ministry of Education, the Tertiary Education Commission, and the senior leadership of some tertiary educational organisations.

## **MANAGEMENT IMPLICATIONS AND CONCLUSIONS**

Given the increasing scientific and economic evidence - and public acceptance - that the natural environment requires humanity to take an alternative approach to its care, whose responsibility is it to act? What actions should they take? Will the 'invisible hand' of the free market act in sufficient time to respond appropriately to the need to 'save the planet'? Will sovereign governments enact appropriate legislation and fund effective policies? What are the appropriate roles for the tertiary sector?

It can be argued that tertiaries - independent of government tertiary investment priorities - must consider seriously adopting a proactive role towards adopting a policy stance along the lines proposed by New Zealand's Parliamentary Commissioner for the Environment.

Boven (2000; 2003) examined why so little effective policy action has emerged in response to calls for sustainable development, limitations on emissions, and protection of the environment. He concluded that the key reason we have seen ineffective action is the dominance of ideas that have hitherto been both successful and therefore flourished and persisted. In particular, the set of dominant economic ideas (or paradigm) that lie at the foundation of our policy prescriptions were developed when there were huge opportunities for economic development, great benefits from competition, and few environmental constraints. Boven further notes that governments will not regulate adequately for sustainability because governments in democracies are "followers not leaders ... Governments will generally follow business leadership because businesses are motivated, resourced and organised. Therefore, when a proposed environmental protection policy is counter to the profit maximising interests of businesses that policy is not likely to be implemented" (Boven, 2000, p. 5). Boven's conclusion is well exemplified by the two cases presented in this paper.

Since we cannot rely on businesses or governments to consider adequately the environment, that leaves the task to individuals. However, the dominant paradigm suggests that individuals are motivated only by consumption, and that if they did care about the risk of crisis they could not achieve anything useful. Boven explores how changes in individuals' values could influence both their consumption patterns - and who they vote for. Those changes could lead - perhaps - to appropriate change. Finally, he concludes that professionals and opinion-leaders are the vital actors for altering peoples' values, since they help establish subgroups who can lend support to effective action by individuals. From where would appropriately informed professionals and opinion-leaders emerge? It can be concluded that they should be expected to emerge from a nation's universities and other tertiary educational organisations.

The New Zealand Education Act provides legislative protection for the academic freedom and institutional autonomy of tertiary institutions. Consequently, tertiaries have the freedom - if not the financial resources - to embark on programmes of sustainable development and EfS. However, students invest their time and financial resources in their higher education. Students' investment in higher education is made with their expectation of higher incomes and/or higher work-life satisfaction. To what extent can courses in sustainable development contribute to students' expectations? Should such courses be compulsory? To what extent is knowledge of sustainable development a prerequisite to a modern graduates' ability to be a 'critic and conscience of society'?

Despite ineffective - and subsequent withdrawal - of support for Education for Sustainability in New Zealand's Tertiary Education Strategies, this conclusion reaffirms that of New Zealand's Parliamentary Commissioner for the Environment that "ALL tertiary graduates leaving tertiaries should possess a core understanding of ... environmental sustainability as a result of institutes encouraging Education for Sustainability throughout their organisations" (PCE, 2007, p. 8).

The question is how should that aim be achieved? As a minimum it is currently in consideration that all Unitec students should study at least one course (approximately 150 hours of engagement) focussed specifically on sustainability issues, further reinforced by elaboration specific to a student's selected discipline. New Zealand examples are presented in Bould (2007) (for design students), and Dyer and Harnisch (2000) (for management students). Auckland University delivers a Masters of Architecture in Sustainable Design. Since 1992, Massey University offered a Bachelor of Technology in Environmental Technology and Sustainable Energy and a Bachelor of Resource and Environmental Planning.

However, these curriculum examples are insufficient to make an effective widespread impact beyond the few students who study these specialist courses. Education for Sustainability should be mainstreamed into tertiary education as a generic academic literacy comparable to how many students are introduced to evidence-based critical writing and statistical reasoning. It is also argued that engaging with EfS is a crucial trans-disciplinary literacy that provides the basis for creating the 21st century innovation architecture underpinning a nation's strategic core competencies (Mellalieu, 2009a). These strategic core competencies are founded on emerging green technologies such as biomimicry, industrial ecology, green chemistry, renewable energy, green nanotechnology, radical resource productivity, whole system design, and sustainability (The Natural Edge Project, 2004). As with the earlier establishment of strategic core competencies built on the steam and internal combustion engines, applied chemistry, aeronautics, electronics, and information technology green-based core competencies will take decades for a company, region, or nation to establish and exploit competitively.

## REFERENCES

- Bawden, T. (2010, September 28). *Lloyds' profits cut by 53% amid insurance claims from natural disaster*. Business - The Guardian. Retrieved February 23, 2011, from <http://www.guardian.co.uk/business/2010/sep/28/lloyds-insurance-profits-halved>
- Bertram, G., & Terry, S. (2010). *The Carbon Challenge: New Zealand's Emissions Trading Scheme*. Series 21 - Into a New Century. Wellington, New Zealand: Bridget Williams Books.
- Boven, R. (2000). *The role of ideas in managing trade-offs between economic and environmental objectives*. In P. J. Mellalieu (Ed.), Proceedings of the Annual Educators Conference of the New Zealand Strategic Management Society, 2 (Vol. 1). Presented at the Strategies for sustainability and success: the role and impact of strategic thinking in the development of sustainable enterprise, Canterbury University, Christchurch: New Zealand Strategic Management Society. Retrieved from [http://web.me.com/petermellalieu/NZSMS/Publications/Entries/2000/2/3\\_Rick\\_BOVEN:\\_The\\_role\\_of\\_ideas\\_in\\_managing\\_trade-offs\\_between\\_economic\\_and\\_environmental\\_objectives.html](http://web.me.com/petermellalieu/NZSMS/Publications/Entries/2000/2/3_Rick_BOVEN:_The_role_of_ideas_in_managing_trade-offs_between_economic_and_environmental_objectives.html)
- Boven, R. (2003, February). *Choosing our future: The role of ideas in managing trade-offs between economic and environmental objectives* (Doctor of Philosophy in Management Science and Information Systems). University of Auckland. Retrieved from <http://hdl.handle.net/2292/291>
- Clarke, C., Preston, L., Phillips, D., & Fourie, L. (2010, November 30). *You Can Teach A Young Dog New Tricks: Starting At The Beginning—Sustainable Education*. Presented at the 4th International Conference on Sustainability Engineering and Science, Faculty of Engineering, University of Auckland, Auckland, New Zealand. Retrieved from <http://nzsses.auckland.ac.nz/conference/2010/presentations/Clarke-Preston-Phillips-Fourie.pdf>
- Collins, E., Lawrence, S., Roper, J., & Haar, J. (2010). *Business sustainability practices during the recession: The Growing Sustainability Divide*. Hamilton, NZ: Waikato Management School, University of Waikato. Retrieved from [www.management.ac.nz/sustainabilitydivide](http://www.management.ac.nz/sustainabilitydivide)
- Crosbie, S. (2009, October 29). *Enviroschools to take a funding hit*. Manawatu Standard/Stuff.co.nz. Palmerston North, NZ. Retrieved from <http://www.stuff.co.nz/manawatu-standard/news/feilding-herald/3011189/Enviroschools-to-take-a-funding-hit>
- Cumming, G. (2010, January 6). *New Zealand: 100 per cent pure hype*. National - NZ Herald News. Retrieved February 14, 2011, from [http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=10618678](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10618678)
- Energy and Environmental Management (EAEM) Magazine. (2011, January 11). *A record year for natural disasters - and insurance claims*. Energy and Environmental Management (EAEM) Magazine. Retrieved February 23, 2011, from [http://www.eaem.co.uk/news/archive/a\\_record\\_year\\_for\\_natural\\_disasters\\_-\\_and\\_insurance\\_claims](http://www.eaem.co.uk/news/archive/a_record_year_for_natural_disasters_-_and_insurance_claims)

Environmental Vulnerability Index (EVI). (n.d.). EVI Scores. Environmental Vulnerability Index. Retrieved January 29, 2011, from [http://www.vulnerabilityindex.net/EVI\\_Country\\_Profiles.htm](http://www.vulnerabilityindex.net/EVI_Country_Profiles.htm)

Fallow, B. (2011, January 31). *Drive for 'green growth' initiatives*. NZ Herald News. Retrieved January 31, 2011, from [http://www.nzherald.co.nz/brian-fallow/news/article.cfm?a\\_id=16&objectid=10703103](http://www.nzherald.co.nz/brian-fallow/news/article.cfm?a_id=16&objectid=10703103)

Formway Furniture: *Leaders in design*. (n.d.). TechNZ - Foundation for Research, Science & Technology. Retrieved from [http://www.frst.govt.nz/files/images/Manufacturing\\_Formway.pdf](http://www.frst.govt.nz/files/images/Manufacturing_Formway.pdf)

Frederick, H., & Chittock, G. (2008). *Human resource strategies for training and education in the Rosebank business precinct* (No. Final) (p. 75). Auckland, NZ: Unitec Institute of Technology.

Global Warming Art. (n.d.). *Temperature Gallery*. *Global Warming Art*. Retrieved February 24, 2011, from [http://www.globalwarmingart.com/wiki/Temperature\\_Gallery](http://www.globalwarmingart.com/wiki/Temperature_Gallery)

Global Warming Art. (n.d.). *About Global Warming Art*. Retrieved February 24, 2011, from [http://www.globalwarmingart.com/wiki/Global\\_Warming\\_Art>About](http://www.globalwarmingart.com/wiki/Global_Warming_Art>About)

Gore, A. (2006). *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It*. Emmaus, PA: Rodale Press.

Gore, A. (2009). *Our Choice: A Plan to Solve the Climate Crisis*. Emmaus, PA: Rodale Books.

Guggenheim, D. (2006). *An Inconvenient Truth*. Lawrence Bender Productions. Retrieved from [http://nymag.com/movies/listings/rv\\_52847.htm](http://nymag.com/movies/listings/rv_52847.htm)

Hardin, G. (1968). *The Tragedy of the Commons*. *Science*, 162(3859), 1243 -1248.  
doi:[10.1126/science.162.3859.1243](https://doi.org/10.1126/science.162.3859.1243)

ICF International. (2007). *Analysis of the potential and costs for greenhouse gas emission reductions*. London: ICF International.

ICF International. (2008). *Analysis of the potential and costs for greenhouse gas emission reductions*. London: ICF International.

Key, J. (2009, September 26). *Statement to the Opening of the 64th General Assembly - Rt Hon John Key*. *John Key - Prime Minister, NZ*. Retrieved March 3, 2011, from <http://www.johnkey.co.nz/archives/813-Statement-to-the-Opening-of-the-64th-General-Assembly.html>

Lloyd, W. F. (1833). *Two lectures on the checks to population*. Oxford, UK: J.H. Parker.

Lomborg, B. (2001). *The Skeptical Environmentalist*. Cambridge, UK: Cambridge University Press.

Lomborg, B. (2004). *Global crises, global solutions*. Cambridge, UK: Cambridge University Press.

Lomborg, B. (2006). *How to Spend \$50 Billion to Make the World a Better Place*. Cambridge, UK: Cambridge University Press.

Maani, K., & Cavana, R. (2007). *Systems Thinking, System Dynamics: Managing Change and Complexity*. Auckland, NZ: Pearson Education New Zealand.

McLaren, J. (2008). *Life Cycle Management - Sustainability and society bridging piece [Case study of Formway Furniture]*. Wellington, New Zealand: Landcare Research. Retrieved from [http://www.landcareresearch.co.nz/publications/researchpubs/LCM\\_Briefing.pdf#search=%22mclaren%22](http://www.landcareresearch.co.nz/publications/researchpubs/LCM_Briefing.pdf#search=%22mclaren%22)

Mellalieu, P. J. (1992). *Auditing the Strategic Plan*. *Managerial Auditing Journal*, 7(1), 11-16.  
doi:[10.1108/EUM000000001772](https://doi.org/10.1108/EUM000000001772)

Mellalieu, P. J. (2008a, March 31). *Investing in education for eco-sustainability: A 'fast follower' strategic posture for Unitec Institute of Technology: A SENEX proposal - Internal memo to Senior Executive*. Unitec Institute of Technology.

Mellalieu, P. J. (2008b). *Preparing to engage in education for sustainability: A critique of the New Zealand tertiary education strategy*. In *Higher Education Research and Development Society of Australasia conference proceedings*. Presented at the Engaging Communities: HERDSA 2008 conference, Rotorua: HERDSA.  
Retrieved from  
[http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/3/3\\_Travels\\_through\\_the\\_east.html](http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/3/3_Travels_through_the_east.html)

Mellalieu, P. J. (2008c). *Investing in education for eco-sustainability: A 'fast follower' strategic posture for Unitec Institute of Technology*. Unitec Business School Working Paper Series. Auckland: New Zealand Centre for Innovation & Entrepreneurship, Unitec Institute of Technology. Retrieved from  
[http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/6/6\\_Investing\\_in\\_education\\_for\\_eco-sustainability%3A\\_A\\_%E2%80%98fast\\_follower%E2%80%99\\_strategic\\_posture\\_for\\_Unitec\\_Institute\\_of\\_Technology.html](http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/6/6_Investing_in_education_for_eco-sustainability%3A_A_%E2%80%98fast_follower%E2%80%99_strategic_posture_for_Unitec_Institute_of_Technology.html)

Mellalieu, P. J. (2008d). *Successful implementation of a community of practice for eco-sustainability at Unitec Institute of Technology*. Unitec Business School Working Paper Series. Auckland: New Zealand Centre for Innovation & Entrepreneurship, Unitec Institute of Technology. Retrieved from  
[http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/8/11\\_MELLALIEU%3A\\_a\\_Community\\_of\\_Practice\\_for\\_Eco-sustainability.html](http://web.mac.com/petermellalieu/UBSpublications/Projects/Entries/2008/8/11_MELLALIEU%3A_a_Community_of_Practice_for_Eco-sustainability.html)

Mellalieu, P. J. (2009a). *Shifting frontiers, new priorities, creating pathways: elevating the case for tertiary education for sustainable development in New Zealand*. In *New Zealand Tertiary Education Summit 2009 (TES)*. Presented at the New Zealand Tertiary Education Summit 2009, Wellington, New Zealand: Bright\*Star Conferences & Training Ltd. Retrieved from  
[http://web.mac.com/petermellalieu/Teacher/Examples/Entries/2009/5/7\\_Elevating\\_the\\_case\\_for\\_tertiary\\_education\\_for\\_sustainability.html](http://web.mac.com/petermellalieu/Teacher/Examples/Entries/2009/5/7_Elevating_the_case_for_tertiary_education_for_sustainability.html)

Mellalieu, P. J. (2009b). *Advancing engagement in education for sustainability: A critique of the New Zealand tertiary education strategy 2007-2012*. In *Sustainability Conference 2009: The Sustainability Debate – The Way Forward*. Presented at the Sustainability Conference 2009: The Sustainability Debate – The Way Forward, Albany, Auckland: Massey University: Massey University. Retrieved from  
[http://web.me.com/petermellalieu/Teacher/Blog/Entries/2009/11/12\\_Advancing\\_engagement\\_in\\_education\\_for\\_sustainability.html](http://web.me.com/petermellalieu/Teacher/Blog/Entries/2009/11/12_Advancing_engagement_in_education_for_sustainability.html)

Mellalieu, P. J. (2009c, November 24). *Unitec and sustainability since 2005: How we got to where we are*. Presented at the *Unitec Community of Practice for Sustainability Hui*, Te Noho Kotahitanga Marae, Unitec Institute of Technology. Retrieved from  
[http://web.me.com/petermellalieu/Teacher/Blog/Entries/2009/11/24\\_Unitec\\_and\\_sustainability\\_since\\_2005%3A\\_How\\_we\\_got\\_to\\_where\\_we\\_are.html](http://web.me.com/petermellalieu/Teacher/Blog/Entries/2009/11/24_Unitec_and_sustainability_since_2005%3A_How_we_got_to_where_we_are.html)

Mellalieu, P. J. (2010a). *Unitec BSNS 7340 Strategy for Sustainability. Course Handbook and Syllabus*. Auckland, NZ: Unitec New Zealand. Retrieved from <http://www.scribd.com/doc/28723688/Course-Handbook-and-Syllabus-Strategy-for-Sustainability-Unitec-BSNS-7340#fullscreen:on>

Mellalieu, P. J. (2010b, May 12). *Unitec's environmental sustainability strategy: Introducing the UnitEcoPrism*. Presented at the Unitec EcoSustainability Project Team, Oakridge House, Unitec Institute of Technology, Auckland. Retrieved from  
[http://web.me.com/petermellalieu/Teacher/Blog/Entries/2010/5/12\\_Unitec%E2%80%99s\\_environmental\\_sustainability\\_strategy%3A\\_Introducing\\_the\\_UnitEcoPrism.html](http://web.me.com/petermellalieu/Teacher/Blog/Entries/2010/5/12_Unitec%E2%80%99s_environmental_sustainability_strategy%3A_Introducing_the_UnitEcoPrism.html)

- Mellalieu, P. J. (2010c, September 6). *A history of environmental sustainable development (ESD) at Unitec Institute of Technology*. Auckland: Unitec Institute of Technology.
- Mellalieu, P. J. (2011). *Unitec BSNS 5391 Innovation and Entrepreneurship. Course Handbook and Syllabus*. Auckland, NZ: Unitec New Zealand. Retrieved from <http://www.scribd.com/doc/36191676/Course-Handbook-and-Syllabus-Unitec-BSNS-5391-Innovation-and-Entrepreneurship>
- Ministry for the Environment. (2007). *Sustainable Design at Formway Furniture (INFO 182)*. Ministry for the Environment. Retrieved from <http://www.mfe.govt.nz/publications/sus-dev/case-study-sustainable-design-at-formway-furniture-feb07/>
- Ministry of Education. (2002). *Tertiary education strategy 2002-2007*. Wellington, New Zealand.
- Ministry of Education. (2008). *Briefing to the Incoming Minister*. Wellington, New Zealand: Ministry of Education.
- Ministry of Education. (2009, September 29). *Draft Tertiary Education Strategy 2010 - 2015*. Ministry of Education. Retrieved from <http://www.minedu.govt.nz/theMinistry/Consultation/TertiaryEducationStrategyDraft.aspx> 2011, from [http://www.nzherald.co.nz/business/news/article.cfm?c\\_id=3&objectid=10673931](http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10673931)
- Office of the Minister for Tertiary Education, (2009). *Tertiary Education Strategy 2010–15*. Wellington, New Zealand: Office of the Minister for Tertiary Education,
- Organisation for Economic Co-operation and Development (OECD). (2008). *Workshop on Education for Sustainable Development [Summary]. Presented at the Workshop on Education for Sustainable Development, Paris: Organisation for Economic Co-operation and Development (OECD)*. Retrieved from [http://www.oecd.org/document/16/0,3746,en\\_2649\\_34267\\_40771408\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/16/0,3746,en_2649_34267_40771408_1_1_1_1,00.html)
- Otago Polytechnic. (n.d.). *Sustainable Practice. Otago Polytechnic*. Retrieved July 2, 2009, from <http://www.otagopolytechnic.ac.nz/sustainability/>
- Parliamentary Commissioner for the Environment. (2007). *Outcome evaluation: See Change - Learning and education for sustainability*. Wellington, New Zealand: Parliamentary Commissioner for the Environment. Retrieved from <http://www.pce.parliament.nz/publications/all-publications/outcome-evaluation-see-change-learning-and-education-for-sustainability-2>
- Springett, D., & Kearins, K. (2001). *Gaining legitimacy? Sustainable development in business school curricula*. *Sustainable Development*, 9(4), 213-221. doi:[10.1002/sd.164](https://doi.org/10.1002/sd.164)
- Stone, L. & Baldoni, M. (2006). *Progress and pitfalls in the provision of tertiary education for sustainable development in New Zealand*. Sustainability review: Background papers. Wellington, NZ: Parliamentary Commissioner for the Environment. Retrieved from <http://www.pce.parliament.nz/assets/Uploads/Reports/pdf/tertiary.pdf>
- Stubbs, W., & Cocklin, C. (2008). *Teaching sustainability to business students: shifting mindsets*. *International Journal of Sustainability in Higher Education*, 9(3), 206 - 221. doi:[10.1108/14676370810885844](https://doi.org/10.1108/14676370810885844)
- Tertiary Advisory Monitoring Unit. (2002a). *2002 Polytechnic Sector Overview: Profile Report*. Wellington, New Zealand: Tertiary Advisory Monitoring Unit. Retrieved from <http://www.tec.govt.nz/Documents/Reports%20and%20other%20documents/tamu-polytechnic-sector-overview-2001.doc>
- Tertiary Advisory Monitoring Unit. (2002b). *2001 University Sector Overview: Profile Report*. Wellington, New Zealand: Tertiary Advisory Monitoring Unit. Retrieved from <http://www.tec.govt.nz/Documents/Reports%20and%20other%20documents/tamu-university-sector-overview-2001.doc>

Tertiary Education Commission (TEC). (2009, October 27). *Tertiary education reforms*. Tertiary Education Commission (TEC). Retrieved January 21, 2011, from <http://www.tec.govt.nz/About-us/What-we-do/History/Tertiary-education-reforms/>

Tolley, A. (2008, December 11). *Challenges in Education briefing*. beehive.govt.nz. Retrieved January 27, 2011, from <http://www.beehive.govt.nz/release/education-bims-holding-space>

Unitec New Zealand. (2006). *Charter: 1 January 2007 - 31 December 2009*. Auckland, NZ: Unitec New Zealand.

Unitec New Zealand. (2007a). *The Unitec Investment Plan 2008-2010*. Auckland, NZ: Unitec New Zealand.

Unitec New Zealand. (2007b). *Vision and strategy*. Auckland, NZ: Unitec New Zealand.

Unitec New Zealand. (2010a). *Unitec Investment Plan 2011-2013 [draft]*. Auckland, NZ: Unitec New Zealand.

Unitec New Zealand. (2010b, December 6). *Environmental Sustainability Strategy - "Getting on TRACK for sustainability"*. Unitec Institute of Technology. Retrieved from <http://thenest.unitec.ac.nz/?350C3767-6427-4A21-A43E-CAF2DB8B37F9>

Unitec New Zealand. (n.d.). *History. Unitec New Zealand*. Retrieved January 21, 2011, from <http://www.unitec.ac.nz/?B8F6A6BE-4E9C-49BD-8750-AF508A580E28>

University Leaders For A Sustainable Future. (2010, January 23). *Talloires declaration institutional signatory list. Association of university leaders for a sustainable future*. Retrieved February 2, 2011, from [http://www.ulsf.org/programs\\_talloires\\_signatories.html](http://www.ulsf.org/programs_talloires_signatories.html)

University Leaders For A Sustainable Future. (n.d.). *Talloires Declaration. University Leaders For A Sustainable Future*. Retrieved February 2, 2011, from [http://www.ulsf.org/programs\\_talloires.html](http://www.ulsf.org/programs_talloires.html)

University of Auckland. (2007). *Environmental Engineering: 2007 Course Prescription*. Retrieved from [http://www.auckland.ac.nz/uoa/fms/default/uoa/Students/Current%20Students/academic%20life/prescriptions\\_by\\_subject/enveng.pdf](http://www.auckland.ac.nz/uoa/fms/default/uoa/Students/Current%20Students/academic%20life/prescriptions_by_subject/enveng.pdf)

Williams, P. M. (2008). *University leadership for sustainability: an active dendritic framework for enabling connection and collaboration*. Victoria University of Wellington. Retrieved from [http://www.futuresteps.co.nz/PhD\\_University\\_Leadership\\_for\\_Sustainability.pdf](http://www.futuresteps.co.nz/PhD_University_Leadership_for_Sustainability.pdf)

Yale Center for Environmental Law & Policy, & Center for International Earth Science Information Network at Columbia University. (n.d.). New Zealand. *Environmental Performance Index 2010*. Retrieved January 29, 2011, from <http://epi.yale.edu/Countries/NewZealand>

# **EMPLOYABILITY IN HIGHER EDUCATION IN A NON-WESTERN CONTEXT: THE IMPACT OF GENDER, AGE AND JOB STATUS**

**Gbolahan Gbadamosi, University of Worcester, United Kingdom  
Ayotunde Adebayo, University of Lagos, Nigeria**

## **ABSTRACT**

*The study explored the impact of students' gender, age and job status on employability and employment in a non-Western context. Respondents were 183 students in a Nigerian university. Results revealed that majority of respondents considered key skills and competences; work experience; gender and age and as key factors in employability, while ethnic group and religion are much less important factors in getting a job. Less than half considered foreign language skills as important. For employability, significantly more males than females indicated problem solving skills as important, while more females considered written communication and foreign degree/qualification as more important than males. The multivariate analyses did not reach significant levels. Policy implications and suggestions for future study were discussed.*

## **INTRODUCTION**

Employability has remained a very topical issue particularly in the developed world with a lot of concerns being raised about the importance of ensuring that students in higher education (HE) are adequately prepared with skills that would make them employable on graduation. Worldwide, many students are keen on having the right skills that would make them employable and reduce the potential threat of unemployment. Equally many academics are keen on inculcating the appropriate skills in their tutees that would make them attractive to the world of work. Employers have also raised concerns about both the inappropriateness of skill preparations in HE as well as having potential employees with the right skills that will enable them hit the ground running on employment. On their part, governments are often interested in reducing the level of unemployment which has risen unabated across the world, particularly since the global financial crisis that started in the USA around 2007. Many governments not only want graduates to have appropriate skills that would make them employable, they also urge HE managers to critically evaluate courses on offer so that what they offer aligns appropriately with what industry demands. Finally, most managers of HE engage on all fronts with students, academics, tutors and employers to raise the employability profile of their graduates. In a nutshell, all the stakeholders in the HE sector – students, academic staff, HE managers, employers, government and other policy makers and perhaps even sponsors including parents – demonstrate a commitment to the ideals of high levels of employability.

Employability is often discussed as a matter of international relevance and the development of graduates' employability is seen as vitally important. Yorke and Knight (2007) interpreted 'employability' in terms of a graduate's (or other awardee's) suitability for appropriate employment. This being clearly distinguished from actually getting the job which may vary depending of several factors including but not limited to the state of the economy and patterns of discrimination in the labour market, ability and willingness of the graduate to relocate with job availability, shortages in skills and particularly specialisation of the graduate among others. Interestingly, academics have manifested a range of attitudes towards employability from stark indifference to extreme optimism (Yorker & Knight, 2007).

Employability is the responsibility of all and the stakeholders involved are many as reflected by the research output in this area over the last years: employers (Clarke, 1997; Purcell et al., 2002); students (Moreau

& Leathwood, 2006; Tomlinson, 2007); academic staff (Lindberg, 2007; Yorke & Knight, 2007); higher education institutions (HEIs) (Smith et al., 2007); the government (Morley, 2001) and perhaps parents. In the UK, for instance, HEIs are now charged with promoting graduate employability with their performances monitored (Knight & Yorke, 2003). Employability is high on the HE agenda and many universities not only embed it within their curriculum (Atlay & Harris, 2000; Harvey et al., 2002; Smith et al., 2007) but also indicate it on their websites and brochures as evidence of why their HEI should be applicant's choice. It equally stands high on the government agenda (Moreau & Leathwood, 2006). Nearly 15 years ago, Clarke (1997) in an executive summary of interviews with 40 CEOs on what employability means highlighted a host of qualities expected of an employable person. Harvey (2001) suggests that it remains difficult to measure and define. The emerging indications from the literature suggest that employability is a complex concept or one whose definition has been elusive. In this paper we argue that the concept is perhaps better understood from the perspective of the particular stakeholder under focus and what seems to be missing from our knowledge in this area is the convergence of thoughts across different stakeholder perspective rather than a mere lack of consensus within particular stakeholders. However, there is a consensus that irrespective of which stakeholder's perspective one takes, employability is about being able to place graduates or other awardees on a job with their current level of skills preparedness.

Another stream of discourse are academics who argue, justifiably so, that HE is being repositioned as an industry as opposed to its hitherto social institution status (e.g. Gumpert, 2001) and thus a sub-system of the economy creating a situation whereby HEIs both mediate and manage government policy (Morley, 2001). Washer (2007) argue that graduates need to be equipped with skills that they can use to 'sell themselves' to employers even though he concedes that some academics argue that the skills agenda threatens the concept of a liberal education and devalues traditional notions of a university degree. It is also evident that employers are not satisfied with the quality of young people and graduates coming into the labour market and consider this a failure of education and training (Clarke, 1997). Nevertheless, employers share part of this blame because of their failure to forecast and communicate their requirements regarding young people to the education and training system.

Gender differences in employability have attracted research attention as have the impact of the world economic downturn of the last few years. Some research has shown, for instance, that women graduates, graduates from 'new' universities, minority ethnic groups and/or working-class backgrounds are likely to benefit less from having a degree in terms of both employment opportunities and salary (Archer et al., 2003; Moreau & Leathwood, 2006). Unemployment was also associated with class of degree, gender, age and ethnicity (Moreau & Leathwood, 2006). The influence of gender remains even among those graduates who have a first class degree (Smetherham, 2004). Similarly, changes in the global economy, the level of competitiveness including among HEIs has made it imperative for all stakeholders in HE to adjust their view of the feasibility of keeping jobs for life as opposed to the more feasible idea of making oneself employable for life. Moreau and Leathwood (2006) observed that the policy discourse on employability constructs it as matter of individual attributes and responsibility, and hardly that of structured opportunities in the education and labour markets. On the other extreme are those who have argued that the labour market rather than the capabilities of individuals is the primary driver of employability (Brown et al., 2003). Similarly there is increasingly a tendency of individuals to consider their personal attributes including social class, gender or race as irrelevant in employability (Hesketh, 2003).

## **Employability in a non-Western context – Nigeria**

High level unemployment of HEI graduates has been a common phenomenon in Nigeria particularly over the last three decades but it seems increasingly more so recently. Some empirical studies in Nigerian have asked the question whether this is a problem of the quality of the graduates, for example, Adeyemo et al. (2010) noted that many employers of labour usually complain that graduates are poorly prepared for work. The importance of developing employability skills has been a subject of some considerable research in Nigeria (e.g. Dike, 2009; Oloruntoba, 2008), so has the question of what factors are most critical in gaining employment (e.g. Anyanwu, 2000; Adeyemo et al., 2010).

In a recent analysis using survey data Adeyemo et al. (2010) reported a mismatch between university outputs and labour market demands. These authors found (in the following order) field of study, subject

specialisation, reputation of university attended, class of degree, age of applicant, previous work experience, and theme of thesis/project work as the most important factors for employment. This list compares favourably with and confirms and earlier one by Anyanwu (2000). Other diversity related issues especially gender differences have also been highly topical in employability generally in Africa. In an empirical study of students and Deans of Faculties in HEIs in South Africa, Maharasoa and Hay (2001) reported that students, irrespective of their race and gender, agreed that employability is one of the greatest factors influencing their choices of courses of study and indeed some envisaged seeking employment nationally while others aspire to go abroad. Furthermore, both the students and Deans seem to agree on the importance of employability and its significance as a component of quality, it would appear that faculties merely pay a lip service to it as far as the implementation and follow up on ground (Maharasoa & Hay, 2001).

Again in Nigeria, attention has also been paid to gender issues and especially gaps in opportunities among the sexes in HEIs. There have been suggestions of significant disparity in this respect as evidenced in some reports. For example:

*“In traditional, colonial and post-colonial Africa, women education had suffered some great neglect as a result of the dampening cultural belief that no matter how educated they are, women ultimately would end up in the kitchen!” – (Oyebade, 2008: pp. 289).*

Oyebade (2008) citing several studies indicated that there is a very poor level of equity in accessibility to university education in Nigeria, whether on the part of women, or other educationally-disadvantaged groups such as nomads, migrant fishermen, street-children, or minority tribes.

## Research questions and objectives:

This paper seeks to explore and analyse students’ understanding and appreciation of what is required to be considered employable. To what extent do students recognise key employability skills and which particular skills do they value more? Does this differ by gender, age and job status? There were three dependent variables under investigation: employability perception, employability skills and employment, and confidence in educational skills. There were five independent variables: age, gender, job status, marital status and self-managed small business. The study seeks to test the following specific hypotheses:

1. There is no gender difference among the study variables (employability perception, employability skills and employment, and confidence in educational skills).
2. There is no relationship among study variables: employability perception, employability skills and employment, confidence in educational skills, age, gender, job status, marital status and self-managed small business.
3. There is no significant difference in the impact of age and gender on employability perception. Gender moderates the relationship between age and employability perception.
4. There is a collective impact of age, gender, and job status on the dependent variables (employability perception scale, employability skills and employment, and confidence in educational skills).

## METHODOLOGY

### The sample framework

This paper reports a case study of a big federal university located in South West Nigeria. The survey instrument was administered at the end of lectures to a sample of undergraduate students at different levels in a big faculty of the university over a four week period. Completed and usable questionnaires were returned by 183 respondents after 18 were excluded for various reasons of incompleteness out of the total 300 questionnaires administered representing a valid response rate of 61 percent. Of this number 90 were males and 91 female. Detailed profile is provided in table 1.

**Table 1: Demographic Profile of Respondents**

	Frequency	Percentage
Gender	Male	90 49.7
	Female	91 50.3

Age	Below 20	14	7.8
	21-25	106	59.2
	26-30	49	27.4
	31-40	9	5.0
	41-50	1	0.6
Marital Status	Married	17	9.4
	Not married	164	90.6
Job Status	Yes	36	20.1
	No	143	79.9
Self-managed SME	Yes	80	46.0
	No	94	54.0

*Note: Only valid percent are reported [N = 183]*

## Measuring instrument and reliability

*Employability Perception Scale (EPS):* the authors developed a total of 17 items from several sources surrounding the conceptual framework of employability in HE. These items were measured on a 4-point scale ‘strongly agree’ to ‘strongly disagree’. The items were pretested with small cohort of undergraduate students to check for item clarity and relevance after which very few minor adjustments were made. Cronbach alpha for these items in the present study is 0.75.

*Employability Skills & Employment Scale:* There were 13 items on this scale, a modified increase from the 10 items of Wilton (2008). Respondents were asked how they would classify the importance of the possession of these of these skills in gaining employment. These were measured on a 4-point scale from 1 = extremely important to 4 = extremely unimportant. Cronbach alpha for the scale in the present study is 0.83.

*Confidence in Educational Competences:* these were measured with the 18 competences items developed by Allen and De Weert (2007). Respondents were asked to indicate extent to which they would say their education has been able to instil each of the 18 competencies on graduation. The items were measured on a 5 point scale with 1 = to a great extent; 2 = to some extent; 3 = to a very little extent; 4 = not at all and 5 = don’t know. Cronbach alpha for the scale in the present study is 0.93.

*Demographic Profile:* other personal information sought from respondents include: age; gender; marital status; year of study; job status; job type and industry type.

## DATA ANALYSIS AND FINDINGS

In the section, we present the data analysis and our findings. In table 2 the descriptive statistics is presented followed by more rigorous analysis to answer our research questions and test the hypotheses.

**Table 2: Employability Perception Scale (EPS)**

	Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree
Educational institutions should develop key skills and competences to make their graduates employable	89.6%	8.7%	0%	1.6%
Individual are ultimately responsible for developing key skills and competences to make them employable	47%	45.9%	5.5%	1.6%
Work experience will enhance likelihood of getting a job	51.7%	33.9%	11.7%	2.8%
Obtaining a higher qualification (e.g. Masters’ degree) would enhance ability to get a job	42.3%	37.4%	13.2%	7.1%
You stand a better chance of getting a job with a foreign degree/qualification	47.2%	30.9%	14%	7.9%
A professional qualification provides a better chance of getting a job	59.3%	32.4%	5.5%	2.7%
Your contacts and connections is the single most important factor in getting a job	29.9%	40.1%	20.9%	9%

If you are very good, you will always get a job on your own merit	31.5%	43.8%	21.3%	3.4%
Class of degree (1 <sup>st</sup> , 2/1, 2/2, 3 <sup>rd</sup> ) have an impact on getting a job	51.1%	37.5%	9.7%	1.7%
The ethnic group (e.g. being Ibibio, Yoruba, Hausa, Igbo, Ijaw etc.) will have an impact on getting a job	15.6%	35%	30.6%	18.9%
Gender will have an impact on getting a job	23.3%	38.3%	22.8%	15.6%
Age will have an impact on getting a job	32.8%	48.9%	10.6%	7.8%
Religion will have an impact on getting a job	13.3%	32.8%	32.8%	21.1%
Sexual orientation (i.e. being gay/lesbian) will have an impact on getting a job	15.1%	25.1%	23.5%	36.3%
The course of study will have an impact on getting a job	25.7%	48%	17.3%	8.9%
Employment is best guaranteed only if you are in self-employment	35.9%	32%	17.7%	14.4%
Computer and other IT skills will have an impact on getting a job	55.2%	33.3%	9.3%	2.2%

Table 2 above is self explanatory presenting results for the Employability Perception Scale (EPS). However, some of the most interesting findings to flag on the table include: ethnic group, gender, age, religion, sexual orientation, course of study and self-employment. The importance or otherwise of ethnic group on employment was a near 50-50 split in a country where ethnic group is a major dividing issue. It is interesting to note that a large proportion of the younger generation (since about 95 percent of our sample is under 30 years of age) actually tend to disagree or strongly disagree that ethnic group is a key factor for job opportunity and access. About 61 percent strongly agree or agree that gender is an important factor in getting a job position while 81 percent strongly agree or agree that age is an important factor in getting a job. Up to 60 percent disagree that sexual orientation is a key factor in getting a job. Also about 27 percent tend to disagree or strongly disagree that course of study has an impact, while about 32 percent tend to disagree that self-employment is the best way of guaranteeing one's employment.

The result for the Employability Skills and Employment Scale (ESES) shows that 12 of the 13 items were adjudged as extremely important or important by at least 86 percent or more respondents. The most important items to flag for this scale is the "foreign language skill" which is judged by 48 percent of the respondents as unimportant to extremely unimportant.

*Results for Independent t-test:* to test the first hypothesis on gender differences in the study variables independent t-tests were conducted. Independent t-test conducted for each of the 17-items on the EPS revealed only one item: "You stand a better chance of getting a job with a foreign degree/qualification" was statistically significant with significantly more female believing this to be the case ( $t = -4.066$ ,  $df. = 174$ ,  $p < .000$ ). Similarly Independent t-test was conducted to test significant gender differences for the 13 items on the Employability Skills & Employment Scale. Result revealed significant gender difference on two items: (1) "problem solving skills" with males indicating it is extremely more important than females ( $t = -2.242$ ,  $df. = 163$ ,  $p < .026$ ) (2) "written communication" with females indicating it is extremely more important than males ( $t = 2.019$ ,  $df. = 171$ ,  $p < .045$ ). The Independent t-test conducted to test significant gender differences for the 18 competences items revealed significant gender difference in only one competency "communication skills" ( $t = 2.338$ ,  $df. = 167$ ,  $p < .021$ ) with significantly more females than males indicating the likelihood of more communication skills on graduation.

**Table 3: Means, Standard Dev., Cronbach's Alphas & Intercorrelations among Study Variables**

Study Variables	Mean	SD	1	2	3	4	5	6	7	8
1 Employability Perception Scale	1.96	.39	<b>(.75)</b>	.28**	.24*	-.02	.24**	-.11	.05	-.03
2 Employability Skills & Employment	1.57	.36		<b>(.83)</b>	.68**	.24**	-.05	-.03	-.08	-.04

3	Confidence in Educational Competences	1.67	.51	<b>(.93)</b>	.05	-.02	-.03	-.06	-.04
4	Age	2.31	.71		-	-.11	-.21**	-.17*	-.12
5	Gender	1.50	.50			-	-.21**	.26**	.03
6	Marital Status	1.91	.29				-	-.07	.04
7	Job Status	1.80	.40					-	.23**
8	Self-managed small business	1.54	.50						-

Notes: (2-tailed); \*  $p < 0.05$ ; \*\*  $p < 0.01$ ;  $n = 183$ ; Alpha reliability coefficients are reported in bold and parenthesis where applicable

Persons' correlations coefficients were conducted among the study variables to test the level of association and the second hypothesis. The result of the intercorrelation revealed significant correlation between the measure of employability perception on one hand and both the employability skills and employment measures, and confidence in educational competences measures. Employability perception is also significant correlated with gender. The employability skills and employment measure is also significantly correlated with age. The result also revealed some intercorrelation between some of the independent variables: job status and self-managed business; age and job status; age and gender; gender and marital status; and gender and job status.

**Table 4: Two-way ANOVA [Age and Gender on Employability Perception Scale (EPS)]**

Dependent Variable: Employability Perception Scale						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.665 <sup>a</sup>	8	.208	1.409	.198	.078
Intercept	98.947	1	98.947	669.729	.000	.834
Age	.092	4	.023	.156	.960	.005
Gender	.098	1	.098	.664	.417	.005
Age * Gender	.322	3	.107	.725	.539	.016
Error	19.650	133	.148			
Total	566.260	142				
Corrected Total	21.315	141				

a. R Squared = .078 (Adjusted R Squared = .023)

Note: no significant interaction effect and no significant main effect for the IVs

To test the third hypothesis, a two-way between-groups ANOVA was conducted to explore the impact of gender and age on employability perception as measured by the EPS. Respondents were divided into five age groups (see table 1). The result shows that interaction effect between gender and age group was not statistically significant,  $F(3, 133) = 0.725$ ,  $p = .54$ . The main effect for both age  $F(4, 133) = .156$ ,  $p = .96$  and gender  $F(1, 133) = .664$ ,  $p = .42$  did not reach statistical significance.

**Table 5: MANOVA for combined DV [employability perception scale, employability skills and employment, and confidence in educational skills]**

	F	Sig.	Wilks' Lambda	Partial eta squared
Gender	(3, 87) = 1.10	0.35	0.96	0.04
Age	(9, 212) = 0.66	0.75	0.94	0.02
Job status	(3, 87) = 1.24	0.30	0.96	0.04

To test the fourth hypothesis, a one-way between groups multivariate analysis of variance (MANOVA) was performed to investigate the collective impact of gender, age and job status differences in employability in higher education in the sample. Three dependent variables were used: employability perception, employability skills and employment, and confidence in educational skills. The independent variables were gender, age and job status (defined as whether respondents was in some employment or not). The necessary preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. The result indicated no

statistically significant difference between males and females, among the age categories and job status on the combined dependent variables employability perception, employability skills and employment, and confidence in educational skills. Since we did not obtain any significant differences in our MAVOVA we could not investigate further into each of the dependent variable.

## CONCLUSION

The purpose of this exploratory investigation was to examine the impact of some demographic variables on employability in HE in a non-Western context using a sample of Nigerian undergraduate students. The descriptive statistic did generate a number of interesting findings like the significance of ethnic group, gender, age, religion, sexual orientation, course of study and self-employment in employability. Much of the survey data from our employability perception scale confirms the argument of Hesketh (2003, cited in Moreau & Leathwood, 2006); that the trend and discourse around employability encourages individuals to view their personal characteristics (e.g. social class or gender) as irrelevant. Overall, the findings from this study did not establish much gender and age differences on employability. Moreover, effort at multivariate deeper level analyses yielded rather disappointing results as no significant differences were found in the independent variables: gender, age and job status. Findings from extant studies (e.g. Coates & Koerner, 1996; Wilton, 2008) indicate that management education providers might well benefit from greater engagement with recent graduates about their experiences in the workplace and the relevant skills that should be developed on undergraduate programmes.

Policy implications and recommendations: the data presented in his paper suggest that the role of demographic profile in gaining employment may not be in the direction generally speculated by the general population in Nigeria. For example, findings from our sample suggest that key skills and competences; work experience; gender and age of the applicant among others are significant factors for gaining employment. The larger population tend to emphasise characteristics such as ethnic group and perhaps religion as important and these were not identified as important factors in getting a job by the sample. In terms of government policy direction and emphasis, the role of employers and educators the factors which are identified as more problematic and divisive in the country (ethnic differences and religious divide) seem generally less cited as such by this sample. Moreover, in the light of some of these findings, it might be beneficial to initiate processes for more engagement amongst the management of HEIs, employers, government policy makers and other stakeholders. This would help immensely in the determination and articulation of employability strategies and practices as the complaints and focus of key stakeholders seem completely divergent. None of the key stakeholders seems capable of addressing the various knotty issues raised by employability in HE in isolation of others. Universities may be limited in their capacity to enhance employability of their students, even though policy-makers consistently argue that they have a pivotal role (Tomlinson, 2007).

Limitations of the study: data for the present study was derived mainly from survey information with the attendant problems that it could be superficial and does not have the advantage of an interview which can give deep insight into the reason for some of the problems identified. Nigeria is a big and diverse country and even though data was collected from big university in a cosmopolitan city, this limits generalizability if such data is not spread across the country. Future studies would therefore benefit from the use of qualitative methods and a more diverse spread in data collection.

In sum, this paper contributes to the debate around employability in a less discussed non-Western context – Africa. It explores an employability perception scale that is adapted for the environment and clearly relevant in this context while also revealing the value of stakeholders' collaboration in HE in redirecting attention and ensuring success of improving employment levels and employability generally.

## REFERENCES

Adeyemo, S.A., Ogunleye, A.O., Oke, C.O. and Adenle, S.O. (2010) A survey of factors determining the employability of science and technology graduates of polytechnics and universities in the Nigerian labour market. *Journal of Science and Technology Education Research*, 1(5), 99 – 106.

Allen, J. and De Weert, E. (2007) What do educational mismatches tell us about skill mismatches? A cross-country analysis. *European Journal of Education*, 42(1), 59-73.

Anyanwu, G.A. (2000) *Graduates' transition from study to employment: a study of the Arts and Agriculture graduates of University of Nigeria in the world of work*. Association for African Universities (AAU). Retrieved February 23 from: <http://www2.aau.org/studyprogram/notpub/anyanwu.pdf>

Archer, L., Hutchings, M. and Ross, A. (Eds.) (2003) *Higher Education and social class: Issues of exclusion and inclusion* (London, RoutledgeFalmer).

Atlay, M. and Harris, R. (2000) An institutional approach to developing students' 'transferable' skills, *Innovations in Education and Training International*, 37(1), 76–81.

Brown, P., Hesketh, A. and Williams, S. (2003) Employability in a knowledge-driven economy [1], *Journal of Education and Work*, 16(2), 107–126.

Coates, N., and R. Koerner. (1996) How market oriented are business studies degrees? *Journal of Marketing Management*, 12, 455–75.

Clarke, A. (1997) Survey on employability. *Industrial and Commercial Training*, 29(6) 177-183.

Dike, V.E. (2009) Addressing youth unemployment and poverty in Nigeria: a call for action, not rhetoric. *Journal of Sustainable Development in Africa*, 11(3), 129-151.

Gumport, P. (2000) Academic restructuring: organizational change and institutional imperatives. *Higher Education*, 39, 67- 91.

Harvey, L. (2001) Defining and measuring employability. *Quality in Higher Education*, 7(2), 97–109.

Harvey, L., Locke, W. and Morey, A. (2002) *Enhancing employability, recognising diversity: Making links between higher education and the world of work*. London, Universities UK.

Knight, P.T. and Yorke, M. (2003) Employability and good learning in higher education. *Teaching in Higher Education*, 8(1), 4-16.

Lindberg, M.E. (2007) At the frontier of graduate surveys: assessing participation and employability of graduates with master's degree in nine European countries. *Higher Education*, 53, 623–644.

Maharaso, M. and Hay, D. (2001) Higher education and graduate employment in South Africa. *Quality in Higher Education*, 7(2), 139-147.

Moreau, M. & Leathwood, C. (2006) Graduates' employment and the discourse of employability: a critical analysis. *Journal of Education and Work*, 19(4), 305–324.

Morley, L. (2001) Producing new workers: quality, equality and employability in higher education. *Quality in Higher Education*, 7(2), 131-138.

Oloruntoba, A. (2008) Agricultural students' perceptions of farm practical year programme at University of Agriculture, Abeokuta, Nigeria. *Agriculturae Conspectus Scientificus*, 73(4), 245-252.

Oyebade, S.A. (2008) 'Gender participation in University education in Nigeria and some Commonwealth countries'. In Babalola, J.B., Popoola, L., Onuka, A. Oni, S., Olatokun, W. and Agbonlahor, R. (Eds) *Reforming Higher Education in Africa*, Higher Education Research and Policy Network and The Postgraduate School, University of Ibadan, Ibadan, pp. 284-387.

Purcell, K., Morley, M. and Rowley, G. (2002) *Employers in the new graduate labour market: recruiting from a wider spectrum of graduates* (London, CIHE-ESRU).

Smetherham, C. (2004) First class women in the world of work: Employability and labour market orientations. *Working Paper Series*, 45, 1–63.

Smith, K, Clegg, S, Lawrence, E. and Todd, M.J. (2007) The challenges of reflection: students learning from work placements. *Innovations in Education and Teaching International*, 44(2), 131–141

Tomlinson, M. (2007) Graduate employability and student attitudes and orientations to the labour market. *Journal of Education and Work*, 20(4), 285–304.

Washer, P. (2007) Revisiting Key Skills: A practical framework for higher education. *Quality in Higher Education*, 13(1), 57-67.

Wilton, N. (2008) Business graduates and management jobs: an employability match made in heaven? *Journal of Education and Work*, 21(2), 143–158.

Yorke, M. and Knight, P. (2007) Evidence-informed pedagogy and the enhancement of student employability. *Teaching in Higher Education*, 12(2), 157-170

# THE ROLE OF VALUES ON THE PREFERENCE OF FOOD ATTRIBUTES

Ebru Genc, Eric Eisenstein and James Hunt  
Temple University, USA

## ABSTRACT

*We simultaneously evaluated environmental, functional and price attributes of a food product by means of a choice-based conjoint experiment. A sample of 146 consumers chose the product most preferred among many product profiles that were systematically varied across choice sets with respect to organic, fair trade and certified vegan, nutrition value, taste and price attributes. Choice data and data on value orientations were analyzed by a conditional logit model. This approach enabled us to model product choice as a function of three environmental, two functional and price attributes and of consumer characteristics. The latter permits market segmentation of preference data. The main results showed that consumers' preferences of product features are dependent on their value orientations. Results reveal that environmental attributes are placed relatively more importance by individuals that have higher altruistic value orientations. Whereas functional attributes is more preferred by individuals that have higher egoistic value orientations. We also found evidence for differences among environmental attributes in terms of their effect on choice.*

## INTRODUCTION

The market for environmentally friendly products, defined as products that address certain environmental issues is growing dramatically. In particular, food products have been appealing to consumers through their environmental attributes as well as their functional attributes such as taste and nutrition value. Several papers studied the comparison of functional and environmental food attributes of food products in terms of their effect on buying behavior. For instance, Bougherara and Combris (2009) studied how the addition of one environmental label to a conventional food product changes consumer willingness to pay (WTP), and to what extent the WTP for environmentally friendly products is due to functional attributes. Within that line of inquiry, this study goes further by comparing environmental, functional attributes and price attribute of a food product as a *trade-off* in terms of the relative importance given by consumers in their food product buying decisions.

Environmentally friendly products may also diverge based on the specific issue that is concerned. Particularly, food products can have different types of environmental attributes. Although it is possible to make different categorizations, for the purpose of this study, we categorize them into three main groups. The first group of attributes benefits natural environment through restricting the use of synthetic pesticides and chemical fertilizers. The second group benefits animal well-being through preventing animal cruelty. The last group benefits people through assuring farmers and workers are justly compensated and forced child labor is strictly prohibited. Since each of these groups reflects a different aspect of the environmental issues, we assume that each of them may have a different effect on product choice decision. Several studies find that consumers respond differently to different environmental labels (Howard and Allen 2006; Loureiro and Lotade 2005). Accordingly, we study the *relative* importance of three particular attributes (organic, fair trade, certified vegan) that belongs to each one of the three categories defined, in a realistic product choice situation. Unlike the previous studies, we consider *between-group effect* on choice decision in the way of *environmental* versus *functional*. We also consider *within-group effect* on choice decision; primarily within three environmental attributes and secondarily within two functional attributes. We anticipate that the category of the environmental attribute makes a

difference on the relative importance given to each of the environmental and functional attributes in a product choice decision.

Individuals are heterogeneous and consequently, they have different values, different life styles, different perceptions of the environmental problems and different prior informational levels (Johansson-Stenman 1998). Many studies examine this heterogeneity among consumers in terms of their effects on proenvironmental behavior (De Palsmacker, Driesen and Rapp 2005; Fraj and Martinez 2006; Honkanen, Verplanken and Olsen 2006). People choose products to achieve their value-oriented goals (Solomon, Bamossy, Askegaard 1999) and individuals who make consumption choices based on their values are increasing (Micheletti 2003). In this study, we examine the impact of individual differences due to a dichotomy of values, namely altruistic and egoistic value orientations. By definition, altruistic value orientations motivate individuals to increase the welfare of 'others' such as natural environment, animal welfare and people (Batson 1998). Egoistic value orientations lead individuals to look for boosting personal welfare (MacIntyre 1967). Particularly, we want to study how the altruistic/egoistic value orientations affect the importance placed on various attributes in a food product choice. In other words, we want to examine whether the importance placed on each of three environmental and two functional attributes varies according to whether individuals have higher levels of altruistic or egoistic values. Previous studies examine values in terms of their effect on whether to buy an environmentally friendly product or not (e.g. whether to buy a disposable diaper or cloth diaper) (e.g. Follows and Jobber 2000) or on willingness to pay for an environmentally friendly product. (e.g. Ojea and Loureiro 2007). Unlike previous studies, this research uses values to explain the relative importance placed on attributes and the levels of the attributes that are preferred by consumers when choosing an environmentally friendly food product rather than to explain the decision of whether to buy an environmentally friendly product or not or how much more they pay for these products.

Therefore, the objective of this study is threefold. Firstly, we compare two groups of attributes (environmental, functional) in terms of the relative importance placed on them by consumers on their food product choices. Secondly, we compare three environmental attributes (organic, fair trade, certified vegan) in terms of their relative effects on product choice. Finally, we assess whether the importance placed on two groups of attributes vary based on whether individuals have higher levels of altruistic or egoistic values. The hypotheses that explain the objectives of this study is as follows:

*H1: Individuals that have higher levels of altruistic values place more importance on environmental attributes compared to individuals that have higher levels of egoistic values.*

*H2: Individuals that have higher levels of egoistic values place more importance on functional attributes compared to individuals that have higher levels of altruistic values*

*H3: There are differences among environmental attributes in terms of the relative importance placed on them in consumer product choice*

## **METHODOLOGY**

### **Pilot Study**

A pilot study was conducted for two reasons. First, we wanted to validate the attributes that are actually important to consumers in their environmentally friendly food buying decision. Second, we wanted to confirm which of the value items relates to egoism or altruism in consumers' minds. A sample of thirty five respondents completed an online survey. In the first question, they were asked "Which of these product characteristics come to your mind when you think of buying an environmentally friendly food product?" We used 7 point Likert Scale: '1= Never –7= Always'. We determined the relevant attributes by choosing the items that have an average score of three or greater. In the second question, forty six value items were used for evaluation. The value items were adapted from the Rokeach Value Inventory and the study by Stern, Dietz and Guagnano (1995). Respondents were asked "In your judgment, please identify the following items on a scale basis whether it relates to altruism or egoism?" Here, we used 7-point Likert Scale: '1= certainly egoism, 2, 3 (unlabelled), 4= neither egoism nor altruism, 5, 6 (unlabelled) 7= certainly altruism'. 11 items were selected as measures of altruistic values and 8 items were selected as measures of egoistic values (see Table 1). Cronbach's coefficient alpha (1951) was computed to determine the internal consistencies for altruistic and egoistic value scales.

Cronbach's alpha coefficient produced by altruism scale is 0.89 and by egoism scale is 0.82. Therefore, all of the items were considered to be measuring the desired underlying concepts and so the scale is reliable.

**Table 1: List of Value Items**

<b>Altruism</b>	<b>Egoism</b>
Equality	A Comfortable Life
Forgiveness	Ambition
Helpful	An Exciting Life
Loyalty	Authority
Obedience	Choosing Own Goals
Politeness	Curiosity
Preventing Pollution	Independence
Protecting the Environment	Wealth
Respecting the Earth	
Responsibility	
True Friendship	

## Main Study

In the main study, a choice-based conjoint analysis was conducted to compare consumer preferences regarding to environmental, functional and price attributes of food products. Conjoint analysis is one of the most popular methods for analyzing consumer preferences (Green and Srinivasan 1990; Carroll and Green 1995). The underlying idea of conjoint analysis is simulating trade-offs that consumers face in a real life buying situation. By modeling consumer decisions, it reasonably predicts consumer behavior. The consumer's overall perception of utility is separated into a combination of part-worth utilities provided by various product attributes and their levels. In *choice-based* conjoint analysis, respondents express their preferences by choosing the best product profile among two or more alternatives that vary in various attribute compositions.

We chose six attributes for this study with two levels for each. Based on the purpose of this study, we selected from the two groups of attributes, environmental, functional, to compare the effect of each other on product evaluations. The environmental attributes included in the choice task are organic, fair trade and certified vegan. These are in fact specific labels that correspond to relevant attributes. The functional product attributes are nutrition and taste. In order to reduce possible misconception of the meanings of environmental attributes, we gave brief definitions for them in the questions. Organic was defined for the respondents as 'Products that have low or zero use of chemically synthesized inputs'. Fair trade was defined as 'Products that do not contain animal products and that have not been tested on animals. Certified vegan was defined as 'Products that do not contain animal products and that have not been tested on animals.' These three environmental attributes chosen for this study reflect a variety of issues that may be of concern to the environmentally concerned consumers. It is good to note that these three environmental labels are actual labels that are extensively used in the marketplace. By using actual labels, we think the choice tasks will be more realistic for the respondents. All environmental attributes included two levels indicating that whether the product addresses the particular environmental issue or not (organic/ not organic, fair trade/not fair trade, certified vegan/not certified vegan). Functional attributes which are taste and nutritional value also included two levels as low or high (low/high in taste, low/high nutritional value). We also included price as an attribute, and two levels were chosen for this study (\$1.50, \$2) to allow respondents to consider the choice task as a real life buying decision. We chose *16 oz can iced tea* as the product because it is widely available in the market and it can potentially carry all three environmental attributes.

Based on the chosen attributes and their levels, we created a sample design table which we used it for assigning *priors* to the levels of attributes by using the Choice Design platform of the JMP statistical software. By employing the prior information, JMP created the final design table for the survey while maintaining the coincidence of uncorrelated levels of different attributes appearing together. This design assures that an estimate of the importance of one attribute is unaffected by the estimate of other attributes.

The survey instrument was presented to participants in the form of a five-page online survey. In the very first page, respondents were given the instructions about their rights and responsibilities. The second page of the instrument included twelve questions related to conjoint analysis where each corresponds to a choice set. A total of twelve conjoint choice sets were presented for each respondent by using a random sampling of choice tasks. Each of the twelve choice sets included three product alternatives that have different attribute level compositions. For each choice task, respondents were asked to select the best product alternative for them to purchase. The third page of the instrument included the value items in order to define respondents' altruistic and egoistic value orientations. Respondents were asked to answer the question of "How important are the following words to you, as guiding principles in your life?" based on 7 point Likert Scale: '1= not at all important – 7= extremely important'. In the fourth page of the instrument, respondents were asked to answer demographical questions. The final page of the survey included to measure three concepts which were considered as control variables for the study. These are environmental concern, perceived consumer effectiveness, perceived environmental effectiveness. Three statements were presented for each concept. Respondents were asked to answer the question of "To what extent do you agree with the following statements? Based on 7 point Likert scale: '1= strongly disagree – 7= strongly agree'.

## RESULTS

### Respondent Demographics

Data were collected from a convenience sample of consumers based on a self-completion questionnaire. Overall, 146 complete and usable questionnaires were obtained. The respondents who completed the survey are more likely to be female (63%), better educated (93% with some college and over) and younger (94% with age below 35) (see Table 3). The vast majority of the sample (85%) of respondents reported buying some type of environmentally friendly products in the past month (18% one, 25% two, 7% three and 35% four or more). Finally, 99% of respondents are non-vegans which is similar to the population statistics.

### Main Results

#### Model 1: The Relative Effects of Attributes on Choice

In the first model, we wanted to analyze the attribute effects on choice for the entire sample without making any differentiation regarding to subject characteristics. If we look at the results, we see that every attribute (organic, fair trade, certified vegan, taste, nutrition value and price) that we include in the model appeared as significant. The results confirmed our selection of attributes by showing that all of the selected attributes significantly affect choice (see Figure). The nutrition value attribute had the highest relative importance for the total sample contributing to 27% of the overall utility and taste came second with a slight difference with the relative importance of 26% on average. Fair trade and organic attributes became the third and fourth respectively with an almost negligible difference in importance by contributing to 18% of overall utility. Certified vegan attribute followed them by being judged as the fifth important factor with a relative importance of 6%. Finally, price had a minor impact with a relatively less importance of 5%. However, one has to remain cautious concerning the impact of the price attribute. First, the product (ice tea) that we used in this study is a low-price item and second, as a result of this, the difference between the levels of the price (50 cent) is also small. We think that this can be an explanation of why price appeared as relatively less important in product choice.

**Figure: The Relative Attribute Importance**

Effect Likelihood Ratio Tests			
	L-R		
Source	ChiSquare	DF	Prob>ChiSq
ORGANIC	156.029	1	<.0001*
FAIR TRADE	157.722	1	<.0001*
CERTIFIED VEGAN	54.009	1	<.0001*
TASTE	231.727	1	<.0001*
NUTRITION VALUE	237.730	1	<.0001*
PRICE	44.275	1	<.0001*

On the other hand, the association between attribute levels appeared as expected. For example, being organic as opposed to non organic has a positive effect on the choice decision. This is exactly same for the other environmental attributes. Similarly, high nutrition value and better taste affect choice decision in a positive manner compared to lower levels. Finally, as expected, low price is preferred to high price. These results support the reliability of this study.

The resulting parameter estimates are referred to as part-worths. Each part-worth is the coefficient of utility associated with that attribute. These estimates are based upon the Firth bias-corrected maximum likelihood estimators. Therefore, they are considered to be more accurate than MLEs without bias correction. Based on these definitions, being organic compared to non-organic, on average increases the utility by .37 units. Being fair trade as opposed to non fair-trade increases the utility by .41 units, whereas being certified vegan compare to non certified vegan increases the utility by .25 units. On average high taste compared to low taste increases the utility by .55 units and high nutritional value compared to low nutritional value increases the utility by .21 units (see Table 2).

**Table 2: The Comparison of Model 1 and Model 2**

Source	Model 1 (AIC=3105.6935)		Model 2 (AIC=3006.9714)	
	Estimates	Prob>ChiSq	Estimates	Prob>ChiSq
ORGANIC[Organic]	0.37208597	<.0001***	-0.3696447	0.3274
FAIR TRADE[Fair Trade]	0.40760927	<.0001***	0.74249094	0.0709*
CERTIFIED VEGAN[Certified Vegan]	0.24644072	<.0001***	-3.3221316	<.0001***
TASTE[High in Taste]	0.55055103	<.0001***	2.30917155	<.0001***
NUTRITION VALUE[High in Nutritional Value]	0.46717922	<.0001***	0.50803926	0.1944
PRICE[\$1.5]	0.20851073	<.0001***	0.21509603	0.5754
Altruism/Egoism*ORGANIC			0.00906446	0.0446**
Altruism/Egoism*FAIR TRADE			-0.0037634	0.4457
Altruism/Egoism*CERTIFIED VEGAN			0.04286463	<.0001***
Altruism/Egoism*TASTE			-0.0209525	0.0002***
Altruism/Egoism*NUTRITION VALUE			-0.0003013	0.949
Altruism/Egoism*PRICE			-0.0000173	0.997

This first model allowed us to confirm that there are differences between environmental and functional attributes in which functional attributes are relatively given more importance by the entire sample. As we hypothesized, there are also differences within environmental attributes in terms of the relative importance. As results show, organic and fair trade attributes have quite higher impact on product choice compared to certified vegan. This suggests that all attributes within environmental category do not create the same impact on choice, which confirms our third hypothesis.

Overall, the relative importance of attributes shows how the respondents of the entire sample valued the different product attributes on average. In the following section, we will go beyond the average importance of each attribute and identify how the effects of these attributes on choice vary based on the values that altruism egoism scale takes.

### Model 2: The Moderating Effect of Altruism Egoism Scale Variable

In the second step of our analysis, we wanted to analyze how the inclusion of altruism egoism scale variable moderates the effects of attributes on choice. Therefore, we included the altruism egoism scale as an interaction term into the model. As results demonstrate the scale is another variable that significantly affects product choice. The effect appeared as more important than price and somewhat less important than other attributes. For the purpose of this study, we analyzed whether this variable moderates the relationship between product attributes and choice. Therefore, we are mostly interested in the interaction terms than the main effects.

When we look at the main effects, we see that some of the attributes (organic, nutrition value and price) becomes insignificant because they have a different meaning now (see Table 2). After an interaction term is added to the model, main effect coefficients now predict the attribute effect when altruism egoism scale equals to zero. Since no such people exist in this study (the scale takes values from 60 to 100), this isn't particularly

interesting. Therefore, the change in the significance of some of the attributes reflects nothing but the fact that these coefficients have different meanings in the two models. On the other hand, the main effects of certified vegan and taste remain significant since each has a *p-value* less than 0.01.

The results also show that the interaction between altruism egoism scale and certified vegan, taste and organic appears as significant (*p-value* less than 0.01 for the first two and 0.045 for the latter). One should carefully interpret the main effect coefficients after adding interaction term because they alone may not be meaningful. Therefore, the coefficients correspond to main and interaction effects should be interpreted together. When interpreting the interaction terms' coefficients, it is important to know the range of values that the altruism egoism scale takes. This scale is a continuous variable and took values from 60 to 100 with a mean of 83 based on consumers' responses. It is like a double-edged continuum in which altruism in one side and egoism in the other in the way of that the higher the value, the higher the altruistic value orientations of an individual.

In order to see the total effect of certified vegan attribute, we need to combine the main and the interaction effect. If we go through the continuum from the lower values to higher values, which means from egoistic value orientations to altruistic value orientations, having certified vegan compared to not having that attribute increases the utility more. In other words, it becomes a more important attribute compared to the other attributes for individuals that have higher altruistic value orientations. Similarly, organic attribute is given more importance by individuals that have higher altruistic value orientations than individuals that have higher egoistic value orientations because the combined coefficient becomes greater for higher values of altruism-egoism scale. For the taste attribute, if we go from the egoism side through the altruism side on the continuum, the relative effect of taste on choice decreases.

As numbers show all significant results confirmed our hypotheses which suggest individuals who have higher altruistic value orientations place relatively more importance on environmental attributes compared to functional attributes and individuals who have higher egoistic value orientations place relatively more importance on functional attributes compared to environmental attributes. If we ignore the significance of the coefficients, we can say that all (except fair trade) of the results are as we hypothesized. That is, for environmental category, the effects of the attributes are becoming greater for higher values of altruism egoism scale, whereas; for the functional attributes, the effects of the attributes are becoming smaller for higher values of the scale. Since the interaction effect is not significant regarding to fair trade, nutrition value and price, we can say that these results partially confirm our first two hypotheses. The insignificances of the interaction effects inform that altruism egoism scale does not make a difference with regard to these attributes. In other words, the importance placed on these attributes (fair trade, nutrition value, and price) does not vary based on whether someone has higher altruistic or egoistic value orientations.

Overall, altruism egoism scale is significantly moderating the relationships between half of the attributes and choice. Besides, if we compare AICs (corrected Akaike's Information Criterion) of the two models, we see that the second model explains choice in a better way as it has a lower AIC score (see Table 2) confirming that altruism egoism scale is an important predictor of choice.

## DISCUSSION

The data gathered for this study were used to determine which of six food product (ice tea) attributes (Organic, Fair Trade, Certified Vegan, Taste, Nutritional Value and Price) are most important. We analyzed how the effect of each environmental attribute on choice diverges from the effects of other environmental attributes and the functional attributes. Therefore, in this study, the type of the environmental concern (not just the presence or absence of one environmental attribute) was also incorporated as a product attribute. We believe that this will provide more insight into the investigation of the importance placed on attributes for different types of environmental issues in terms of what or whom they benefit (the environment, people or animal well-being).

As results show, all of the six attributes significantly affect choice decision. Nutrition value appears as the first criterion on which consumer choice of products are based. Taste comes second with a small difference. These are followed by organic and fair trade attributes with a negligible difference between each other. Certified vegan and price are superseded by other criteria, in which certified vegan becomes the fifth and price was given

less importance by consumers. There is much beneficial information that can be gained from these results. First of all, the results show the relative importance placed on these attributes by the average consumer. Second, they demonstrate that the effect of an environmental attribute is dependent on what or whom it concerns. This study specifically suggests that products that concern the natural environment and working conditions of farmers and child labor are on average more important for consumers than animal wellbeing. Therefore, analyzing proenvironmental behavior as a whole can give misleading conclusions. Each attribute should be examined separately by marketers, as their level of importance is different.

Although the result regarding the price attribute seems to be surprising, if considered carefully, it is not much. The product used in this study is a low price item so the difference between levels of price is very small (50 cent). We think that this would be the reason of why price becomes a less important criterion than it is expected to be. As the focus of this study is on the comparison of environmental and functional attributes, we will not go further in analyzing the details of price attribute.

One important implication of this study is providing information to marketers about the relative importance of the product attributes. Marketers can use this information to develop optimum products and satisfy consumers' preferences better. For example, they can obtain information on how changing the price, or other attributes, of a food product affects the desirability, or the utility, as perceived by potential buyers. Therefore, these results can be used for pricing products with different attributes.

We believe that all consumers are not the same in terms of the importance they place on environmental attributes of food products compared to functional attributes. Careful analysis of socio demographic and psychometric variables is needed for making an efficient segmentation and targeting. As socio demographic factors are not sufficient to explain environmental products buying behavior (De Palsmacker, Driesen and Rayp 2005), our study focuses on values (altruistic and egoistic) to segment consumers. As values are desired end states, buying behavior of food products can be considered as a means to achieving these values. It is an obvious advantage for marketers if personal values can be activated and related to the attributes consumers find important in a food product. Therefore, we assessed whether the importance placed on attributes by consumers vary based on their value orientations. As results of this study show, when buying food products, individuals that have higher altruistic values place more importance on environmental attributes, namely organic and certified vegan, whereas; those who have higher egoistic values place more importance on taste, which is a functional attribute. Therefore, a product that addresses the natural environment and animal wellbeing can be more advantaged, if consumers who have strong altruistic values are targeted. Similarly, a product that is prominent in taste feature can be highly advantaged, if consumers who have strong egoistic values are targeted. Advertisers can also benefit from these results by designing ads that appeal to these values and emphasize related attributes. For example, certified vegan products that assures the product is not tested on animals could be portrayed as beneficial to the welfare of "others", which is a desired end state for those holding higher altruistic values.

Another implication of this study can be on the promotion of new products since values can influence consumers' reactions' to new products. The more the attributes of a new product are consistent with dominant consumer values, the greater the likelihood of its success. Examining the target segment's value profile can help marketers to develop more appealing promotional campaigns. The more compatible a product is with consumers' values, the more likely consumers are to become involved in the message and find it relevant. Clearly, marketers should connect product attributes and benefits to consumer values. Because values represent the end state consumers desire to achieve and so, they are the driving force behind their consumption of products.

Overall, the present findings hold important implications for managers. Organizations can use these findings to maximize the effectiveness of their marketing actions. The results suggest that marketers should identify individuals based on value domains, namely the dichotomy of altruism and egoism for targeting purposes. Messages for each group of individuals should focus on the superiority of relevant features of the food product.

## REFERENCES

- Batson, C.D. (1998). Altruism and prosocial behavior. In *The Handbook of Social Psychology* (Vol 2), Gilbert DT, Fiske SK, Lindzey G (eds). The McGraw-Hill Companies, Inc: Boston; 282-316.
- Bougherara, D. and Combris, P. (2009). Eco-labelled food products: What are consumers paying for? *European Review of Agricultural Economics*, 36(3), 321-341.
- Carroll, J.D. and Green, P.E. (1995). Psychometric methods in marketing research: part 1, conjoint analysis. *Journal of Marketing*, 32, 385–391.
- De Pelsmacker, P., Driesen, L. and Rapp, G. (2005) Do consumers care about ethics? Willingness to pay for Fair-trade coffee. *Journal of Consumer Affairs*, 39, 363–385.
- Follows, S.B. and Jobber, D. (2000). Environmentally responsible purchase behavior: a test of a consumer model. *European Journal of Marketing*, 34(5), 723-746.
- Fraj, E. and Martinez, E. (2006). Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis. *Journal of Consumer Marketing*, 23 (3), 133-144.
- Green, P.E. and Srinivasan, V. (1990). Conjoint analysis in marketing research: new developments and directions. *Journal of Marketing*, 54, 3–19.
- Honkanen,P., Verplanken,B. and Olsen, S. O.(2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behavior*, 420-430.
- Howard, P. H. and Allen, P. (2006). Beyond organic: consumer interest in new labelling schemes in the Central Coast of California. *International Journal of Consumer Studies*, 30(5), 439-450.
- Johansson-Stenman, O. (1998). The importance of ethics in environmental economics with a focus on existence values. *Environmental & Resource Economics*, 11, (3–4), 429–442.
- Loureiro, M.L. and Lotade, J. (2005) Do Fair Trade and eco-labels in coffee wake up the consumer conscience? *Ecological Economics*, 53, 129–138.
- MacIntyre, A. (1967). Egoism and altruism. In *The Encyclopedia of Philosophy* (Vol. 2), Edwards P (ed.). Macmillan: New York; 462-466.
- Micheletti, M. (2003). *Political Virtue and Shopping: Individuals, Consumerism, and Collective Action*. Palgrave Macmillan, New York.
- Ojea, E. and Loureiro, M. (2007). Altruistic, egoistic and biospheric values in willingness to pay for wildlife. *Ecological Economics*, 63, 807-814.
- Solomon, M., Bamossy, G. and Askegaard, S. (1999), *Consumer Behavior: A European Perspective*, Prentice-Hall, Englewood Cliffs, NJ.
- Stern, P.C., Dietz, T. and Guagnano, G.A. (1995). The new ecological paradigm in social-psychological context. *Environment and Behavior*, 27 (6), 723-743.

# **SUSTAINABLE DEVELOPMENT AND THE ROLE OF SMALL BUSINESS: COMPARISON OF ENTREPRENEURIAL ATTITUDES IN THE CZECH REPUBLIC, HUNGARY, POLAND, SLOVAKIA AND THE USA**

**Susan Glanz, St. John's University, USA**

## **ABSTRACT**

*Sustainable development means economic growth and social progress. The EU-wide sustainable development strategy was accepted in Gothenburg in June 2001, and several development indicators were developed to measure the achievements of the strategy. One evaluation tool is the socioeconomic development indicator, which measures the dynamism of the economy and its capacity to create new jobs. The popular perception in both the USA and in Europe is that Americans are more entrepreneurial than Europeans. In Europe, the lower economic growth rates, as compared to the US, is partially blamed on the lower entrepreneurial activity on the continent. This presentation will look at the entrepreneurial attitudes in the Czech Republic, Hungary, Poland and the Slovak Republic and contrast it with that of the USA, based on three surveys completed by the EU. Measurement of the legal and financial environment in the countries under examination is also evaluated by their changing rankings in the World Bank's Doing Business database, as economic development can be sustained only through job creation.*

## **INTRODUCTION**

The United Nations General Assembly held the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. The aim of the summit was to review progress in the implementation of sustainable development goals adopted in 1992 at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro, and plan strategies for a renewed commitment to sustainable development. Paragraph 5 of the Johannesburg Declaration on Sustainable Development included a statement on employment, "28. We also agree to provide assistance to increase income-generating employment opportunities, taking into account the Declaration on Fundamental Principles and Rights at Work of the International Labour Organization."<sup>1</sup> Thus a goal of sustainable development was established: to find a balance between the human need to improve living standards and to preserve natural resources and ecosystems, for future generations. The European Union's sustainable development strategy was adopted by the European Council in Gothenburg in June 2001, and renewed in June 2006.

A tool to measure the success of the EU's sustainable development strategy is a socioeconomic indicator, the goal of which is to measure the development that 'promote(s) a prosperous, innovative, knowledge-rich, competitive and eco-efficient economy, which provides high living standards and full and high-quality employment throughout the European Union'<sup>2</sup>.

Politicians on both sides of the Atlantic talk of the job creating potential of small businesses. Starting a small business is a manifestation of entrepreneurship. Although different definitions of entrepreneurship have been used in history, today, the generally accepted definition of entrepreneurship is the one proposed by the OECD, which is: "Entrepreneurs are agents of change and growth in a market economy and they can act to accelerate the generation, dissemination and application of innovative ideas.... Entrepreneurs not only seek out and identify potentially profitable economic opportunities but are also willing to take risks to see if their hunches are right"<sup>3</sup>.

The popular perception in both the USA and in Europe is that Americans are more entrepreneurial than Europeans, and the lower European economic growth rates are partially blamed on the lower entrepreneurial activity on the continent. This presentation will look at the entrepreneurial attitudes in the Czech Republic, Hungary, Poland and the Slovak Republic and contrast it with that of the USA. The four Central European countries included in this study were chosen as they have geographic and strong historic and cultural ties.

To measure entrepreneurial activity within the EU, the Commission's Directorate-General 'Enterprise', is the department charged with studying the development of entrepreneurship. Since 2000, one of the tools used by the Commission to study changes in entrepreneurial attitudes is a regularly conducted public opinion survey. These surveys are completed in the USA as well, making the data comparable. The four central European countries were included in the EU surveys first in 2004. Since 2004 two other surveys were completed in 2007 and 2009.

The results of these surveys prove that the popular beliefs to be correct, American attitude is risk loving, but it did not translate into changing levels of entrepreneurial activity. The average number of self-employed business-owners in the US consistently hovers around 6%, and meanwhile in each of the other countries under examination, the ratio is twice that of the US' and is increasing.

## History - Why the Visegrad countries

When the communist governments collapsed in 1989/90, the economies of the four central European countries faced similar problems, e.g. number of unproductive state owned enterprises, the collapse of the Comecon trading system and the need for funds in convertible currencies. The economic reform models encouraged by the World Bank, the IMF, the European Bank for Reconstruction and Development (EBRD), the USA, and the European Community, the most important funders of the transformation, was rapid structural change. The structural corrections advocated by the funders were cutting government expenditures, liberalizing prices and selling-off state owned enterprises and encouraging the growth of the private sector. The respective leaders of Czechoslovakia, Hungary and Poland pledged their mutual cooperation in 1991, "to strive for European Integration"<sup>4</sup>, and at that time were known as the *Visegrad Triangle*<sup>5</sup>. With the breakup of Czechoslovakia into two separate countries on 1 January 1993, the Czech Republic and Slovakia became the third and fourth members of the group and, which then, became known as the *Visegrad Four* (V4). The rapid progress made by these countries in transforming their economies from socialist to market economies was already acknowledged in 1992, in the joint statement by the Foreign Ministers of the European Community and the *Visegrad* countries, which stated "The [European] Community recognized that the *Visegrad* countries have established democratic political systems which ensure respect for human rights, and made substantial progress in creating economic systems based on competitive markets and private entrepreneurship."<sup>6</sup> Meanwhile the USA has a mature economy and a long entrepreneurial tradition and is several sizes larger in all aspects, from population to per capita GDP, than any of the V4 countries individually or combined. In order to sustain an economic growth rate above the EU average, the V4 countries must encourage entrepreneurial attitudes to be similar with the US's; and underscored by EU publications analyzing various survey results as they emphasize "comparing European opinions with those of non-European countries, especially the United States".<sup>7</sup>

With three surveys completed in the Czech Republic, Hungary, Poland and Slovakia (the V4), within a relatively short time, comparisons can be made between entrepreneurial spirit between the V4 and the USA. Unfortunately not all questions were identical in the surveys, so all answers cannot be compared.

In the introduction to the results of the Flash Barometer 160, titled *Entrepreneurship*, the need to study entrepreneurship in Europe is summarized as:<sup>8</sup>

one of the main challenges facing the European Union Member States is the need to boost entrepreneurship. ... The European Commission opened the public debate by publishing, at the start of 2003, a Green Paper on 'Entrepreneurship in Europe'<sup>9</sup>, which focused on two questions in particular: why do so few Europeans set up their own business and why are so few European businesses growing?

## Entrepreneurial spirit

The first question asked in the Flash barometer surveys, to evaluate the entrepreneurial aspirations of individuals, focused on the preference of the respondents on their employment status, that is, do they prefer to be self-employed or to be an employee. The answers are reproduced in Table 1. Table 1 re-enforces the popular perception that there is greater entrepreneurial spirit in the USA than in central Europe, and this has not changed between 2004 and 2009.

**Table 1. Work Preferences (in %)**

	Being an employee			Being self-employed			Employment rate*		
	2004	2007	2009	2004	2007	2009	2004	2007	2009
<b>CZ</b>	54.8	54.1	62.1	30.5	29.6	32.1	64.2	66.1	65.4
<b>HU</b>	45.4	46.0	51.7	42.3	42.8	38.9	56.8	57.3	55.4
<b>PL</b>	43.7	43.6	42.8	51.1	51.0	49.2	51.7	57.0	59.3
<b>SK</b>	56.5	56.8	64.8	29.4	35.9	25.6	57.0	60.7	60.2
<b>USA</b>	34.5	37.3	35.5	60.3	61.1	54.8	71.2	72.0	67.6

Q1. Suppose you could choose between different kinds of jobs, which one would you prefer: being an employee or being self-employed?

\*<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&language=en&pcode=tsiem010&tableSelection=1&footnotes=yes&labeling=labels&plugin=1>

Citizens of the V4 countries prefer being employees over being self-employed, with the exception of Poland. The surveys assume that being self-employed is a goal of an entrepreneur, and at the same time, this is the simplest form of entrepreneurship; and there is only one question in the survey that tries to find out the reason for being self-employed. The third question in the surveys was “Why would you prefer to be self-employed rather than an employee?” As expected in all countries personal independence is the number one reason given for wanting to be self-employed. In this study I will call those who would prefer to be self-employed as “potential entrepreneurs”.

Since there is no comparable statistical data for actual self-employment, I substituted for this data the figures provided by the OECD Labor Force Survey for “employers and persons working on own account, non-agricultural activities”<sup>10</sup> as a percentage of employed for the 2000- 2009 period, as those who are self-employed. This data is summarized in Table 2.

**Table 2. Percent of Employers and Persons Working on Own Account\*\***

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>CZ</b>	14.5	14.59	15.5	16.49	16.12	15.23	15.42	15.52	15.39	16.1
<b>HU</b>	12.74	12.19	11.76	11.91	12.79	12.4	11.31	11.17	11.11	11.21
<b>PL</b>	11.87	11.9	12.0	11.97	11.75	11.34	11.33	11.3	11.4	11.8
<b>SK</b>	8.0	8.34	8.62	9.78	11.78	12.49	12.39	12.67	13.44	15.43
<b>USA</b>	6.5	6.46	6.35	6.9	6.9	6.8	6.8	6.6	6.4	6.5

\*\*Own calculations based on data provided by OECD. Stat., Annual Labor Force Statistics

I excluded agricultural employment and agricultural self-employment numbers when calculating the data for Table 2, as self-employment rates have typically been high in agriculture and it is declining in all five countries, and would skew the results.

While self-employment in Hungary decreased between 2000 to 2009; it remained virtually unchanged in Poland and the USA, and increased in the Czech Republic, and Slovakia. When comparing the desirability of self-employment to actual self-employment in these five countries we discover a different picture. The proportion of the respondents with a declared preference for self-employment is higher than that of those actually involved in entrepreneurial activities in all three surveys. In 2009 in the Czech Republic 16% were self-employed and twice as many people desired to be; in Hungary 11.2% were self-employed and 41% would have preferred to be; in Poland 11.8% were self-employed and 49% wished they were; and in Slovakia 15.4% were

self-employed, but 26% aspired to be. The smallest proportion of self-employed was in the USA (6.5%), which had the highest ratio (55%) of those who wished they were. So how can we explain this discrepancy?

## Legal and institutional barriers

The legal and institutional barriers for entering into business are measured across countries by the World Bank's *Doing Business* rankings. The World Bank's *Doing Business* is an annual publication introduced in 2002 which provides objective measures of business regulations and their enforcement in all nations. Data is collected in various categories and over the years new categories were added. To make the data comparable, only those categories which were used consistently will be included in this analysis. The ten categories for which data were collected are: Starting a Business, Dealing with Licenses, Employing Workers, Registering Property, Getting Credit, Protecting Investors, Paying Taxes, Trading across Borders, Enforcing Contracts, and Closing a Business. In two of the categories (Dealing with Licenses, and Registering Property) data was not collected every year; and three categories are not of primary importance to most potential entrepreneurs (Protecting Investors, Paying Taxes, Trading across Borders), thus I will exclude them from the analysis, leaving five categories. I divided these remaining five indicators into three subgroups. 1. *entry barrier* indicators, which measures the changes in the economic regulations that directly impacts an entrepreneur about to start a business; 2. *operating barriers* indicators, which influence entrepreneurs to stay in or to expand their businesses, 3. *the exit* indicators measure the cost of closing a business.

The *entry barrier* indicator used will be the *Doing Business*' Starting a Business index. This index consists of four components (number of procedures, time in days, cost and minimum capital). To create the entry barrier index I added up the components. The **lower** the indicator the easier it is to start a business.

The *operating barrier* index is the sum of the five components of the Employing Workers indicator (the difficulty of hiring index, the rigidity of hours index, the difficulty of firing index, rigidity of employment index, firing cost) and the three components of the Enforcing Contracts (procedures, time and cost) sub-index. Again, the **lower** the indicator, the easier - less restrictive – it is to operate the business.

The *closing index* is the sum of the Closing Business components of the *Doing Business* index, namely “weaknesses in existing bankruptcy law and the main procedural and administrative bottlenecks in the bankruptcy”, that is the time, and cost it takes to close a business and the recovery rate, which calculates how many cents on the dollar claimants (creditors, tax authorities, and employees) recover from an insolvent firm. In contrast to the other two indexes, here a **higher** the index is preferable, as this indicates that an entrepreneur recoups more of their costs when it closes the business.

The detailed data for all indexes is available from the author of this study.

### *The entry barrier index*

As table 3 shows the entry into the business world was made easier in all V4 countries, though entry is still more difficult than in the USA. The findings in economic literature are contradictory in this area, as in a study by Djankov and Murrell (2002), a World Bank economist, who found that lower entry barriers encourage entrepreneurship, while the conclusion that van Steel, Storey and Thurik (2007) arrived at was that easing entry regulations does not significantly impact entrepreneurial attitudes.

**Table 3. Entry barrier index**

	2004	2005	2006	2007	2008	2009	2010	Change	Potential entrepreneurs	
									2004	2009
<b>CZ</b>	107.4	105.3	98.5	79.7	72.5	64.4	62.7	- 44.7	30.5	32.1
<b>HU</b>	194.8	167.3	146	139.1	104.8	28.2	26.2	-168.6	42.3	38.9
<b>PL</b>	309.6	299.5	283.3	266.8	259	228.6	71.2	-238.4	51.1	49.2
<b>SK</b>	172.7	112.8	80.1	77.9	72.3	55.7	47.8	-124.9	29.4	25.6
<b>USA</b>	12.7	12.7	12.8	12.8	12.7	12.7	12.7	0	60.3	54.8

Reducing bureaucratic procedures and the cost did not seem to have a significant role in changing the mindset of the potential entrepreneurs in the V4. Of the four components of this index, the strongest influence on having a goal of being an employee to preferring to be an entrepreneur is the change in the percentage of the cost of starting a business. The cost of starting a business decreased in the V4, with the largest drop in Poland in 2009-2010; its impact – if any – will be felt in the future.

In spite of the ease of becoming an entrepreneur in the V4, the perceptions have not changed as Table 4 shows. In all countries the respondents believed that there is lack of information, difficulties with financing and bureaucratic red tape increased between 2007 and 2009, and in fact situation worsened since 2004. What might bode best for future V4 entrepreneurs is the increase of risk tolerance as shown by the table.

**Table 4. Perceptions**

	CZ			HU			PL			SK			USA		
	04	07	09	04	07	09	04	07	09	04	07	09	04	07	09
lack of financial support	74	52	75	83	77.6	87.1	87	83	85.6	93	84	90.4	69	69.7	82.8
administrative complexity	70	68	73.2	74	65	70.9	70	74	70.6	77	69	74.1	56	57.1	70.5
insufficient information	40	32	47.8	48	47.1	51.1	48	47	51.4	51	37	51.9	36	34.3	45.2
risk tolerance <sup>#</sup>	61	38	51.7	80	54.2	66.7	56	53	63.7	60	47	56.9	33	18.6	26.2
<b>Total</b>	245	190	247.7	285	243.9	275.8	261	257	271.3	281	231	273.3	194	189.7	224.7

In agreement with the statement it is difficult to start a business because (Q12 in '04; Q16 in '07, Q18 in '09)

<sup>#</sup>One should not start a business if there is a risk it might fail.

This perception of worsening business conditions, both on the administrative level and the overall economy, is reflected in the decrease of the share of those who started in business because of an opportunity. The answers are summarized in Table 5.

**Table 5. Reasons for starting a business (in %). “You started a business because ...”**

	CZ			HU			PL			SK			USA		
	'04	'07	'09	'04	'07	'09	'04	'07	'09	'04	'07	'09	'04	'07	'09
of an opportunity	46	57.9	50.4	57	43.8	43.2	49	60.4	55.5	33	60.5	39.7	71	72.5	62
it was a necessity	31	30.6	25.8	23	38.1	40.1	36	24.2	26.7	41	24.7	40.8	13	19.5	20.1
Both	19	9	13.3	19	14.3	16.1	12	12.8	12.8	24	7.2	18.9	10	5.4	12.5
NA	4	2.4	10.5	1	3.7	0.6	3	2.6	5.2	2	7.5	0.5	6	2.6	0.4

Q9 (2004), Q13 (2007), Q12 (2009), “All in all, would you say you started, or are starting, your business because you saw an opportunity or you started it out of necessity?”

In the V4, as in the USA the reason the share of respondents gave for launching, or for having launched their own business because they saw an opportunity declined between 2007 and 2009, except for the Czech Republic; the share of those who started their business out of necessity increased everywhere.

The 2009 survey tried to measure the public opinion about entrepreneurs. (The question in the 2004 and 2007 surveys was not asked, or rather a very different question was asked.) The highest favorable “rating” was in the US (73.4%), and second highest was in the Czech R (43.8%), with Slovakia (33.7%), and Poland (32.5%) following. In Hungary only 26% of the respondents had favorable view of entrepreneurs.

### Operating barrier index

Entrepreneurship is encouraged by liberal, transparent markets and this was a condition for EU membership. Market liberalization is reflected in the reduction of the *operating barrier index*, which is summarized in Table 6. A more liberal market should provide more opportunities to start a business, yet in Hungary the number of entrepreneurs who said that they started a business because they saw an opportunity declined. This can be partly explained by the fact that the operating index was reduced only after the 2009 survey was completed.

**Table 6. Operating barriers index**

	2004	2005	2006	2007	2008	2009	2010	Change	Potential entrepreneurs	
									2004	2009
<b>CZ</b>	1022.5	1022.5	1040	1040	1026	1013	737	- 285.5	30.5	32.1
<b>HU</b>	551	551	551	551	536	526	565	+14	42.3	38.9
<b>PL</b>	1209	1209	1189	1174	1039	1041	992	- 217	51.1	49.2
<b>SK</b>	867.7	777.7	777.7	777.7	776.7	776.7	740	- 127.7	29.4	25.6
<b>USA</b>	342.4	342.4	342.4	341.4	341.4	341.4	346.4	+4	60.3	54.8

In the Czech Republic, Poland and Slovakia the index improved, yet increasing the size of the potential entrepreneurial pool only in the Czech Republic. The index worsened in Hungary and the USA and the entrepreneurial pool decreased. The domestic and international economic conditions worsened, which impacted all countries. The worsening conditions and the perceived increase in financial and bureaucratic hurdles is reflected by the answer to the question in the survey, asking those who were **not** self-employed, if they could see themselves self-employed in the near future. The answers are summarized in Table 7.

**Table 7. Feasibility of self-employment in 5 years (in %)**

	2004		2007		2009	
	self-employment feasible in 5 years	Would prefer to be self-employed now (Table 1)	self-employment feasible in 5 years	Would prefer to be self-employed now (Table 1)	self-employment feasible in 5 years	Would prefer to be self-employed now (Table 1)
<b>CZ</b>	10	30.5	25	29.6	15	32.1
<b>HU</b>	42	42.3	27	42.8	19	38.9
<b>PL</b>	42	51.1	48	51	36	49.2
<b>SK</b>	17	29.4	39	35.9	22	25.6
<b>USA</b>	43	60.3	44	61.1	36	54.8

“Regardless of whether or not you would like to become self-employed, would it be feasible for you to be self-employed within the next 5 years??” (Q6 in 2004, 2007 and Q4 in 2009)

Although the 2007 results showed an increase (compared to 2004) in the proportion of respondents who considered it *very* or *quite* feasible to become self-employed in the next five years in all countries, save Hungary; the opposite trend was observed in 2009, in all countries the proportion of respondents who considered it *very* or *quite* feasible to become self-employed in the next five years has decreased. In all countries, the proportion of respondents – not (yet) self-employed – who considered it *very* or *quite* feasible to become self-employed in the next five years was lower than the proportion of non-self-employed respondents who would like to be self-employed.

The closing index, which evaluates the time and cost of bankruptcy proceedings, remained virtually unchanged in all countries. The differences between the USA and the V4 can be explained by two components of the index. One, the **cost** of the bankruptcy proceedings, which is recorded as a percentage of the estate’s value, is twice as high in the V4 countries as in the USA. The second, the **recovery rate**, expressed in terms of how many cents on the dollar claimants recover through the bankruptcy or insolvency proceedings is twice as high in the USA as in the V4. Unlike the previous two indexes, here the higher the number, the better it is. In the USA and in Poland the index decreased, the recovery rate fell in both countries, but it fell drastically, by nearly by 50%, in Poland. Since this index has remained virtually unchanged in all the examined countries, I argue that it has the

least impact on the size of the potential entrepreneurial pool, as potential entrepreneurs do not attach great significance to closing costs when entering into business.

**Table 8. Closing index**

	2004	2005	2006	2007	2008	2009	2010	Change	Potential entrepreneurs	
									2004	2009
<b>CZ</b>	42.2	44.2	42.2	42.2	42.8	42.4	42.4	<b>0</b>	30.5	32.1
<b>HU</b>	55	55	53	57	55.4	55.4	55.4	<b>+0.4</b>	42.3	38.9
<b>PL</b>	75	52	52	53	52.8	52.8	52.8	<b>-22.2</b>	51.1	49.2
<b>SK</b>	62.8	62.8	61.9	70	67.2	67.9	67.9	<b>+5.1</b>	29.4	25.6
<b>USA</b>	88.5	88.5	88.5	84.5	84.4	85.2	85.2	<b>-3.3</b>	60.3	54.8

## CONCLUSION

This study is limited not only because it is based on only three surveys, but also that not all questions were asked or were identical in the three periods and some were phrased differently. In the three surveys often US respondents were given only one answer choice, while in the EU multiple answers were allowed making fair comparisons difficult. Future surveys using the same questions and answer choices will allow for longitudinal studies. A follow-up using the focus-group method, a variation of the in-depth interview, would provide a more nuanced picture of entrepreneurial attitudes. Another limiting factor is the World's Bank Doing Business indicators, which are calculated for relatively large firms, defined as having up to 50 employees. However, most entrepreneurs start smaller businesses. Yet this study and the data shows the economies of the V4 became more open and transparent in the past twenty years, and especially since accession to the EU, and are on the way to meeting EU goals of reducing bureaucracy and red tape, even if this information has not spread to the public or believed by the potential entrepreneurs. While the V4 countries were judged ready and able to compete as equal partners by the EU in 2004, when they became full members, the standard of living in these countries was below that of the EU. Recent econometric studies prove that entrepreneurial activity is crucial to economic growth (Audretsch, Fritsch, 2002; Audretsch, Thurik, Verheul and Wennekers, 2002; van Stel, Carree and Thurik, 2002 and 2005). V4 countries must grow faster than the other EU member countries in order to diminish the differences between the standards of living between their citizens' and the rest of Europe, entrepreneurs, therefore, have to play a bigger role in the V4 than in Europe. Also, surveys cannot measure social and/or cultural variables which should be considered as determinants or controlling factors of entrepreneurship especially in cross-country studies.

A study by Zwan, Thurik and Grilo (2008)<sup>11</sup> proved that past "the age of 36 years the probability of at least thinking about embracing an entrepreneurial career decreases." All V4 countries face the problem of aging population, so potential entrepreneurial pool is, at best, constant.

## REFERENCES

Audretsch, D.B. and Fritsch, M., 'Growth regimes over time and space', *Regional Studies*, 36 (2),(2002) p. 949-959.

Audretsch, D.B., Thurik, A.R., Verheul, I. and Wennekers, A.R.M. (eds.), *Entrepreneurship: Determinants and Policies in the New Economy*, Boston/Dordrecht: Kluwer Academic Publishers. 2002.

Carree, M.A., van Stel, A.R. Thurik and Wennekers, A.R.M., 'Economic development and business ownership: an analysis using data of 23 OECD countries in the period 1976-1996', *Small Business Economics*, (2002) 19, p. 271-290.

Djankov, S., Murrell, P. "Enterprise Restructuring in Transition: A Quantitative Survey," *Journal of Economic Literature*, (2002) vol. 40(3), pages 739-792

Stel, A.J. van, M.A. Carree and Thurik, A.R., ‘The effect of entrepreneurial activity on national economic growth’, *Small Business Economics*, (2005) 24 (3), p. 311-321.

Stel, A. van, Storey, D. and Thurik, A.R., ‘The Effect of Business Regulations on Nascent to Young Business Entrepreneurship’, *Small Business Economics*, (2007) 28(2-3), p. 171-186

World Bank, <http://www.doingbusiness.org/reports/doing-business/doing-business-2010> for each year

Eurobarometer: Flash Barometer #160, 20004. [http://ec.europa.eu/public\\_opinion/flash/fl160\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl160_en.pdf)

Eurobarometer: Flash Barometer #192, 20007.

[http://ec.europa.eu/enterprise/policies/sme/files/survey/eurobarometer2007/eb2007report\\_en.pdf](http://ec.europa.eu/enterprise/policies/sme/files/survey/eurobarometer2007/eb2007report_en.pdf)

Eurobarometer: Flash Barometer #283, 2010.

[http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/eurobarometer/fl283\\_en.pdf](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/eurobarometer/fl283_en.pdf)

<sup>1</sup> [http://www.un.org/esa/sustdev/documents/WSSD\\_POI\\_PD/English/POI\\_PD.htm](http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm) (Accessed February 1, 2011)

<sup>2</sup> [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Sustainable\\_development\\_indicators\\_introduced](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Sustainable_development_indicators_introduced) Accessed February 1, 2011)

<sup>3</sup> Organization for Economic Co-Operation and Development (OECD), 1998, *Fostering Entrepreneurship*, Paris: OECD. p.11

<sup>4</sup> <http://www.ena.lu/> (Accessed March 1, 2011)

<sup>5</sup> *The New York Times*, 1991. February 17, p. 25

<sup>6</sup> *Bulletin of the European Communities*. October 1992, No 10, pp. 127-128.

<sup>7</sup> [http://ec.europa.eu/public\\_opinion/flash/fl160\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl160_en.pdf) p.4. (accessed January 15, 2011). Other examples are: [http://ec.europa.eu/enterprise/enterprise\\_policy/best/doc/actionplan\\_en.pdf](http://ec.europa.eu/enterprise/enterprise_policy/best/doc/actionplan_en.pdf) p.10, 12, and 18. [http://ec.europa.eu/education/policies/2010/doc/comuniversityfaq\\_en.pdf](http://ec.europa.eu/education/policies/2010/doc/comuniversityfaq_en.pdf) p.4 (accessed January 15, 2011).

<sup>8</sup> [http://ec.europa.eu/public\\_opinion/flash/fl160\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl160_en.pdf)

<sup>9</sup> Green Paper: “Entrepreneurship in Europe”, European Commission, COM (2003) 27 final, 21/01/2003. [http://ec.europa.eu/off/green/index\\_en.htm](http://ec.europa.eu/off/green/index_en.htm) (accessed January 15, 2011)

<sup>10</sup> Self-employed persons may be divided into two groups: those with and those without paid employees of their own. Those with paid employees are described as employers and those without paid employees are described as own-account workers.

<sup>11</sup> <http://people.few.eur.nl/thurik/> “The entrepreneurial ladder and its determinants” (Accessed February 21, 2011)

# QUALITY AND PRICE IN MONOPOLY

**Sadik Gokturk and F. Masarani**  
**St. John's University, USA**

## ABSTRACT

*The market demand function for quality is derived from utility functions, by establishing a relationship between the number of units demanded, the price, and the quality level, for a given probability distribution of the income of the consumers. The existence of a solution to the monopolist's problem is proved from conditions on utility functions. It is also shown that demand is relatively more responsive to changes in price than it is to changes in quality. Finally, it is also shown that an increase in the quality cost and an increase in the cost of other inputs (which is assumed to be independent of quality) increases price, decreases quality, and, hence, decreases quantity supplied.*

## INTRODUCTION

This paper studies the determination of product quality, along with the price and quantity of that commodity, in a monopolistic market. We first derive the demand function for the commodity, as functions of price and quality. Next, we study the price and quality setting policies of a monopoly, which is producing that commodity. The paper concludes with a comparative statics analysis. While studies of quality determination are quite abundant in the literature, most of them are from the point of view of monopolistic competition, product differentiation, or advertising. Quality-setting by a monopoly however is studied rarely. The papers by Mussa and Rosen (1978), Sheshinski (1976), Spence (1975), and Masarani and Gokturk (1981), among others, do in fact study the problem of quality-setting by a monopoly. We extend in this paper the results of the latter paper.

## DERIVATION OF CONSUMER'S DEMAND FUNCTION FOR QUALITY

Consider a good A, of which a consumer buys only one unit. The quality of the good, as judged by the consumer, is a continuous variable, which is denoted by  $q$ . For the purpose of describing the preferences of the consumer for quality, we consider another good B, which is divisible and of uniform quality. Let  $U(x, q)$  be the utility derived by the consumer from consuming one unit of A of quality  $q$  and  $x$  units of B. Assume that  $U(x, q)$  is a twice continuously differentiable function and that it is an increasing function of each variable separately. The portion of the income  $I$  of the consumer left over after buying a unit of A will be spent completely on B. To simplify the exposition, assume that the price per unit of B is 1. Then, if the consumer does not buy A, his utility will be  $U(I, 0)$ . Let  $c = U(x, q)$  be the indifference curve  $\Gamma$  for the consumer, for which the value of the constant  $c$  is  $U(I, 0)$ . We assume that  $\Gamma$  has the shape shown in Figure 1. We examine now the implications of the shape of  $\Gamma$ . Since  $U(I, q)$  is constant for  $q \leq a$ , the consumer is indifferent between  $I$  units of B and not possessing A, on the one hand, and  $I$  units of B and possessing a unit of A with quality less than or equal to  $a$ , on the other. Hence, the consumer will not purchase A, if the quality of A is less than or equal to  $a$ .

We see by a similar argument that the consumer will not purchase a unit of A, if the quality of A is greater than  $b$ . Thus, the consumer will purchase a unit of A, if and only if  $a < q \leq b$ .

To find out how much the consumer is willing to pay for a unit of A when  $a < q \leq b$ , consider the point with  $q$ -coordinate  $q_1$  on the curve  $\Gamma$ . If the consumer gives up  $I - x_1$  units of B to purchase A at quality  $q_1$ , he will be indifferent between possessing A and not possessing A. Hence, the price of a unit of A must be less than

$I - x_1$ , so that the consumer will be induced to purchase a unit of A at that price and of quality  $q_1$ . Let  $p_1 = I - x_1$ . It is clear that as  $q_1$  increases from  $a$  to  $b$ ,  $p_1$  increases from 0 to  $v$ . Thus, the consumer will not purchase a unit of A, if the price of A is  $v$  or more, irrespective the quality of A. At price  $p < v$ , the consumer will purchase a unit of A, if and only if the quality of A is at least  $q_p$ , where  $U(I - p, q_p) = U(I, 0)$ . Figure 2 shows the graph of  $q_p$  as a function of  $p$ .

## DERIVATION OF THE MARKET DEMAND FUNCTION FOR GOOD A

We make the following assumptions on the utility function  $U(x, q)$ :

- (1) The price  $v$  and the quality levels  $a$  and  $b$  are increasing functions of the income  $I$  of the consumer. We denote them by  $v(I)$ ,  $a(I)$ , and  $b(I)$ , respectively. Assume that each one of these functions vanishes at the origin and tends to infinity, as  $I$  tends to infinity.
- (2) For every pair of positive numbers  $p, q$ ,  $U(p, 0) > U(0, q)$ . This assumption implies that the consumer prefers to do without product A, rather than having to do without product B, irrespective how small a quantity  $p$  of B he ends up with and irrespective how high the quality  $q$  of A is.
- (3)  $U_{xx}(x, q) \leq 0$  and  $U_{xq}(x, q) \geq 0$  and at least one of  $U_{xx}(x, q)$  and  $U_{xq}(x, q)$  is not zero for all  $x \geq 0$  and  $q \geq 0$ .

PROPOSITION 1: For every pair  $p_0, q_0$  of positive numbers satisfying

$$b(v^{-1}(p_0)) \leq q_0,$$

there exists a positive number  $x_0$ , such that

$$U(x_0 + p_0, 0) \leq U(x_0, q_0).$$

PROOF: Assume that  $b(v^{-1}(p_0)) \leq q_0$ . Let  $I_0 = b^{-1}(q_0)$ .

Then

$$p_0 \leq v(I_0)$$

and

$$q_0 = b(I_0).$$

A consumer with income  $I_0$  buys a unit of A at price  $p_0$ , if and only if its quality is at least  $q_1$ , where

$$U(I_0, 0) = U(I_0 - p_0, q_1)$$

and  $q_1 \leq b(I_0) = q_0$ . Since the utility function is increasing in each variable,

$$U(I_0 - p_0, q_1) \leq U(I_0 - p_0, q_0).$$

Therefore,

$$U(I_0, 0) \leq U(I_0 - p_0, q_0).$$

Letting  $x_0 = I_0 - p_0$ , we obtain

$$U(x_0 + p_0, 0) \leq U(x_0, q_0).$$

Q.E.D.

PROPOSITION 2: If  $q_0 \leq a(v^{-1}(p_0))$ , then  $U(x_0 + p_0, 0) > U(x_0, q_0)$ , for every  $x_0 \geq 0$ .

PROOF: We show first that at price  $p_0$  and level of quality  $q_0$ , no consumer will buy a unit of the product. To see why this is so, note first that, if a consumer with income  $I$  were to buy such a unit, we must have  $p_0 \leq v(I)$ . Hence,  $v^{-1}(p_0) \leq I$ . Therefore,  $a(v^{-1}(p_0)) \leq a(I)$ . It follows from the hypothesis of this proposition that  $q_0 \leq a(I)$ . Hence, the consumer will not buy a unit of A at price  $p_0$  and of quality  $q_0$ . Thus, the consumer must prefer  $p_0$  units more of product B and do without a unit of A to obtaining a unit of A of quality  $q_0$  and  $p_0$  units less of B. This implies the inequality to be proved. Q.E.D.

PROPOSITION 3: Let  $\Omega = \{(p_0, q_0) | U(x_0 + p_0, 0) > U(x_0, q_0) \text{ for every } x_0 \geq 0\}$ . Then no consumer buys a unit of product A at price  $p_0$  and of quality  $q_0$ , if and only if  $(p_0, q_0) \in \Omega$ .

PROOF: Obvious.

Q.E.D.

PROPOSITION 4: *The set  $\Omega$  is a non-empty proper subset of  $\mathfrak{R}_+^2$ , where*

$$\mathfrak{R}_+^2 = \{(p_0, q_0) | p_0 > 0, q_0 > 0\}.$$

PROOF: Follows from Propositions 1 and 2.

Q.E.D.

PROPOSITION 5: *For every point  $(p, q) \notin \Omega$ , there exists a unique level of income  $I = W(p, q)$ , such that a consumer with income  $I$  buys a unit of product  $A$  at price  $p$ , if and only if the quality of the product is at least  $q$ .*

PROOF: The proposition will be proved, once we show that the equation in I

$$(1) \quad U(I, 0) = U(I - p, q)$$

has a unique solution. To this end, consider the following function of  $x$

$$(2) \quad \varphi(x) = U(x + p, 0) - U(x, q).$$

Differentiating  $\varphi(x)$  with respect to  $x$ , we obtain

$$\varphi'(x) = U_x(x + p, 0) - U_x(x, q).$$

The above equation can be written as

$$(3) \quad \varphi'(x) = U_x(x + p, 0) - U_x(x, 0) + U_x(x, 0) - U_x(x, q).$$

Using the Mean Value Theorem, we get

$$(4) \quad U_x(x + p, 0) - U_x(x, 0) = U_{xx}(z, 0)p,$$

$$(5) \quad U_x(x, 0) - U_x(x, q) = -U_{xq}(x, w)q,$$

where  $z$  and  $w$  are numbers, such that  $x < z < x + p$  and  $0 < w < q$ . Substituting Equations (4) and (5) in (3) and using Assumption (3) on the function  $U(x, q)$  made at the beginning of this section, we conclude that  $\varphi'(x) < 0$ , that is,  $\varphi(x)$  is a decreasing function of  $x$ . Since  $\varphi(0) = U(p, 0) - U(0, q)$  is positive by Assumption (2) on  $U(x, q)$  and there exists  $x_0$ , such that  $\varphi(x_0) \leq 0$ , because  $(p, q) \notin \Omega$ , hence there must exist a unique value of  $x$ , call it  $x_1$ , such that  $\varphi(x_1) = 0$ . From Equation (2), we conclude that

$$U(x_1 + p, 0) = U(x_1, q).$$

Hence,  $I_1 = x_1 + p$  is a unique solution of Equation (1).

Q.E.D.

REMARK: *Let  $\Omega$  be the complement of  $\Omega$  in  $\mathfrak{R}_+^2$ . It is easy to see from the above results that  $\Omega$  is a closed proper subset of  $\mathfrak{R}_+^2$  with a non-empty interior.*

PROPOSITION 6: *The function  $I = W(p, q)$  is a decreasing function of  $q$  for every fixed  $p$  and an increasing function of  $p$  for every fixed  $q$ , provided  $p$  and  $q$  vary such that  $(p, q)$  remains in  $\Omega$ .*

PROOF: The partial  $\frac{\partial I}{\partial p}$  can be computed by differentiating Equation (1) implicitly with respect to  $p$ . We get

$$\frac{\partial I}{\partial p} = -U_x(I - p, q)[U_x(I, 0) - U_x(I - p, q)]^{-1}.$$

The square bracket on the left-hand side of the above equation is  $\varphi'(I, p)$ , where  $\varphi(x)$  is the decreasing function in the proof of Proposition 5. Since  $U_x(I - p, q) > 0$ , we conclude that  $\frac{\partial I}{\partial p} > 0$ .

For a fixed  $I$ , we have by implicit differentiation

$$\frac{dp}{dq} = -\frac{\partial I / \partial q}{\partial I / \partial p}.$$

Since  $dp/dq$  is positive for a fixed  $I$  by the results of Section 2 and we just proved that  $\partial I / \partial p > 0$ , the above equation implies that  $\partial I / \partial q < 0$ . Q.E.D.

**PROPOSITION 7:** *Assume that  $(p, Q) \in \Omega$ . Then a consumer buys a unit of product A at price  $p$  and of quality  $Q$ , if and only if his income  $I$  is such that  $I \geq W(p, Q)$ .*

**PROOF:** Let  $q_p$  be the minimal quality demanded by a consumer with income  $I$ , when the price of a unit of A is  $p$ . Then, by Proposition 5,  $I = W(p, q_p)$ . Now, the consumer will buy a unit of A at price  $p$  and quality  $Q$ , if and only if  $Q \geq q_p$ . Since  $W(p, q)$  is a decreasing function of  $q$  for every fixed  $p$ , we have  $Q \geq q_p$ , if and only if

$$W(p, Q) \leq W(p, q_p) = I. \quad \text{Q.E.D.}$$

**PROPOSITION 8:** *Let the income of the population have a probability distribution, whose density function is  $f(I)$ . Assume that the population has  $D_0$  consumers. Then, the number  $D(p, Q)$  of units A demanded at price  $p$  and quality level  $Q$  is given by*

$$D(p, Q) = D_0 \int_{W(p, Q)}^{\infty} f(I) dI,$$

*provided  $(p, Q) \in \Omega$ ; otherwise,  $D(p, Q) = 0$ . Furthermore,  $D(p, Q)$  is a decreasing function of  $p$  for a fixed  $Q$  and  $D(p, Q)$  is an increasing function of  $Q$  for affixed  $p$ .*

**PROOF:** Follows from Propositions 6 and 7. Q.E.D.

The following proposition is a technical result needed in the following section.

**PROPOSITION 9:** *Assume that the random variable  $v(I)$  has a finite expectation. Then, for every positive number  $\eta$ , there exists a positive number  $k$  which may depend on  $\eta$  but not on  $Q$  such that*

$$pD(p, Q) < \eta,$$

*for all  $p \geq k$ .*

**PROOF:** For any  $I = W(p, q)$ ,  $(p, q) \in \Omega$ , we must have  $p \leq v(I)$ . Let  $I_Q = W(p, Q)$ . Hence,  $p \leq v(I_Q)$ . Since  $v(I)$  is an increasing function of  $I$ , we must have  $v(I_Q) \leq v(I)$  for all  $I_Q \leq I$ . Therefore,  $p \leq v(I)$  for all  $I_Q \leq I$ . Hence,

$$p \int_{I_Q}^{\infty} f(I) dI \leq \int_{I_Q}^{\infty} v(I) f(I) dI.$$

From the above inequality and Proposition 8 we conclude that

$$(6) \quad pD(p, Q) \leq D_0 \int_{I_Q}^{\infty} v(I) f(I) dI.$$

By the hypothesis of this proposition we have

$$\int_0^{\infty} v(I) f(I) dI < \infty.$$

Hence, there exists a number  $\ell$  which does not depend on  $Q$  such that if  $I_Q \geq \ell$  then

$$(7) \quad D_0 \int_{I_Q}^{\infty} v(I) f(I) dI < \eta.$$

Since  $p \leq v(I_Q)$ ,  $I_Q \geq \ell$  if  $p \geq v(\ell)$ . Let  $k = v(\ell)$ . If  $p \geq k$ , then inequality (7) is true. Inequalities (7) and (6) imply that  $pD(p, Q) \leq \eta$  for all  $(p, Q) \in \Omega$ . If  $(p, Q) \in \Omega$ , then  $D(p, Q) = 0$  and certainly  $pD(p, Q) < \eta$ . Q.E.D.

REMARK: Note that since  $W(p, Q)$  is a twice differentiable function of  $p, Q$  on the interior of  $\Omega$  (follows from the derivation of  $W(p, q)$  in Proposition 5), so is  $D(p, Q)$ .

## SETTING THE PRICE AND THE QUALITY LEVEL BY A MONOPOLY

Consider a firm which is a monopoly faced by the demand function  $D(p, Q)$  for the good A derived in the previous section. Assume that the total cost function for the firm has two components. The first is the cost of quality; the second is the cost of other inputs. Suppose that each one of these costs is a linear function. Thus, let  $\gamma Q$  be the quality cost of one unit of A of quality Q and  $c$  the cost of other inputs for one unit of A which is independent of Q. Then, the profit function  $\pi(p, Q)$  of the firm when the price of a unit of A is  $p$  and its quality is Q is

$$\pi(p, Q) = (p - \gamma Q - c)D(p, Q).$$

Consider now the following optimization problem

$$(*) \quad \max_{(p, Q) \in \mathfrak{R}_+^2} \pi(p, Q)$$

PROPOSITION 10: Assume that there exists  $(p_0, Q_0) \in \mathfrak{R}_+^2$ , such that  $\pi(p_0, Q_0) > 0$ . Then, under the assumptions on  $U(p, q)$  of Sections 2 and 3, Problem (\*) has a solution.

PROOF: Take  $\eta$  in Proposition 9 equal to  $(1/2)\pi(p_0, Q_0)$  and let  $k_0$  be the corresponding value of  $k$ . Then

$$pD(p, Q) < \pi(p_0, Q_0)$$

for all  $p \geq k_0$ . Hence,

$$(8) \quad \pi(p, Q) < \pi(p_0, Q_0)$$

for all  $p \geq k_0$ . Let T be the closed and bounded subset of  $\mathfrak{R}_+^2$ , defined by

$$T = \{(p, Q) \in \mathfrak{R}_+^2 \mid p \leq k \text{ and } p - \gamma Q - c \geq 0\}$$

and let S be the closed and bounded set  $T \cap \Omega$ . S is not empty because it contains  $(p_0, Q_0)$ . Furthermore,  $\pi(p, Q)$  is continuous on S since  $D(p, Q)$  is continuous on  $\Omega$ . Hence,  $\pi(p, Q)$  has a maximum over S. Let  $(p^*, Q^*)$  be a point in S at which  $\pi(p, Q)$  attains its maximum value. We claim that  $(p^*, Q^*)$  is a solution of Problem (\*). To prove this claim we need only show that

$$(9) \quad \pi(p^*, Q^*) \geq \pi(p, Q); (p, Q) \in \hat{S},$$

where  $\hat{S}$  is the complement of S. But,  $(p, Q) \in \hat{S}$ , if and only if one or more of the following conditions hold

$$(10) \quad p > k,$$

$$(11) \quad p - \gamma Q - c < 0,$$

$$(12) \quad D(p, Q) = 0.$$

Condition (10) implies (8) which implies (9), since

$$(13) \quad \pi(p^*, Q^*) \geq \pi(p_0, Q_0).$$

Conditions (11) and (12) imply that  $\pi(p, Q) \leq 0$ . Hence, (9) must be true, since (13) and the hypothesis that  $\pi(p_0, Q_0) > 0$  imply that  $\pi(p^*, Q^*) > 0$ . Q.E.D.

We assume in the rest of this paper that a solution of Problem (\*) occurs at an interior point of  $\Omega$ .  
Let

$$\varepsilon_p(p, Q) = - \frac{p}{D} \frac{\partial D}{\partial p}$$

and

$$\varepsilon_Q(p, Q) = - \frac{Q}{D} \frac{\partial D}{\partial Q}$$

be respectively the price and quality elasticities of demand.

PROPOSITION 11: Assume that a solution of Problem (\*)  $(p^*, Q^*)$ , at which the profit is positive, occurs at an interior point of  $\Omega$ . Then

$$-\varepsilon_Q(p^*, Q^*) < \varepsilon_p(p^*, Q^*)$$

and

$$\varepsilon_p(p^*, Q^*) > 1.$$

PROOF: The first-order conditions for profit-maximization can be obtained by differentiating the profit function

$$\pi(p, Q) = (p - \gamma Q - c)D(p, Q)$$

and setting the first partials equal to 0. Thus, at the solution  $(p^*, Q^*)$  we must have

$$\begin{aligned} \pi_p(p^*, Q^*) &= (p^* - \gamma Q^* - c)D_p(p^*, Q^*) + D(p^*, Q^*) = 0, \\ \pi_Q(p^*, Q^*) &= (p^* - \gamma Q^* - c)D_Q(p^*, Q^*) - \gamma D(p^*, Q^*) = 0. \end{aligned}$$

The above two equations imply

$$(14) \quad \varepsilon_p(p^*, Q^*) = \frac{p^*}{p^* - \gamma Q^* - c},$$

$$(15) \quad -\varepsilon_Q(p^*, Q^*) = \frac{\gamma Q^*}{p^* - \gamma Q^* - c},$$

$$(16) \quad \gamma D_p(p^*, Q^*) = -D_Q(p^*, Q^*).$$

Since  $p^* - \gamma Q^* - c > 0$ , because  $\pi(p^*, Q^*) > 0$ , and  $p^* > p^* - \gamma Q^* - c$ , it follows from Equations (14) and (15) that

$$(17) \quad -\varepsilon_Q(p^*, Q^*) < \varepsilon_p(p^*, Q^*)$$

and

$$(18) \quad \varepsilon_p(p^*, Q^*) > 1. \quad \text{Q.E.D.}$$

REMARK: Proposition 11 contains results that were obtained by us in another quality model (See Masarani and Gokturk (1981)).

Inequality (17) shows that at the optimum level of profit, the demand is sensitive to changed in price more than it is sensitive to changes in quality. Inequality (18) agrees with the classical result for a monopoly that the price elasticity of demand at the optimum level of profit is greater than one.

## COMPARATIVE STATICS

The purpose of this section is to investigate the effect of changes in the parameters  $\gamma$  and  $c$  on a solution of Problem (\*).

To this end we assume that  $U(x, q)$  satisfies all the assumptions made in Sections 2 and 3 and that there exists a price-quality setting policy  $(p_0, Q_0)$  at which total profit  $\pi(p_0, Q_0)$  is positive. Then, Proposition (10) of Section 4 guarantees the existence of a solution  $(p^*, Q^*)$  to Problem (\*). We will assume further that  $(p^*, Q^*)$  is an interior point of  $\Omega$  and the determinant  $\Delta^*$  of second cross partials of  $\pi$  is not zero.

PROPOSITION 12: Assume that  $\frac{\partial^2}{\partial Q \partial p} \frac{1}{D} > 0$  for all  $p$  and  $Q$ . then

- (a) As  $c$  increases,  $p^*$  increases while  $Q^*$  decreases.
- (b) As  $\gamma$  increases,  $p^*$  increases and  $Q^*$  decreases.

PROOF: Straightforward.

Q.E.D.

REMARK: Since the firm supplies an amount equal to  $D(p^*, Q^*)$  of the good  $A$  and since  $D(p^*, Q^*)$  is increasing in  $Q^*$  but decreasing in  $p^*$ , the amount supplied by the firm decreases as  $c$  increases or as  $\gamma$  increases.

## REFERENCES

Masarani F. and S. S. Gokturk, "Quality and Monopolistic Pricing of Services," *Economics Letters*, Vol. 7 (1981): 1-5

Mussa, M. and S. Rosen, "Monopoly and Product Quality," *Journal of Economic Theory*, Vol. 18 (1978): 301-317

Sheshinski, E., "Price, Quality, and Quantity Regulation," *Economica*, Vol. 43 (1976): 127-137

Spence, A. M., "Monopoly, Quality, and Regulation," *Bell Journal of Economics*, Vol. 6 (1975): 417-429

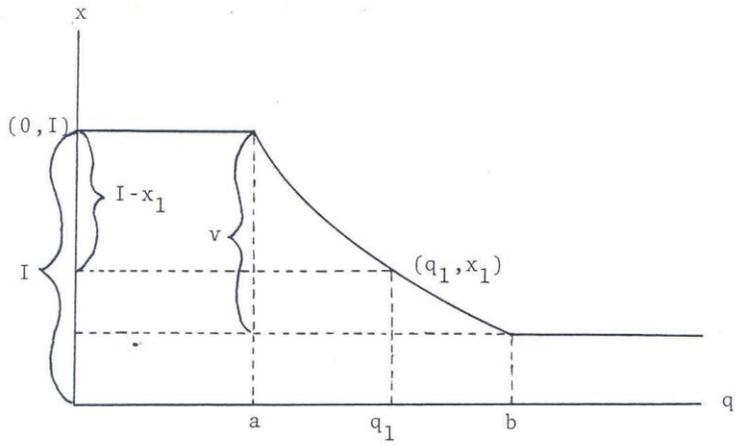


Figure 1

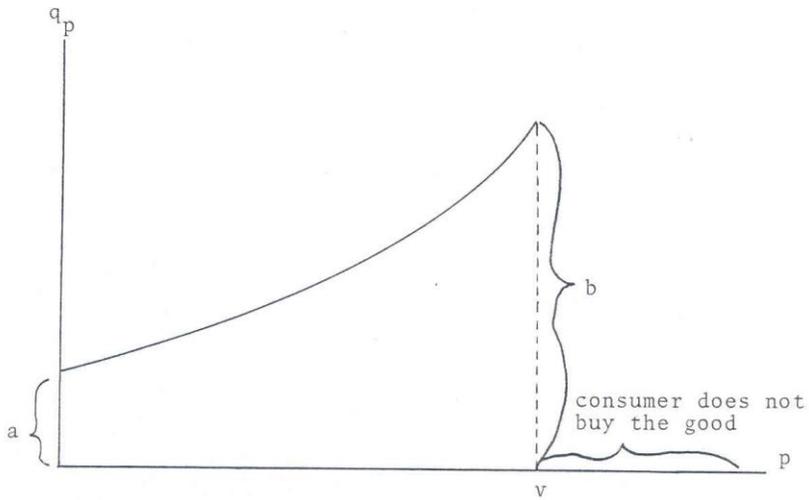


Figure 2

# MANAGEMENT ACCOUNTING IN PORTUGUESE HOTEL ENTERPRISES: THE INFLUENCE OF ORGANIZATIONAL AND CULTURAL FACTORS

Conceição Gomes, Nuno Arroiteia and Luís Lima Santos  
Polytechnic Institute of Leiria, Portugal

## ABSTRACT

*Management accounting has evolved in order to respond to the increasing challenges imposed by the hotel and lodging industry. This study has the objective of characterizing management accounting in the Portuguese lodging industry, particularly in hotels, identifying the techniques adopted, the deepness of their use, and understand the extent to which the industry adopts and use the Uniform System of Accounts for the Lodging Industry (USALI). It is also objective of the study to identify organizational structure and culture factors that influence management accounting, applying the contingency theory.*

## INTRODUCTION

Management accounting techniques have evolved in order to respond to the complexity of the organizations environment. Nevertheless, the traditional techniques have been the ones with vastest use and adoption, with the contemporary techniques being adopted at a slower rate (Adler et al., 2000; Jones, 2008; Slessor, 2010).

This study has the objective of characterizing management accounting in the Portuguese lodging industry, particularly in hotels, identifying the techniques adopted, the deepness of their use, the degree of satisfaction of management with these techniques and their adequacy for the decision-making process, understand the extent to which the industry adopts and use the Uniform System of Accounts for the Lodging Industry (USALI). It is also objective of this work identify the factors that influence management accounting. We are going to use the contingency theory to support this study. We focused our study on the organizational structure and culture factors.

The present research project has selected as object of the study hotels in Portugal. The sample includes 35 hotels, which were analyzed in the years 2009 and 2010, equally distributed in the sub categories of hotels, apartment-hotels and hostels.

## LITERATURE

According to Pavlatos and Paggios (2009), there is a growing desire to understand the practice of management accounting in hotels, because the management accounting techniques have an important role in their decision making process (Oliveira et al., 2008). The organizations make decisions based on information provided. It is important the use of management accounting information to allow the optimization of the decision making processes by hotel managers, due to the fact of them facing a big competition (Downie, 1997).

As a consequence of several specificities of the hotels, the information required by managers to make decisions is different from other industries. Hotel units face direct and indirect competition (Mia and Patiar, 2001). Hotels have two sources of information: market research and accounting information. The ideal is that this information could be aligned and coordinated thus supporting the managers (Downie, 1997).

Kaplan and Cooper (1998) have developed the design of systems costs and performance measures model, which describes the four stages that a company has to go since the traditional costing to the activity-based costing. The stage I is characterized by the existence of an inadequate system for preparing financial reports. In stage II, it is possible to prepare financial reports, distorted cost product reports and to accumulate costs by responsibility centers, but not by activity, processes and customers. In stage III, there is a traditional financial system working fine, and this system elaborates the financial accounting and prepares reports for short periods of time where it is showed the cost of sales and stock valuation. The activity-based costing is used to remove information from financial documents and allocate it to products, services, customers and processes. In stage IV, there is integration of accounting with financial reporting. The activity-based costing systems and operational feedback are integrated, providing information to prepare financial documents. The activity-based costing becomes the basis for the company's budget. So the activity-based budget is used to make comparisons with the real information of the year.

The management accounting techniques, according Ferreira (2002) may be divided into traditional and contemporary (Table 1).

**Table 1: Traditional versus contemporary management accounting techniques**

Traditional techniques	Contemporary techniques
<ul style="list-style-type: none"> <li>• Budgeting;</li> <li>• Budget deviation analysis;</li> <li>• Product costing;</li> <li>• Product profitability;</li> <li>• Return on investment;</li> <li>• Sales break-even;</li> <li>• Strategic Planning;</li> <li>• Tableau de bord.</li> </ul>	<ul style="list-style-type: none"> <li>• Activity-based budget;</li> <li>• Activity-based costing;</li> <li>• Balanced Scorecard;</li> <li>• Benchmarking;</li> <li>• Customer profitability analysis;</li> <li>• Economic Value Added;</li> <li>• Product life cycle costing;</li> <li>• Target costing;</li> </ul>

Source: adapted from Ferreira (2002).

The Greek hotels use more traditional management accounting techniques than contemporary management accounting techniques (Pavlatos and Paggios, 2008) as well as the hotels of the western region of Portugal (Santos et al., 2010). Jones (2008), Phillips (1996), Pavalatos and Paggios (2008) and Uyar and Bilgins (2011) refer that *Budgeting* and *Budget deviation analysis* are the management accounting techniques more used in the lodging industry. Vaughn et al. (2010) refer that activity-based costing was implemented with success in a kitchen in a Las Vegas casino, which allowed understand a hotel's cost structure.

The organizations give more importance to traditional management accounting techniques than to contemporary management accounting techniques. According to Fowler (2010), it doesn't mean that the contemporary techniques are irrelevant, because in several cases they are not adopted due their high costs of implementation.

USALI as a framework is also gaining support particularly among multinational hotel chains. However, Faria (2007) presents that less than a half of hotels use the USALI. Pavalatos and Paggios (2007) found few national hotels utilizing de USALI in Greece.

In the literature there may be found several studies that refer the determinants that make one company adopt for some management accounting techniques, supported by the theory of contingency. The contingency theory is base on the premise that the management accounting techniques are not used equally by all organizations (Haldma and Laats, 2002). These techniques depend upon the specific characteristics of an organization, like as organizational context and structure. The contingency theory helps to explain the impact of factors in management accounting. Several authors use this theory when examined divers factors (Haldma and Laats, 2002; Cadez e Guilding, 2008). According to Hayes (1977), there are three subgroups factors that influence the organization management, such as internal factors, interdependency factors and environment factors. Haldma and Laats (2002) subdivided into two general groups: external and internal factors. The internal factors are organizational aspects, technology and strategy. The fact of company being in a highly competitive market (Tayles and Walley, 1997), organizational variables such as communication, coordination, decentralization and formalization (Elmore, 1990; Luft and Shields, 2003) and business strategy and market

orientation (Cadez and Guilding, 2008) influence management accounting techniques adopted by companies worldwide.

According to Tamina and Bates (2010) the organizational structure can be mechanistic or organic. The mechanistic organization is related to a stable environment and an organic organization is related to an unstable environment. This can influence the usage rates of management accounting techniques. Uyar and Bilgin (2011) refer that the differences in management accounting were attributable to hotels sizes, complexity of operations, uncertainties, coordination and communication among departments.

Schmidgall et al. (1996) analyzed if culture influence the use of management accounting techniques but they didn't arrive an affirmative answer for the Budgets, but they verified this for Strategic planning. A majority of hotel chains in both the USA and Scandinavia use budgets and budget variance analyze. The budgets are elaborated by a bottom up approach. However, USA hotels prepared budgets for five or more years but Scandinavia not. The USA hotels have a tighter control over food costs and beverages costs, while Scandinavia has got a tighter control over other costs. According to Libby and Waterhouse (1996), Gosselin (1997), Granlund and Lukka (1998), Anderson e Young (1999), Chenhall (2003) and Baird et al. (2004), the organization culture influences the management accounting practices.

## Hypotheses

According to the literature, we found that the traditional management accounting techniques have a higher utilization compared to contemporary management accounting techniques. The USALI has a little use in the hotels of Greece. So, we can say that the most companies is in the stage II of the design of systems costs and performance measures model, since the companies that are in the stage III already use contemporary management accounting techniques. The main objective of management accounting technique is the decision making process for the most companies.

There are studies that refer several determinants supported by the theory of contingency that influence the management accounting from a hotel. In this study we opted to analyze the organizational and cultural factors. Particular, we are going to study the vertical differentiation, decentralization, formalization, standardization and organizational culture. Damanpour (1991) noted that de vertical differentiation has a positive association with managerial innovations. The centralization/decentralization is a factor indicated by many authors (Elmore, 1990; Libby and Waterhouse, 1996; Luft and Shields, 2003; Chenhall, 2003). However, there are different opinions. The rate of use of management accounting techniques increases with decentralization or centralization? The same happens with formalization. However the most of the authors refer that bureaucracy and formalization influence the implementation of new techniques (Elmore, 1990; Luft and Shields, 2003). According to standardization, Drury and Tayles (2005) refer that higher is standardization, higher is the utilization rate of management accounting techniques.

In the light of these conclusions, we developed the following hypotheses:

Hypothesis 1: The proportion of use of traditional management accounting techniques is higher than the proportion of use of contemporary management accounting techniques in lodging industry.

Hypothesis 2: The most of the Portuguese hotels is located at stage II.

Hypothesis 3: The function chosen by most companies as a main objective of management accounting is the decision making process.

Hypothesis 4: Less than fifty percent of hotels use the USALI.

Hypothesis 5: The higher the vertical differentiation in the hotels, the higher the rate of utilization of management accounting techniques.

Hypothesis 6: The higher the decentralization in the hotels, the higher the rate of utilization of management accounting techniques.

Hypothesis 7: The higher the formalization in the hotels, the higher the rate of utilization of management accounting techniques.

Hypothesis 8: The higher the degree of standardization in the hotels, the higher the rate of utilization of management accounting techniques.

Hypothesis 9: The culture of hotel influence the utilization of management accounting techniques.

## METHODOLOGY

According to Yin (2003), it was decided to adopt the method of questionnaire through of personal interviews. These was made by groups of students of the Tourism and Hotel management degree at Escola Superior de Turismo e Tecnologia do Mar/ Instituto Politécnico de Leiria, supervised by the teachers of the scientific fields of financial accounting and management accounting. The questionnaire structure was adopted from Gomes (2007).

The data was processed using SPSS (Statistics Packages for Social Sciences). In order to characterize the management accounting at the Portuguese lodging industry we utilized the univariate analysis. The relationships defined in the hypotheses were tested by univariate and bivariate analysis, for example, we have utilized: mean, mode, Spearman's Rho, Mann-Whitney test and Kruskal-Wallis test. According to Pestana and Gageiro (2003), Spearman's Rho measures the intensity of the relation among variables, and is commonly used to describe the relation among two ordinal variables or one ordinal and other scale variable. Due to the fact that this coefficient is not sensitive to asymmetric distributions, it does not require normal populations.

In order to reduce the variables related with management accounting and to contemporary management accounting, we conducted a factor analysis. To apply the factor analysis should be a correlation between the variables. According to all traditional management accounting techniques, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0,627 and the Bartlett test of Sphericity was 97,781,  $p < 0,001$ . According to contemporary management accounting techniques, the Kaiser-Meyer-Olking (KMO) measure of sampling adequacy was 0,8 and the Bartlett test of Sphericity was 98,493,  $p < 0,001$ . The Cronbach alpha coefficients were 0,756 for the tectradicional (traditional management accounting techniques) and 0,849 for the tecontemporanea (contemporary management accounting techniques), which indicates satisfactory internal reliability for the two variables. So we can construct two indices, calculated by the arithmetic mean of the eight individual variables that characterize the management accounting techniques, traditional and contemporary, respectively.

## FINDINGS AND DATA ANALISYS

In this study were analyzed 35 hotels from different categories and regions from Portugal. From these, 11 belong to national chains, 2 are subsidiaries of multinational hotel chains. The annual turnover ranges from 16.000€ to 60.000.000€. Of the 35 inquiries, 85,7% (30) have implemented and use management accounting processes. The 5 units that do not use this practice are small hotels that are not subsidiaries of either national or multinational hotel chains.

The traditional management accounting techniques are more used than contemporary techniques. Both the mean and the mode are higher in the traditional techniques. The traditional management accounting most used by the Portuguese hotels are *Budgeting*, *Budget deviation analysis* and *Strategic planning* with 76,7%, 66,7% and 66,6% respectively. Concerning the contemporary management accounting techniques, almost all of the techniques has a score of mean use below the null value, except for the *Activity-based budgeting* with a mean of 4,23. The **Hypothesis 1: The proportion of use of traditional management accounting techniques is higher than the proportion of use of contemporary management accounting techniques in lodging industry** is not rejected.

Analyzing the findings we verify that none of the Portuguese hotel has reached to the stage IV. It is necessary some further developments in hotel management accounting in order to reach the final stage. The largest proportion of hotels is at stage II (36,7%) and III (36,7%), which leads us to reject **Hypothesis 2: The most of the Portuguese hotels is located at stage II** because we have the same number of hotel units at stage III.

The hotels use management accounting mainly with the purpose of supporting their decision making process (65,7%) and the budgeting process (60%) too. Having present that the information supplied by management accounting is adequate to several management functions, we conclude that the functions to which this information is more adequate are Support the decision making process and Estimate cost of products/services, with a score of 5,43 and 5 respectively. So we can say that the **Hypothesis 3: The function**

chosen by most companies as a main objective of management accounting is the decision making process is not rejected. The process of decision making is priority.

The **Hypothesis 4:** *Less than fifty percent of hotels use the USALI* is not rejected, since only 42,9% (15) use USALI. All hotels that use USALI have implemented management accounting and have a high turnover. We have verified that all the subsidiary hotels of foreign enterprises use USALI.

To test the following hypotheses, where we will analyze if there are factors that influence the utilization rate of management accounting techniques in hotels, we have chosen *Spearman's Rho* in order to make a correlation analysis, as we are in the presence of ordinal variables. We present only the techniques that have a significant association for  $p < 0,05$ .

The **Hypothesis 5:** *The higher the vertical differentiation in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *sales break-even* (0,418), *strategic planning* (0,52) and *traditional management accounting* (0,454) techniques in general. According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the variable vertical differentiation.

The **Hypothesis 6:** *The higher the decentralization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *budgeting* (0,449), *budget deviation analysis* (0,39) and *activity-based budget* (0,491). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the decentralization.

The **Hypothesis 7:** *The higher the formalization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *sales break-even* (0,408), *strategic planning* (0,46), *product profitability techniques* (0,397), *activity-based costing* (0,38), *product life cycle costing* (0,418), *benchmarking* (0,367), *traditional management accounting techniques* (0,495) and *contemporary management accounting techniques* (0,425). According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the formalization.

The **Hypothesis 8:** *The higher the degree of standardization in the hotels, the higher the rate of utilization of management accounting techniques* is not rejected for *sales break-even*, *strategic planning*, *budgeting*, *product costing techniques*, *product profitability techniques*, *activity-based budgeting*, *activity-based costing*, *target costing*, *product life cycle costing*, *benchmarking*, *traditional management accounting techniques* and *contemporary management accounting techniques*. According to Spearman's rho correlation analysis, there are a significant positive association between the techniques and the standardization.

Thus we can conclude that the higher the standardization of work process in the hotels the higher the rate of utilization of traditional management accounting techniques (0,434) and contemporary management accounting techniques (0,426), mainly *sales break-even* (0,592) and *product profitability techniques* (0,382). The higher the standardization of skills in the hotels the higher the rate of utilization of traditional management accounting techniques (0,613) and contemporary management accounting techniques (0,577), mainly *sales break-even* (0,595), *strategic planning* (0,482) *product profitability techniques* (0,566), *budgeting* (0,397), *activity-based budget* (0,485), *activity-based costing* (0,4), *target costing* (0,362), *product life cycle costing* (0,577) and *benchmarking* (0,505). The higher the standardization of results in the hotels the higher the rate of utilization of traditional management accounting techniques (0,662) and contemporary management accounting techniques (0,585), mainly *sales break-even* (0,565), *strategic planning* (0,441), *product costing techniques* (0,416), *budgeting* (0,367), *product profitability techniques* (0,487), *activity-based costing* (0,42), *target costing* (0,509), *product life cycle costing* (0,573) and *benchmarking* (0,513).

To test the **Hypothesis 9:** *The culture of the hotel influence the utilization of management accounting techniques*, we analyzed a set of variables that characterize the organizational culture. The ordinal variables are "hesitation in expressing disagreement with their superiors", "hierarchical level that makes decisions", "attitude towards risk" and "teamwork". The nominal variable characterizes the decision making of top management.

In relation to "hesitation in expressing disagreement with their superiors" we cannot find a significant association to management accounting techniques. According to the nominal variable we realized the Kruskal-Wallis test, but we cannot draw conclusions.

We find a significant negative association between the contemporary management techniques (-0,373) and the budgeting (-0,451) with "hierarchical level that makes decisions". It means the higher the decisions are making at the level of operational management the higher is the utilization of contemporary management

accounting techniques, mainly *activity-based budget* (-0,432), *activity-based costing* (-0,378) and *benchmarking* (-0,364). We find a significant positive association between the traditional management accounting techniques (0,553) with “attitude towards risk”. It means the higher the hotels are lovers of the risk the higher is the utilization of traditional management accounting techniques, mainly *sales break-even* (0,568), *strategic planning* (0,386) and *product costing techniques* (0,449). We find a significant positive association between *the product profitable techniques* (0,449) and *tableau de bord* (0,371) with “teamwork”.

Through the last four hypotheses, we have concluded that organizational structure and cultural factors influence the management accounting. However, this influence changes according to the techniques in question. The techniques of management accounting have different characteristics, so it is natural to be influenced by different determinants.

However, it is interesting to analyze the traditional management accounting techniques against the contemporary management accounting techniques, since it was possible to obtain a variable that featured all the traditional techniques as well as a variable that featured all the contemporary ones.

Thus we can say that traditional management accounting techniques are influenced by vertical differentiation, formalization, standardization and culture of the hotel. When there are a higher degree of standardization, formalization and vertical differentiation, the hotels are likely to implement the traditional management accounting techniques. According to the culture organizational, there is only one variable significantly associated with the use of traditional management accounting techniques, the “attitude toward risk”. The hotels that are lovers of risk have a higher degree of utilization of traditional techniques.

The contemporary management accounting techniques are influenced by formalization, standardization and culture of the hotel. When there are a higher degree of standardization and formalization, the hotels are likely to implement the contemporary management accounting techniques. According to the culture organizational, there is only one variable significantly associated with the use of contemporary management accounting techniques, the “hierarchical level that makes decisions”. The more decisions are taken at the lowest level of the organization, the higher the rate of utilization of contemporary management accounting techniques.

## CONCLUSIONS

This research allows us to conclude that, nowadays, management accounting is a tool incorporated in the daily management practices of hotels, and useful to support the decision making process in several aspects. The Portuguese hotel managers believe in that, because most of the hotels that have answered our inquiry use management accounting techniques, with the main purpose of providing information to decision making process.

The traditional management accounting techniques are used frequently, but in contrast some of the contemporary techniques are not known and not adopted by the hotels. In Portugal, there is a weak use of USALI. It is not fully expanded yet across the hotels. It is more used in the large hotels and in hotels with a foreign influence.

The largest proportion of hotels is at stage II and III of the design of systems costs and performance measures model from Kaplan and Cooper (1998). The Portuguese hotels have a traditional financial system working fine, and this system elaborates the financial accounting and prepares reports for short periods of time where it is showed the cost of sales and stock valuation.

We verified that there is a moderate association between organizational structure and culture factors and the degree of adoption management accounting techniques. There are two variables that stand out, the formalization and the standardization. Both have a significant positive association with the utilization of traditional and contemporary management accounting techniques. This is supported by the contingency theory.

## REFERENCES

- Adler, R., Everett, A. and Waldron, M., “Advanced management accounting techniques in manufacturing: utilization, benefits and barriers to implementation”, *Accounting Forum*, Vol. 24, No. 2, (2000): 131-150.
- Anderson, S., Young, S., “The impact of contextual and process factors on the evaluation of activity-based costing system”, *Accounting, Organization and Society*, Vol. 24, No. 7, (1999): 525-559.
- Baird, K., Harrison, G. and Reeve, R., “Adoption of activity management practices: a note on the extent of adoption and the influence of organizational and cultural factors”, *Management Accounting Research*, Vol. 15, No. 4, (2004): 383-399.
- Cadez, S. and Guilding, C., “An exploratory investigation of an integrated contingency model of strategic management accounting”, *Accounting, Organization and Society*, Vol. 33, (2008): 836-863.
- Chenhall, R., “Management control systems design within its organizational context: findings from contingency-based research and directions for the future”, *Accounting, Organizations and Society*, Vol. 28, No. 2-3, (2003): 127-168.
- Damanpour, F., “Organizational innovation: a meta-analysis of effects of determinants and moderators”, *Academy of Management Journal*, Vol. 34, No. 3, (1991): 555-590.
- Downie, N., “The use of accounting information in hotel marketing decisions”, *International Journal of Hospitality Management*, Vol. 16, No. 3, (1997): 305-312.
- Drury, C. and Tayles, M., “Explicating the design of overhead absorption procedures in UK organizations”, *The British Accounting Review*, Vol. 37, No. 1, (2005): 47-84.
- Elmore, R., “The linkage between organizational size and the management accounting system”, *Akron Business and Economic Review*, Vol. 21, No. 3, (1990):69-80.
- Faria, A., *A contabilidade aplicada o sector hoteleiro: uma perspectiva histórica*, Paper presented at the IV Jornada de História da Contabilidade, Portugal, 2007.
- Ferreira, A., *Management accounting and control systems design and use: an exploratory study in Portugal*. PhD thesis, The Management School, Lancaster University, Lancaster, UK. 2002.
- Fowler, M., *Management accounting education: has the gap closed*. Paper presented at the 4th New Zealand Management Accounting Conference, University of Waikato, New Zealand. November, 2010.
- Gomes, C.,. *A contabilidade de gestão e o custeio baseado nas actividades nas grandes empresas portuguesas. Os determinantes do custeio baseado nas actividade*. Phd Thesis, University of Minho, Portugal, 2007.
- Gosselin, M., “The effect of strategy and organizational structure on the adoption and implementation of activity-based costing”, *Accounting Organizations and Society*, Vol.22, No 2, (1997):105-122.
- Granlund, M. and Lukka, K., “It’s a small world of management accounting practices”, *Journal of Management Accounting Research*, Vol. 10 (1998): 153-179.
- Haldma, T. and Laats, K.,. *Influencing contingencies on management accounting practices in Estonian manufacturing companies*. Working Paper series, nº 13, University of Tartu, Estonia, 2002.
- Hayes, D., “The contingency theory of managerial accounting”, *The Accounting review*, Vol. 52, No 1, (1977): 22-39.
- Jones, T., “Improving hotel budgetary practice – a positive theory model”, *International Journal of Hospitality Management*, Vol. 27, (2008): 529-540.

Kaplan, R. and Cooper, R., *Cost & Effect, Using integrated cost systems to drive profitability and performance*. Boston, USA. Harvard Business School Press, 1998.

Libby, T. and Waterhouse, J., "Predicting change in management accounting systems", *Journal of Management Accounting Research*, Vol. 8, (1996): 137-146.

Luft, J. and Shields, M., "Mapping management accounting: graphics and guidelines for theory-consistent empirical research", *Accounting, Organizations and Society*, Vol. 28, No. 2-3, (2003): 169-249.

Mia, L. and Patiar, A., "The use of management accounting systems in hotels: an exploratory study", *Hospitality Management*, Vol. 20, (2001): 111-128.

Oliveira, Elyrouse, Silva, Carina, Campelo, Karina and Silva, Alexandre.. *Utilização da gestão de custos para tomada de decisão: um estudo em hotéis de Porto de Galinhas no município de Ipojuca-PE*. Paper presented at the 18º Congresso Brasileiro de Contabilidade, Brasil. August, 2008.

Pavlatos, O. and Paggios, I., "A survey of factors influencing the cost system design in hotels", *International Journal of Hospitality Management*, Vol. 28, (2009): 263-271.

Pavlatos, O. and Paggios, I., *Traditional and recent-developed management accounting techniques in the hospitality industry: evidence from Greece*, Retrieved May 2011 from <http://pape.ssrn.com>, 2008.

Pestana, M. and Gageiro, J.. *Análise de dados para ciências sociais – A complementaridade do SPSS*. Lisbon, Edições Sílabo, 2003.

Phillips, P., "Strategic planning and business performance in the quoted UK hotel sector: Results of an exploratory study", *International Journal of Hospitality Management*, Vol. 15, No. 4, (1996): 347- 362.

Santos L.L., Gomes C., Arroiteia N., Coelho J., *Práticas de contabilidade de gestão nas unidades hoteleiras do Oeste*. Paper presented at the XV Workshop em Contabilidade e Controlo de gestão Memorial Raymond Konopka, Évora, Portugal. January, 2010.

Schmidgall, R., Borchgrevink, C. and Zahl-Begnum, O., "Operations budgeting practices of lodging firms in the United Staets and Scandinavia", *International Journal Hospitality Management*, Vol.15, No. 2, (1996): 189-203.

Slessor, A., *Changing roles for the New Zealand management accountant: a preliminary study*. Paper presented at the 4th New Zealand Management Accounting Conference, University of Waikato, New Zealand, November, 2010.

Tanima, F. and Bates, K.. *The incidence and perceived managerial merit of customer accounting in New Zealand*. Paper presented at the 4th New Zealand Management Accounting Conference, University of Waikato, New Zealand, November, 2010.

Tayles, M. and Walley, P., "Integrating manufacturing and management accounting strategy: case study insights", *International Journal Production Economics*, Vol. 53, No. 1, (1997): 43-55.

Uyar, A. and Bilgin, N., "Budgeting practices in the Turkish hospitability industry: an exploratory survey in Antalya region", *International Journal of Hospitality Management*, Vol. 30, (2011): 398-408.

Vaugh, P., Raab, C. and Nelson, K., "The application of activity-based costing to a support kitchen in a Las Vegas casino", *International Journal of Contemporary Hospitality Management*, Vol. 22, No. 7, (2010): 1033-1047.

Yin, R., *Case study research – design and methods*, London, SAGE publications, 2003.

# **THE PROCEDURE OF CHOOSING A MARKET SEGMENT IN THE AREA OF POSTAL SERVICES OFFER**

**Biljana Grgurović and Slavica Štrbac, Higher ICT School, Serbia  
Dejan Marković, Faculty of Traffic and Transport Engineering, Serbia**

## **ABSTRACT**

*This paper describes a possible, step by step, procedure of grouping micro segments formed on the basis of confirmed common features and value of key categories significant for the buying process. According to the data from an available database, and bearing in mind the fact that one micro segment or a group of them may have a small volume at a moment, but that they also may have a tendency of growth in the future, a decision on the segment size is made by adjoining territories where users are located into a single entity.*

## **INTRODUCTION**

The development of technologies that enable different ways of communication made the decrease of using letter mail inevitable. The existence of competition in the area of universal services is no longer unknown to any postal directorate. It is especially noticeable in big city areas. However, if we focus on commercial services, that contain all postal services except the universal ones, including value added services, we can easily notice that the competition most often occurs in express and courier services market. There is no subvention from the part of the state, and, therefore, no financial security for this area. Market liberalization cleared the path for a whole range of new participants (J. Van Duijnhoven, 2009). This is a highly profitable market where those who want to survive and make profit must fight for their share. The reason for rather inferior position of many postal directorates in the development of this area lies in the wrong initial steps based on the belief that those kinds of services were not a part of postal practice. That made a large space, now hardly recoverable, for private providers who base their business activities on market directedness, future-orientation, applying latest technologies and commercial principles.

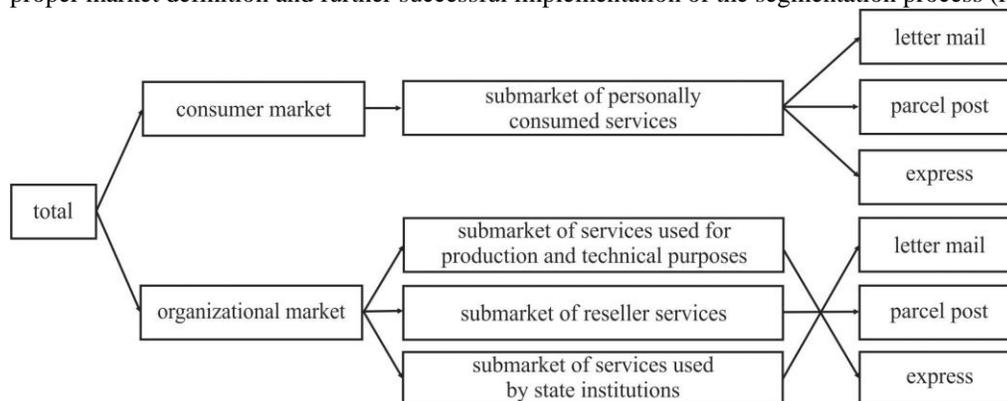
The current trend in the area of postal traffic implies: a large number of providers, harsh requirements when it comes to the structure and quality of services, heterogeneous group of users with specific characteristics significantly complicates the process of segmentation, i.e. the choice of target market and formulating the adequate marketing strategy. The exclusive applying of some standard methods of demographic and psychographic segmentation leads to general grouping, most commonly based on assumptions. On the other hand, various spatial data, combined with the geographic information system can be very successfully used in the case of the segmentation of postal services market (Grgurović et al. 2010).

The specific information used in this paper was obtained from the researches conducted on the level of Postal Service Directorate at the Public Enterprise of PTT Communications "Serbia" (2008). The idea of the author was to use the existing information for finding an alternative way of choosing a market where this provider could offer some of its commercial services.

The paper is organised as follows: part 2 defines the postal services market, part 3 gives some basic directions related to the process of segmentation, part 4 explains the suggested procedure of choosing the market segment where business should be started and part 5 gives the author's concluding comments.

## **DEFINING THE POSTAL SERVICES MARKET**

Regardless of the fact that postal services are variable category, the definition of the market itself must be based on the sum of all services that appear and disappear according to the demand of the market. The adequate definition of the basic categories of the services offered within the postal system (2005) as well as the basic structure of users and the characteristics of their demands (Marković et al. 2010), are the prerequisite for a proper market definition and further successful implementation of the segmentation process (figure 1).



**Figure 1 – The postal services market**

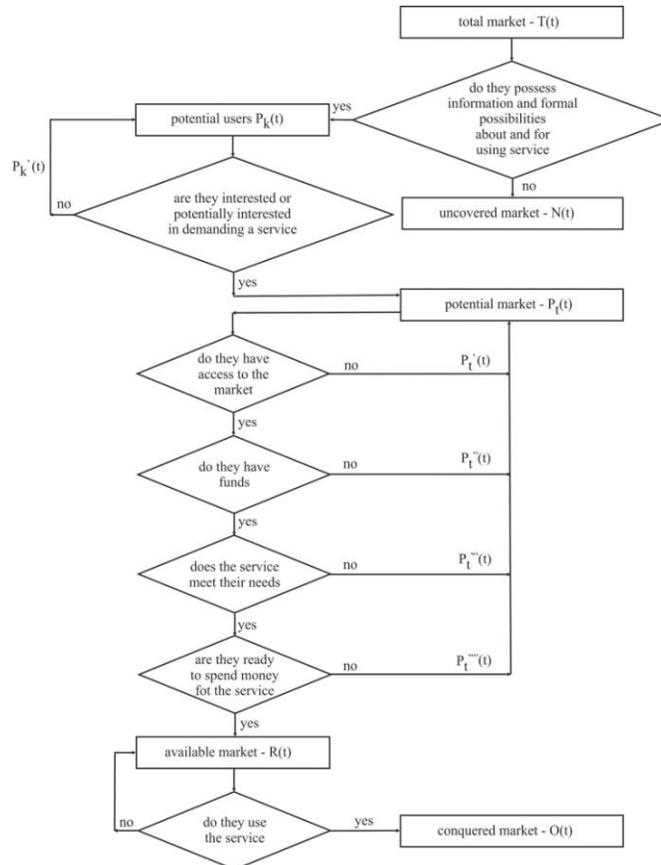
The members of the organizational market often buy services from other operators as well, which is another characteristic of business activities in city areas. Bearing that information in mind, it is possible, in a certain phase, to determine the direction and framework for promotional activities aimed at those user categories. The existing services cover certain users' needs (Grgurović and Štrbac 2008). They can generally be described as follows:

- there is an adequate price range and the choice of an adequate transfer rate is possible,
- it is possible to achieve an adequate level of safety owing to the fact that a user is free to secure the content of a parcel by defining its value,
- owing to a large number of postal network units, their organizational forms and postal network resources dislocated over the entire territory of the country, as well as the courier service, an adequate level of availability and simplicity of service were achieved, i.e. the possibility of choosing the time and place of realization of a service,
- the range of the allowed weight of parcels and the allowed contents of parcels is sufficiently big,
- by using numerous special, additional and other services, as well as the services provided according to a special contract, it is possible to reach an extremely great number of various combinations which can satisfy diverse needs of the increasingly demanding customers...

The offered services must not be either too broadly or too narrowly defined. Too narrow a definition may limit some new business fields, which could possibly be opened owing to an adequate segmentation. For example, limiting of parcel services only to the group of parcels whose maximum weight and dimensions are defined by the Nomenclature of postal services would automatically disqualify a large number of legal entities who have the need to transport the so called industrial packages. On the other hand, too broad a definition could ruin segmentation. For example, postal directorates have business activities at the financial market where a number of banking organizations is also present. Taking into consideration the fact this is not the primary function of the post and that it cannot compete the banks on an equal level, it seems quite clear that including that kind of services as well would make the definition too broad.

On a properly made map of the market (Grgurovic and Štrbac, 2007) which is narrowing through different levels of elimination and acceptance from total to more narrow ones, it is possible to obtain the picture of the potential market of a company that offers services from the postal sector. This market represents the difference between the total number of potential users for the moment  $t$  and the number of users who, no matter they belong to this group, are potentially or not at all interested in buying this service. The volume of this market could be enlarged by innovating the existing or introducing some entire new services, potentially interesting to users.

The question is what is a really available market of providers whose maximum size can be equal to the size of a potential market. It consists of users who have access to the market, dispose of proper funds, the service would meet their needs and they are ready to spend money to obtain it. This question could be formulated another way too, trying to find the answer to what is the conquered market that consists of those participants in the available market who have not started using the observed services yet, taking into consideration the reasons for that (figure 2).



**Figure 2 – Market changes in the process of diffusion of postal services**

## THE SEGMENTATION PROCESS

A process of segmentation where a provider of postal services finds its potential users can be studied and implemented through three basic phases. The first phase, which implies understanding of market and the idea how to use it, requires creation of a basic segment structure of a market. It can possibly be observed through several steps and it is applied to the entire market activity. That practically means that beside the services one offers, the services from the competition should be included too. One should bear in mind that very few marketing tools and techniques, including segmentation, have sense unless there is a proper market definition (McDonald and Dunbar 2004). That is why we made the grouping of services that met the same need as the example for the postal sector in the previous part. While making a market map, it is possible to present the operating market in the form of a diagram and then determine the part or parts on the map where the segmentation is in process.

The second phase implies a good understanding of users and the transaction they require. Since their behaviour includes the research on their demands, how and where they demand, when and how often do they demand a service, why they do that, therefore the steps that follow one another should enable viewing any part of the diagram and obtaining the picture that illustrates who, what, where, when and how demands. After that follows considering the reasons why various services are demanded.

Only the third phase is what we generally imagine to be market segmentation. It is necessary to describe grouping (segment forming) techniques within it, so they can optimally fit together. In the end, the operating segments are chosen.

A process of this kind can be carried out by using the existing information, i.e. using global market information, bearing in mind the fact that removing shortcomings includes a more detailed market investigation.

## **THE CHOICE OF A MARKET SEGMENT**

### **Features of a Postal Service as a Reason for Buying**

It is possible to group the users with heterogeneous needs, wishes, demands etc. that make the available market into preliminary segments, according to a standard criterion applied in the segmentation process, and then group them into specific micro segments, primarily on the basis of the characteristics of a demand for a service, i.e. on the basis of defining features and key categories significant for the buying process. The number of micro segments is generally large, while their potential is inconsiderable or quite small, so it is necessary to adjoin them, starting from a common feature and respecting certain procedure and regularities, into a number of market segments where a provider can operate but not necessarily.

The question postal service providers are constantly trying to answer is how to make the selection of service features that shift users from the available market group to the market group where they have business activities and, thus, have or don't have influence on the achieved results. If we start from the well known fact that one service can satisfy different needs, it is quite clear that within buying categories for certain service may also be defined different features accompanying some of 'what', 'where', 'when' and 'how' questions (Grgurović et al. 2010). That becomes increasingly evident, especially within modern business conditions where needs, along with everything users consider to fall under that category, are constantly changing. This paper explains service features through the example of express parcel (Grgurović et al. 2009).

Speed is an important component that makes users choose an express service. It implies an interval of time that consists of specific partial time periods that may have different importance for them. During the evaluation of this feature, users may speak about speed in the following way:

- $B_{E1} = f(\text{demand occurrence time, courier arrival time})$
- $B_{E2} = f(\text{demand occurrence time, service realization time})$
- $B_{E3} = f(\text{demanded deadlines, realized deadlines})$

.....

From user's point of view, simplicity may mean both the possibility of using courier service – arrival of a courier at a certain address for taking over/delivering a parcel and nearness and adequate working hours of a Post office for those who hand in parcels personally, precise definition of the conditions of parcel transport etc.

- $J_{E1} = f(\text{demand occurrence time, courier availability})$
- $J_{E2} = f(\text{demand occurrence time, Post office working hours})$
- $J_{E3} = f(\text{demand occurrence place, Post office location})$

.....

Flexibility is related to the ability of quick adaptation to changes, i.e. possibility of changing and supplementing a service for the purpose of meeting functional and additional users' needs. In the case of express services, flexibility can be described through response and reaction rate for new demands of the existing or new users), response and reaction rate for changed demands (e.g. deadline for taking over the parcel is shifted from 2 pm to 6 pm), degree of service compliance to new demands, trouble solving rate etc.

- $F_{E1} = f(\text{new sort of demand / changed demand occurrence time, demand realization time})$
- $F_{E2} = f(\text{custom service, new demands})$
- $F_{E3} = f(\text{trouble occurrence time, trouble solving time})$

.....

Reliability of a working process is described through the probability of demand realization and user's expectations. In the case of express services, reliability may mean that the demanded service and offered service are equal, that the expected service is equal to the realized service, that the sold (realized) service is identical to the demanded service, that complete security for a parcel and its content is provided when it comes to confidence, the possibility of following the parcel through all technological phases of the transport process etc.

$$P_{E1} = f(\text{demanded service, offered service})$$

$$P_{E2} = f(\text{expected service, realized service})$$

$$P_{E3} = f(\text{demanded service, realized service})$$

.....

Reliability of the complete express service can be presented through the following equation:

$$P_E = P_{E1} \times P_{E2} \times P_{E3} \times \dots \times P_{En}$$

Availability can be described through the market coverage of a distribution network, service availability, transport and operating means availability, courier availability. From the point of view of an express service user, availability is described through the information about the service coverage of his/her place of living, does the Post office dispose of sufficient number of means of transport, is the number of couriers adequate so one does not have to wait longer than the agreed time for his/her arrival, is the agreed time for taking over the parcel respected etc.

$$R_{E1} = f(\text{demanded place, covered place})$$

$$R_{E2} = f(\text{demand occurrence time, demand realization time})$$

$$R_{E3} = f(\text{available means of transport, necessary means of transport})$$

.....

Frequency is defined as number of possible realizations of a service for the observed time period, i.e. time interval between two successive service realizations. From the point of view of the observed service user, frequency can be described through the possibility of realization of a single/group demand, i.e. demanded number of services per unit of time, or daily, periodically, rarely etc., i.e. through distribution of time between two services, as demand of specific day, specific hours etc. This feature has a great influence on the organization of providers' business activities, engagement of employees, number of transport means and other working means etc.

$$U_{E1} = f(\text{number of demanded service realizations, observed time period})$$

$$U_{E2} = f(\text{number of realized services, observed time period})$$

$$U_{E3} = f(\text{time between two services, observed time period})$$

Parcel content as a feature is frequently an important qualifier that determines especially large users with specific demands. Its meaning can be observed in the following way:

$$S_{E1} = f(\text{needed allowed weight, offered weight})$$

$$S_{E2} = f(\text{parcel weight, demanded packaging and sealing})$$

$$S_{E3} = f(\text{parcel weight/volume, possible parcel damaging})$$

.....

Means of payment is a significant component tightly connected with user's decision making about the choice of express service provider. Defining this feature is equally influenced by the quantity of demanded services, frequency of demand, availability of service with a specific provider, service flexibility, as well as the possibility of obtaining commercial discounts or some forms of privileges. If user's criteria are satisfied, he/she will opt for signing a contract and more precise definition of means of payment and, thus, 'binding' to a specific provider.

$$NP_{E1} = f(\text{expected service, realized service})$$

$$NP_{E2} = f(\text{expected discount, realized discount})$$

$$NP_{E3} = f(\text{expected privileges, realized privileges})$$

.....

Security may mean trust in service quality offered by certain provider, well trained couriers, efficient complaint solving, respecting agreement, existence of bank guarantees etc.

$$Si_{E1} = f(\text{promised service, realized service})$$

$$Si_{E2} = f(\text{expected service, realized service})$$

$$Si_{E3} = f(\text{promised quality, realized quality})$$

Other features important for the users of this and other postal services can be presented in a similar way. It is very important for a marketer to know which way a user estimates and evaluates a service feature in particular situations. Different users that form different segments demand different features that describe the same service in different ways.

The probability of discovering all unsatisfied needs is very small and there is always a possibility for some of them to remain undiscovered. Although this may be expected, it is still necessary to carry out a more detailed poll in user groups where a dilemma is present.

On the basis of the express service demand on the territory of the Republic of Serbia, it is possible to define the segments that include legal entities – large users as dominant ones, along with the segments that include legal entities whose needs are spotted but not yet satisfied. The research carried out in 2008 shows that the proportion between legal entities and physical persons as express service users is 60%:40%. On the basis of the newly defined features attributed to particular characteristics preferred by individual users from the group, it is now possible to form new subsegments within them.

It is necessary to distribute buying categories 'what', 'where', 'when' and 'how' important for the buying process, i.e. to align them according to a proper order that will depict their significance at the same time. The main goal – meeting user's needs, is possible to achieve through the evaluation of importance that each need, marked by a user, has for that particular user. Thus it is possible to expand what seems important, and what different users consider from different points of view, by adding adequate features that can be adjoined. Now it becomes possible to properly determine the dividing point that will separate important items for buying process from those less important. Those items important for the buying process are called key buying categories – KBC.

During the priority determining procedure, as a consequence of the fact that it is possible to attribute different characteristics to certain service features within a micro segment, it is highly probable to occur a situation where the priorities within a segment are not identical. For example, when it comes to 'security' as a service feature, one user may speak of it as a confidence in service quality, another as effective dealing with complaints, some other as respecting the agreement or existence of banking guarantees etc. Thus the total number of KBC is enlarged, and the final result will be a series of KBC lists, one (if the users completely agree about what they expect from a service, which is not very probable) or more, for each preliminary segment. By adjoining different KBCs from all micro segments, a new list for the entire market that offers certain service can be compiled in the end. Once we identify the tendencies and habits of a user in a market segment, a provider may start organizing the company's resources in order to meet the spotted needs of its users in the most complete and efficient way.

## **The Size and Number of Market Segments**

Sizes of market segments as well as their number are not random values. Two most important factors for their definition are the following: which number of users should make a segment where business activity is economical, i.e. what is the quantity of a service that is placed in it that would define it as a segment with business potential and which number of segments is appropriate for a company or a business branch.

Thorough analysis of these two values should decide on the choice of one of the following alternatives:

- Alternative 1 – starting on a market segment,
- Alternative 2 – giving up a market segment.

As it was said before, what we should bare in mind is the fact that a micro segment or a group of them together may have small volume, but they may have the tendency of growth in the future. For the purpose of avoiding their adjoining to another micro segment, and, thus, having them out of sight, it is recommendable working with the projected demand volume that maintains their real potential. A good example for this are micro segments whose needs are not completely satisfied due to nonflexibility of the procedure of providing certain service related to, for example, content of a parcel and delivery time or parcel price in case when users expect certain discounts for regular demand of a larger number of services. Changing those service features may bring a significant increase of the demand volume. The analysis of viability of offering the projected volume of a postal

service enables a provider to make a cross-section and reach the conclusion about what is economically viable business, where savings could be made, which segment should be paid attention to etc.

The available data from a database, obtained by using the geographic information system, facilitate deciding on the size of segments by adjoining territories where individual users are located into a unique whole (Marković et al. 2010). Thus it would be possible, for example, for the segment of legal entities – large users, in case of express services, to define special courier teams and means of transport that would serve this group.

Each micro segment can be described in different ways – through structure of consisting users, their needs and wishes related to defined service features, key categories related to buying process, market potentials etc.

For the process of grouping micro segments itself, it is best to find the micro segments with the highest correspondence according to key buying categories, and then, within them the appropriate level of similarity according to the geographic criterion (a standard criterion that proved to be the most applicable in the area of postal traffic related to commercial services) (Grgurović and Štrbac, 2009). The step-by-step grouping procedure is possible to carry out in the manner described by the algorithm in the figure 3.

Buying categories defined by legal entities, as the dominant market for the group of express services, enable their classifying within a certain number of groups with the same buying categories. The simplest variant, that occurs rarely, is the situation when values and position of buying categories are identical within those groups. Much more probable is the situation when their values and position are different, so it is necessary to make a new alignment where the basic division criterion would be the next buying category with the highest value.

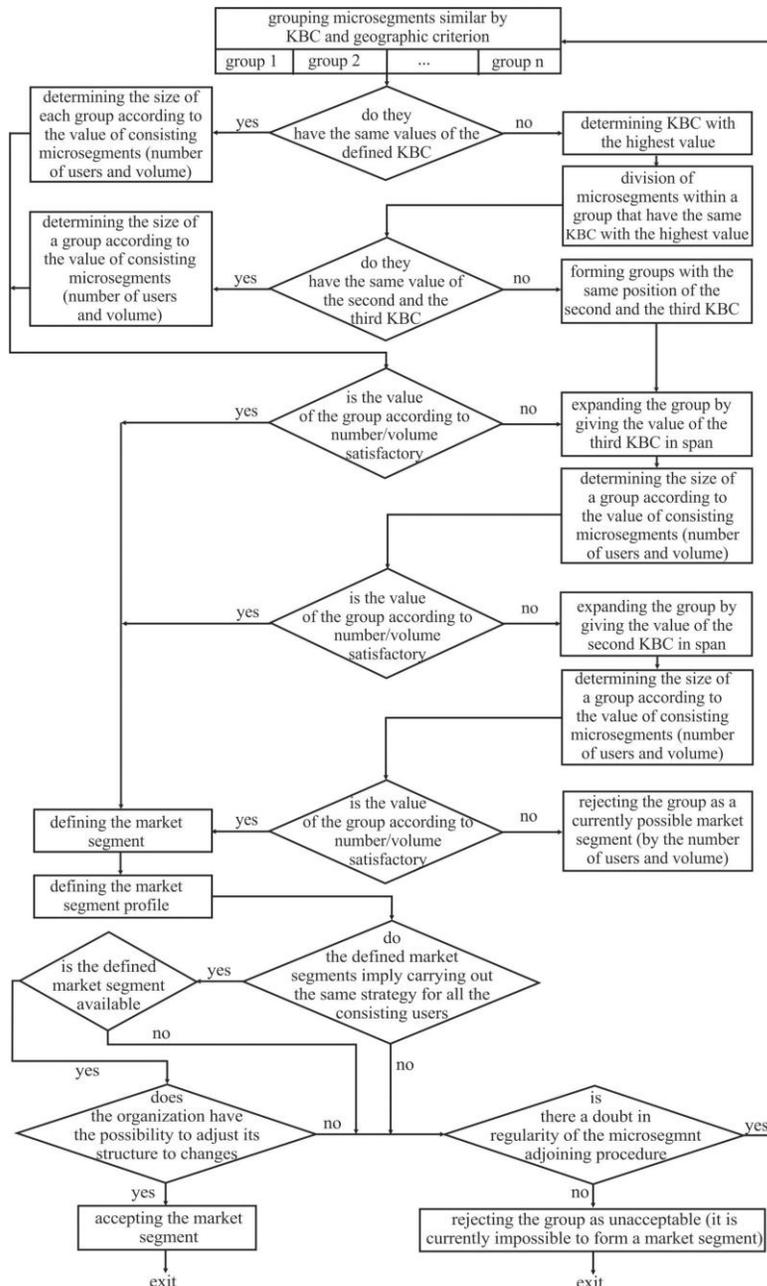
The research carried out on the example of legal entities showed that speed is one of service features that users mostly pay attention to (60% of users). This characteristic would, at the same time, serve as the basic criterion for grouping, while the other values would enable additional separation within a group, if it is necessary. Beside those segments there is another significant category consisting of segments of legal entities who estimate that security is the most important feature.

This way of grouping leads to a number of segments that may be acceptable, but not necessarily. Some of them will immediately stand out as those one can count on, some will be on the border of accepting and rejecting, some will imply the possibility of additional grouping, while some, by their size, number of services and characteristics will not be able to meet the basic criteria of business viability. The segments that meet the required criteria are put aside, while the others will go through additional regroupings if possible. This procedure is possible to repeat until the moment when differences among segments can be respected and provided, which would also demand various market strategies, homogeneity within them, profitability as a consequence of the relative importance of segments, measurability of segments in the form of volume of demanded services or number of users etc. (McDonald and Dunbar 2004).

As it was already said, the size of market segments and their number are not random values. Among the newly formed groups it is necessary to put aside only those where it is reasonable to make an offer, i.e. those that are suitable for starting business, their number is suitable for this sort of activity and, at the same time, the provider has the possibility to adjust its organization and functioning to those segments in due time.

## CONCLUSIONS

The postal market is not homogenous. Instead of it there are significant differences in the user structure. The users' demands related to more comfortable performing transactions are increasing daily. Regardless to the fact that postal system is a public service that meets the needs of public interest in the area of parcel transport, their maximum effort in sale should be put in those segments that have the greatest potential for developing the existing, improved or new services. This goal cannot be achieved without applying some marketing strategies, which implies carrying out the process of market segmentation.



**Figure 3 – The process of manual grouping of micro segments**

According to a standard criterion applied during the segmentation process, the users are grouped into preliminary segments and then into micro segments, primarily according to the characteristics of the user's demand for a service. The members of those groups have different ways of perceiving the performance of the services that have or do not have influence on the demand. They all fall into a variable category, but still allow defining the basic procedure for their determining.

All information, collected through polls, interviews, or some other way, and then adequately analyzed using the latest technologies, enable eliminating the causes of discontent with the existing services and choosing the market segment where business activity should be started in a reliable way.

Once defined segments, that show relative homogeneity both in certain characteristics and in behaviour of users/consumers and that represent a part of the entire market in one area for certain time, are not a constant

category. As a result of increasingly fast and frequent changes in all life areas, there are also changes in demands and behaviour of users as well as changes in competition. Therefore it is necessary to observe all changes in the surrounding and, simultaneously, reconsider and change the existing segments according to the changed assumptions upon which they were based.

The goal of this paper was to define a clear procedure for forming homogenous groups, whose final result would be reaching certain market adaptability level.

The suggested procedure, that implies applying new technologies in some phases, primarily the geographic information system, is an attractive alternative to the traditional segmentation process which usually gives only one solution for a certain period of time and that could lead to occurrence of loss or unused potentials in case of some greater change in business conditions. The model is completely open for wide range of use, but it is necessary to define certain performances preferred by users following specific procedures for each service. Analysis is thus performed faster, cheaper and better and, owing to the simplicity of the feedback monitoring methodology, the results of the process' success are quickly visible.

## REFERENCES

*Development of competition in the European postal sector* (2005) MARKT/2004/03/C, Rotterdam

Grgurović B., Štrbac S. (2007) *Procedura izrade tržišne mape*, PosTel 2007, XXV simpozijum o novim tehnologijama u poštanskom i telekomunikacionom saobraćaju, Saobraćajni fakultet, Beograd, pp.161-170.

Grgurović B., Štrbac S. (2009) *Application of geographic information system in market segmentation of postal services*, INFOTEH-JAHORINA Vol. 8, Ref. E-III-15, pp. 585-588.

Grgurović B., Štrbac S., Popović M. (2010) *Pozicioniranje na tržištu komercijalnih usluga u poštanskoj delatnosti*, MENADŽMENT 2010, Kruševac, pp. 554-560.

Grgurović B., Štrbac S., Popović M. *Defining the relation between the groups of users and the scope of services in postal traffic*, SYM-OP-IS 2010, Tara, pp.185-189.

Grgurović B., Štrbac S., Veličković S. (2009) *Razlozi potražnje na tržištu poštanskih usluga*, PosTel 2009, XXV simpozijum o novim tehnologijama u poštanskom i telekomunikacionom saobraćaju, Saobraćajni fakultet, Beograd, pp. 165-174.

Grgurović B.; Štrbac S. (2008) *Formiranje preliminarnog spiska korisnika poštanskih usluga*. PosTel 2008, XXVI simpozijum o novim tehnologijama u poštanskom i telekomunikacionom saobraćaju, Saobraćajni fakultet, Beograd, Srbija, pp. 207-214.

*Istraživanje tržišta organizacije pružanja i cena paketskih i ekspres usluga* (2008) JP PTT saobraćaja „Srbija“, Direkcija za poštanske usluge, Beograd

Marković D., Grgurović B., Štrbac S. (2010) *The use of spatial data for segmentation of the postal services market*. Technological and Economic Development of Economy, Acceptable for publishing

McDonald M., Dunbar I. (2004) *Market Segmentation*, Elsevier Butterworth – Heinemann, Oxford

Van Duijnhoven J. (2009) *Postal markets on the move*, Eurogroup Consulting magazine no 9.

# **PARTICIPATION IN PHYSICAL ACTIVITY: PERCEPTIONS OF INDIVIDUALS LIVING IN A LOW INCOME NEIGHBORHOOD**

**Wynand Grobler, Andrea Garnett and Joseph Sekhampu  
North West University, South Africa**

## **ABSTRACT**

*Engagement in physical activity has long been recognised as an important factor contributing to positive health and its associated benefits. Citizens living in socioeconomically disadvantaged neighborhoods are at a heightened risk for physical inactivity, but research on the correlates of physical activity of this group is limited. Public policy makers need to consider a variety of perspectives when assessing the health of their citizens and participation in physical activity is an area that requires some considerable intervention on their part. This study aimed to empirically determine the self-reported participation in and perceived benefits of physical activity amongst respondents in a low income neighborhood of South Africa. A quantitative research method was deployed and a stratified random sample of 350 questionnaires was administered. By using exploratory factor analysis, three factors regarding respondents' perceptions of the associated benefits of participating in physical activity were extracted. The participation in physical activity was very low although perceived benefits of such activity were high. Limited recommendations concerning the way forward were outlined, with contextual avenues for future research.*

## **INTRODUCTION**

There are numerous benefits to participating in physical activity. This is a well-established fact (Fein *et al.*, 2004), illustrated by numerous organisations across the world, such as the US Department of Health and Human Services (1996) who denote especially the health benefits derived from regular participation in physical activity. Many people in the developed world do not maintain the recommendations made for physical activity participation (Barr *et al.*, 2006; Bauman *et al.*, 2001), and this may be even more of a concern in the developing world, as Salmon *et al.* (2002) and Gidlow *et al.* (2006) point out that people who live in socioeconomically disadvantaged neighborhoods are at an increased risk of inactivity, regardless of their individual economic situation.

Although the extent of participation in physical activity is well-documented, little is known about what participants in such studies perceive to be the benefits of participating in physical activity, and whether their perceptions of such have any influence on their own participation in physical activity, also attributable to their low income neighborhood environments. Public policy makers make considerable efforts to document and market the benefits of physical activity, yet little research has been conducted on whether these marketing campaigns are having the desired impact. Are residents of low income neighborhoods receiving the message regarding the benefits of physical activity? And are they participating more frequently in physical activity as a result of this?

This paper aims to report on the results of a study which documents the self-reported participation in physical activity of a group of respondents living in a low income neighborhood in the developing country of South Africa. The paper will also document the perceived benefits denoted by the respondents with regard to physical activity participation. The responses on the benefits will then be correlated with the extent of the self-reported participation in physical activity of the respondents. This would be to determine whether the

respondents' participation in physical activity corresponds with their perceptions of the benefits associated with it. The understanding of the perceptions of low income groups towards physical activity could provide direction towards theory development and policy decisions related to planning and funding recreational activities across many of South Africa's urban townships.

## **BACKGROUND OF THE LOW INCOME NEIGHBORHOOD**

Bophelong is a former black township on the outskirts of the industrial town of Vanderbijlpark. It was established in 1955. The area belongs to the Emfuleni Municipality, on the southern tip of the Gauteng Province in South Africa. In the late nineties, the area was extended with 10,000 new low cost (RDP) houses. Most of the people who settled in the new houses were poor – those who could not previously afford a house. The population in Bophelong is estimated at 37,779, and the number of households is estimated at 12,352. The average household size in Bophelong, calculated from Statistics SA data (2007) is three persons per household. The average household size for Emfuleni as a whole is 3.52. Several studies have found increased levels of poverty in Bophelong. Sekhampu (2004), in his study found 62 percent of the population to be living below the poverty line. A follow up study by Slabbert and Sekhampu (2009) revealed that 66.3 percent of the residents of Bophelong are poor and that the unemployment rate is 62.2 percent. Fifty four percent of the poor were found to be female. Dubihlela (2011) found a poverty gap index of 0.53 among female-headed households in Bophelong, meaning that on average, households have a shortfall of 53 percent of their income to be placed on their respective poverty line.

## **RESEARCH METHODOLOGY**

This study aimed to analyse perceptions of respondent's living in typical low income neighborhoods regarding their self-reported participation in physical activity. The research is based on a quantitative survey method using questionnaire interviews. Maps were obtained for the different areas of Bophelong and a stratified sample was compiled by taking into account the geographical distribution and concentration of people in different areas of the township. The areas were divided into different extensions and the questionnaires were distributed evenly among the inhabited sites.

### **Participants**

A total of 350 households were interviewed by 4 fieldworkers in March 2011. All households approached were willing to participate in the study. To obtain a sample size that would supply statistically reliable results and be representative of the population of the area, the researchers relied on the experience and convention regarding similar surveys (Sekhampu, 2004; Slabbert and Sekhampu, 2009; Dubihlela, 2011) conducted in similar locations in South African townships.

### **Instrument and procedures**

A measuring instrument was designed pertaining to the different modes of physical activity as well as the perceived benefits of participating in physical activity based on a literature review and previous research in the field. Items which were perceived to be ambiguous or product anomalous statistical deviations were refined or eliminated for use in the final questionnaire. Participants were required to indicate the extent of their agreement with a set of statements regarding their perceived benefits of participating in physical activity on a 29-item Likert scale. The corresponding responses to the questionnaire items were subjected to exploratory factor analysis. Using varimax with Kaiser normalization, the factor analysis matrix was rotated orthogonally. An eigenvalue criterion with a cut-off of 1 was used.

## **LITERATURE REVIEW**

Engagement in physical activity has long been recognised as an important factor contributing to positive health and its associated benefits (including economic benefits). The variations in health between people with different socio-economic statuses have been attributed to a number of factors; structural, cultural and behavioural

factors (Hart *et al.*, 1995). Attempts have been made to explain the cumulative effects of health damaging or health promoting physical and social environments during an individual's entire lifetime as important explanations for health differentials among groups. Calnan (1994) and Cornwell (1984) write on how living and working conditions shape health beliefs and style of life. The assertion is that social parameters of health significantly affect the way people interpret their health and illnesses. The general conclusion on people's understandings of health and illness is that health is a deeply social phenomenon (Bury 2000). It is lived and experienced in the contexts of everyday life, as members of community and of society (and of family).

Physical Activity is essentially influenced by various socio- economic and psychographic variables. This includes gender, socio-economic status, perceived exercise benefits, self esteem, self efficacy, motivation, knowledge etc. (Li *et al.*, 2005). According to Kendig *et al.* (1998), the level of education, social class and socio-economic indicators can be regarded as significant predictors of Physical activity. Gidlow *et al* (2006) indicate that in socio economically disadvantaged neighborhoods a higher risk of inactivity can be expected. This research is in line with the work of Sallis and Owen (2002) who refer to physical inactivity and the modifiable risk factors for chronic conditions. Gidlow *et al* (2006) further indicate that lower education, lower income levels, working status in low status occupations and unemployment may contribute to physical inactivity.

Behavioural theories, as documented by Sallis and Owen (2002) attempt to explain behaviour regarding physical activity to be influenced by individual factors, social factors and physical environmental factors. Positive correlations between these social, individual and environmental factors and physical activities were shown in the works of Sallis and Owen (1999) and Trost *et al* (2002).

Research points to growing concerns between class and health, and the fact that poorer people have shorter, more illness-ridden lives than their more affluent counterparts (Davey Smith *et al.* 1990, Davey Smith and Morris 1994). The general conclusion is that people and particularly certain groups are not as active as they should be and that school and recreational programmes should be designed and funded to enhance their participation (Roberts, 1996).

## **RESULTS**

### **Characteristics of the sample group**

The sample group contained a fairly even spread across gender. Of the 350 respondents in the survey, there were 179 (51.6 %) males and 168 (48.4%) females, and three respondents did not report their gender. The age of the sample group is a majority of the participants under the age of 35 and was classified as follows into the categories of 17-25 years (28.3% of the respondents); 26-35 years (31.4%); 36-49 years (23.7%); 50-65 years (8.9%) and 66-75 years (7.7 %).

The sample was chosen to be representative of a low income group, in a low income neighborhood, with 9.4 percent of respondents earning between 800-5 000 ZAR (\$100-\$625) per month, 16 percent earning between 5 001-10 000 ZAR (\$625.1-\$1250) per month, 0.6 percent earning above 10 000 ZAR (\$1250) per month, but 74 percent of respondents declined to answer this question for personal reasons.

### **Participation in physical activity**

The respondents were requested to rate the time per week in minutes that they spent on doing various types of physical activity in the following categories:

- (1) Strenuous physical activity (SPA), which constitutes any activity which causes the heart to beat rapidly, such as running, soccer, vigorous swimming, etc.
- (2) Moderate physical activity (MoPA), which is not exhausting, such as fast walking, easy cycling, volleyball, dancing, etc.
- (3) Mild physical activity (MiPA) requires minimal effort, such as yoga, fishing, bowling, golf, etc.

Table 1 represents the categories of the sample, rated according to the self-reported physical activity they indicated during the survey

**Table 1: Characteristics of the sample according to the time per week (minutes) spent on strenuous physical activity (SPA), moderate physical activity (MoPA) and mild physical activity (MiPA)**

n	SPA (mins per week)			MoPA (mins per week)			MiPA (mins per week)		
	0	1-180	≥ 181	0	1-180	≥ 181	0	1-180	≥ 181
	%			%			%		
350	84.0	11.14	4.85	88.86	8.86	2.29	95.71	4.0	0.29

At least eighty-four percent of the sample reported no weekly SPA, 88.86 percent reported no weekly MoPA and 95.71 percent no weekly MiPA. This is indicative of very low levels of physical activity among the sample group, even though the majority of the sample group is made up of younger participants.

Respondents were further asked to confirm their level of physical activity by indicating the frequency at which they participated in physical activity in a seven day period long enough in order to build up a sweat, on a four-point Likert scale, ranging from often (1) to almost never (4) as indicated in Table 2.

**Table 2: Frequency of participation in physical activity**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	2.3	2.5	2.5
	2	46	13.1	14.2	16.7
	3	37	10.6	11.5	28.2
	4	232	66.3	71.8	100.0
	Total	323	92.3	100.0	
Missing	System	27	7.7		
Total		350	100.0		

As seen in Table 2, the majority of the candidates rated the extent of their participation in physical activity as almost never (n = 232 or 71.83 percent of the respondents), which is a confirmatory measure of their self-reported participation reflected in Table 1.

The respondents were asked then to rate what they perceived as the benefits of participating in physical activity on a thirty-two item, five-point Likert scale, ranging from strongly disagree to strongly agree. Questions such as *I will get to meet new people* and *I will get to build on my muscle strength* for example, were included in the questionnaire. The reliability of the scale computed a Cronbach Alpha co-efficient of 0.958, well above Nunally's (1978) acceptable range of 0.7. The scale was factorised into three factors (each item loaded higher than a 0.5 on the corresponding factor), after the deletion of three items, leaving a 29-point scale. We classified the three factors of the perceived benefits as *Social/Wellbeing improvement (Factor D1)*; *Physical health Benefits (Factor D2)* and *Enhancement of self esteem/attractiveness levels (Factor D3)*. The means for the three factors for the entire sample group are reflected in Table 3.

**Table 3: The perceived benefits of physical activity**

	N	Minimum	Maximum	Mean	Std. Deviation
Factor D1	348	1.00	5.00	3.7222	.70047
Factor D2	348	1.31	5.00	3.9778	.60240
Factor D3	348	1.17	5.00	3.7817	.64204

	N	Minimum	Maximum	Mean	Std. Deviation
Factor D1	348	1.00	5.00	3.7222	.70047
Factor D2	348	1.31	5.00	3.9778	.60240
Factor D3	348	1.17	5.00	3.7817	.64204
Valid N (listwise)	348				

Table 3 shows that participants consider all three of the factors as beneficial, but the highest mean was computed for Factor D2, meaning that participants were most inclined to consider the *Physical Health Benefits* factor as being the most important perceived benefit of participating in physical activity. Although the benefits of participating in physical activity are recognised by the respondents, the results show that nonetheless their participation therein is very low.

The extent of participation in physical activity indicated by the respondents was then compared to their responses on the perceived benefits of participating in physical activity scale (classified according to the sample group they were placed in – mild, moderate or strenuous participants in physical activity). This is reflected in Table 4.

**Table 4: Analysis of variance (ANOVA) between the different sample groups**

		Sum of Squares	df	Mean Square	F	Sig.*
Factor D1	Between Groups	5.264	3	1.755	3.599	.014
	Within Groups	155.022	318	.487		
	Total	160.286	321			
Factor D2	Between Groups	6.490	3	2.163	6.164	.000
	Within Groups	111.603	318	.351		
	Total	118.093	321			
Factor D3	Between Groups	7.430	3	2.477	6.293	.000
	Within Groups	125.153	318	.394		
	Total	132.583	321			

\*Based on a 0.05 significance level

There are no significant differences between the different sample groups (the mild, moderate or strenuous participants) on how they perceive the benefits of participating in physical activity. All groups perceived similar benefits of participating in physical activity, regardless of their own actual self-reported participation.

## DISCUSSION AND CONCLUSIONS

The purpose of the study was to determine the extent of participation in physical activity by a group of respondents in a low income neighborhood. Coupled with this, the study aimed to determine the respondent's perceptions of the benefits associated with physical activity and correlate them with the extent to which respondents participated in physical activity.

The study found as anticipated, that the participation rates in any form of physical activity are alarmingly low. This is concomitant with the findings on other such similar research as conducted by (De Knop, 1998; Kruger *et al.*, 2002), although our study found lower rates than reported in any other previous studies. Furthermore, even though the respondents in the survey recognise that there are numerous benefits (specifically physical health benefits) associated with participating in physical activity, this has apparently not influenced them to attempt to participate to a greater extent in any form of physical activity: mild, moderate or strenuous.

The study was limited to a cross sectional study design which means that causality cannot be attributed. A larger number of experimental studies which investigate longitudinal or intervention-related influences on physical activity among participants living in low income neighborhoods are needed. All the measures were also

self-reported and therefore prone to recall and similar biases, but internally reliable, previously published measures were used where possible.

## MANAGERIAL IMPLICATIONS

We consider our study to be the first to look at physical participation in a low income neighborhood in South Africa: although limited in scope to a single community in Southern Gauteng, we believe that its results are at least somewhat relevant to a substantial cross-section of South African society. Policy makers need to be strongly concerned about the low levels of participation in physical activity which we found to be present in the low income neighborhoods surveyed in the study, as it has far-reaching implications for the status and well-being of the larger society. It is likely that this trend would also be present in other low income neighborhoods in the country.

Future research could focus on a sample group in a middle income or even high income neighborhood and be compared with the results found in our study, to determine whether the trend for the low incidence of participation in fact attributed to the low income neighborhood as initially envisaged. It is unlikely that increased awareness campaigns would be very useful in increasing the participation in physical activity as respondents seem to be well aware of the benefits thereof. They also acknowledge that participating in such activities would be likely to bring about the benefits discussed, regardless of whether they themselves are involved in physical activity. It is likely that campaigns aimed at improving individual's *motivation* to participate, perhaps by means of incentives could be one alternative to consider, or consider mechanisms that may encourage mild participants to increase their physical activity to the moderate or strenuous category.

We are undertaking further research into the *barriers* which impede physical activity in such a low income neighborhood to shed more light on the mechanisms which could be deployed to improve physical activity participation.

## REFERENCES

- Barr, E., Magliano, D., Zimmet, P., Polkinghorne, K., Atkins, R., Dunstan, D. *The Australian diabetes, obesity and lifestyle study*. Melbourne: International Diabetes Institute., 2006.
- Bauman, A., Ford, I. & Armstrong, T. *Trends in population levels of reported physical activity in Australia, 1997, 1999 and 2000*. Canberra: Australian Sports Commission., 2001.
- Bury, M. *Health and Illness in a Changing Society*. Second Edition. London: Routledge., 2000.
- Cornwell, J. *Hard-Earned Lives: Accounts of Health and Illness from East London*. London: Tavistock Publications., 1984.
- Calnan, M. Lifestyle and its social significance. In G. L. Albrecht (Ed.), A reconsideration of health behaviour change models. *Advances in Medical Sociology Series*, Vol. 4 (1994). Greenwich, CT: JAI Press Inc.
- Davey Smith, G., Bartley, M. and Blane, D. The Black Report on socio-economic inequalities in health; ten years on, *British Medical Journal*, Vol. 301, (1990) 373-377.
- Davey Smith, G. and Morris, J. Increasing inequalities in the health of the nation, *British Medical Journal*, Vol. 309 (1994), 145:54.
- De Knop, P. *Worldwide trends in youth sport*, in R. Naul (Ed.) *Physical Activity and Active Lifestyles of Children and Youth*. Paris: ICSSPE., 1998.
- Dubihlela, D. *Socio-economic challenges and the survival mechanisms for the female-headed households in the Bophelong Township*. Vanderbijlpark: North-West University (M.Com Dissertation)., 2011.

Fein, A.J., Plotnikoff, R.C., Wild, C. & Spencer, J.C. Perceived environment and physical activity in youth, *International journal of behavioural medicine*, Vol. 11, No 3 (2004): 135-142.

Gidlow, C., Johnston, L.H., Crone, D., Ellis, N., & James, D. A systematic review of the relationship between socio-economic position and physical activity. *Health Education Journal*, Vol. 65 (2006), 338-367.

Kendig, H. Browning, C. and Teshuva, K. Health actions and social class among older Australians. *Australian and New Zealand Journal of Public Health*, Vol. 22 (1998) 808-813.

Kruger, H.S., Venter, C.S., Vorster, H.H. & Margetts, B.M. Physical Inactivity Is the Major Determinant of Obesity in Black Women in the North West Province, South Africa: The THUSA Study. *Nutrition*, Vol. 18 (2002): 422-427.

Li, F. Fisher, J., and Brownson, C. A multilevel modeling of built environment characteristics related to neighborhood walking activity in older adults. *Journal of Epidemiology and Community Health*, Vol. 59 (2005) 558-64.

Roberts, K. Young people, schools, sport and government policies, *Sport Education and Society*, Vol. 1, No 1(1996), 47–58.

Salmon, J., Owen, N., Bauman, A., Schmitz, M.K. & Booth, M. 2000. Leisure-time, occupational and household physical activity among professional, skilled and less-skilled workers and homemakers. *Preventative medicine*, Vol. 30, No.3 (2000), 191-199.

Sallis, J. and Owen, N. *Ecological models of health behaviour* in Glanz, K. Rimer, B.K. and Lewis, F.M. (EDS) *Health behaviour and health education: Theory research and practice*. San Francisco, USA. Jossey –Bass., 2002.

Sekhampu, T.J. *An in-depth micro-economic analysis of the poor in Bophelong with special emphasis on the activities they use to sustain themselves*. Vanderbijlpark: North-West University (M.Com Dissertation)., 2004.

Statistics South Africa. *Community survey 2007, statistical release P0301.1*. Pretoria: Government printer., 2007

Slabbert, TJC & Sekhampu, T.J. *Bophelong: a socio-economic & environmental analysis. Research report no.22*. Vanderbijlpark: Vaal Research Group., 2009.

Trost, S.G., Owen, N., Sallis, J.F. and Brown, W. Correlates of adults' participation in physical activity: review and update. *Medicine Science in Sport and exercise*, Vol. 34, No. 12 (2002) 1996-2001.

US Department of Health and Human Services. *Physical activity and health: a report of the surgeon-general*. Atlanta, GA: United States Department of Health and Human Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion., 1996.

# SUSTAINING COMPETITIVE ADVANTAGE THROUGH CUSTOMER KNOWLEDGE MANAGEMENT AND INNOVATION

Wafa BelKahla Hakimi and Abdelfattah Triki  
University of Tunis, Tunisie

## ABSTRACT

*The present paper introduces the concept of Customer Knowledge Enable Innovation capability (CKEI capability) as a source of competitive advantage that the organization should master for superior performance goals. The CKEI is a new construct that has been proposed on the basis of extend literature review and a bank case study. The aim of this research is to substantiate it and reveal its dimensions. The CKEI translates the degree to which the organization is endowed with expertise and skills of managing customer knowledge in order to enhance innovation performance. A qualitative research is undertaking, more specifically a case study research. Data was collected on the basis of triangulating three qualitative techniques: observation, documentation and informal interviews with managers. The CKEI capability is found to be composed of three dimensions: an integrative capability, a structural capability, and an internal management capability. The implications and limits of the research as well as the research agenda are underlined.*

## INTRODUCTION

The concept of knowledge has emerged with Michael Polany (1962) who made the distinction between explicit knowledge and tacit knowledge. Nevertheless, research in knowledge management field has not reached its pick up until the years between 1990s and the 2000s. During that period, the marketing literature was characterised by an intensification of academic research studies dealing with knowledge management in general and customer knowledge management and its relationship with innovation in particular. This was stressed by the definition of knowledge as the main intangible resource for sustaining competitive advantage.

In both business practice and theory, knowledge management capabilities, in general, and customer knowledge management capabilities, in particular, were stated to be crucial factors of successful innovation management and consequently competitive advantage (Lettl and Herstatt (2004), Derllyiski and Frohlich (2004), Lawer (2005), Soparnot (2006), Rollins and Aino (2005), Salojarvi and Aino (2008)). However, in the literature review, there are only a few research studies that examined the way organizational capabilities can be facilitated by knowledge management. These studies have shown the relationship between customer knowledge management and innovation capabilities to be complex, which underlines the need to understand in greater depth the specific interplays between them. Most of the above mentioned research studies have limited their attention to studying customer knowledge management from the potential synergies of integrating ideas from customer relationship management (CRM) and knowledge management (KM) (Rollins et al, 2005), without focusing on how concretely a company should hold a competence in managing customer knowledge for innovation purposes.

The aim of the present research is to focus on the role of customer knowledge management in leveraging and enhancing innovation. Consequently, our **fundamental research question is**: How could a company hold a customer knowledge enabled innovation capability in order to sustain competitive advantage?

Our research is aimed at exploring such processes for the proactive understanding of customer needs and for understanding how customer knowledge is transmitted within the firm in a way that encourage innovation initiatives.

## THEORETICAL BACKGROUND

## Customer Knowledge Management and Innovation based capabilities

Firm capability has been defined from multiple view points and new definitions are still being formulated (Jain, 2007). Among these are dynamic, integrative, absorptive, relational, multiplicative capability,...etc in the marketing literature. The labels differ from one author to another and from one context to another but, in reality, they converge towards the same meaning and they are classified under the same umbrella: the organizational capability of the firm. This endows the firm with skills that are built and are conducive to organizational distinctive competitive advantage. Knowledge-based Organizational capabilities are originated in the knowledge based view as an extension of the resource based view (RBV). According to the resource based view, firms are seen as “bundles of resources”. These are defined as both tangible and intangible assets that are tied to the firm in a relatively permanent fashion (Liao et al, 2009).

Similarly in knowledge management and innovation research, several converging view points are offered to shed light on the construct of dynamic organizational capability with its relationship to Knowledge management and innovation (Liao et al (2009), Wang and Ahmed (2007), Ramaswami et al (2009), Lawer (2003), Lettle and Herstatt (2004)). In fact, previous research has shown that building better goods or services must be supplemented by organizational capabilities (Teece et al (1994), Cohen and Levinthal (1990)).

Li & Calantone (1998) have shown that customer knowledge is an intangible resource that is difficult to imitate by competitors as it is often embedded in an organization’s processes. Hence, customer knowledge is considered as a main resource which may create a long-term competitive advantage for an organization. The following table presents, in short, previous concepts related to innovation and knowledge based capabilities, as given in the literature review.

Organizational capability	Authors	Definition	Dimenions
<b>Knowledge integration capability in product development</b>	Revilla and Cury (2008)	“the capacity of the firm to integrate dispersed knowledge of different natures in an innovative manner”	(1)Shared knowledge of customers (skcust) (2)Shared knowledge of providers (sksuppl)
<b>Knowledge-enabled customer relationship management</b>	Al Shammary (2005)	Implementation of knowledge based CRM which is a set of knowledge resources, productivity, and procedures that could maintain a unified and integrated customer view with greater levels of detail and accuracy	(1)Enterprise data warehouse (EDW)//(2)Operational customer relationship management (CRM)//(3) Analytical CRM.
<b>Customer knowledge management competence</b>	Rolling and Aino (2005)	“the ability to integrate customer information and knowledge into an organization’s CRM processes and operations”.	Not mentioned
<b>Knowledge enabled innovation competence</b>	Van Winkellen (2008)	Not mentioned	-collaboration (internal and external collaboration)-organizational learning (creating a learning organization and reusing existing knowledge)-managing innovation (learning from innovative activities and recognizing opportunities to innovate)
<b>Dynamic capability</b>	Wang and Ahmed (2007, p35)	a firm’s behavioral orientation constantly to integrate, reconfigure, renew and recreate its resources and capabilities and, most importantly, upgrade and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage.	-adaptive capability -absorptive capability -innovative capability
<b>Intellectual capital</b>	Martin-de-Castro et al (2009, p 635)	« the combination of intangible assets that allows the company to operates »	-human capital -structural capital -customer/Relational capital

Table I: KM, CKM and innovation based capabilities

As shown in the table, there is a lack in conceptualizing customer knowledge and innovation based capabilities. In fact, previous research has deeply explored the relationship between innovation and customer knowledge management but they have failed to demonstrate how to manage adequately and effectively customer knowledge in order to enhance innovation success. They have either defined the customer knowledge

management capability without connecting it to innovation or they have defined the knowledge management based innovation capabilities with ignoring the customer component. Based on that, we propose the customer knowledge enabled innovation capability (CKEI capability) as an integrative construct that connect both customer knowledge management and innovation approaches.. In the following section we describe the methodology that was adapted in order to substantiate it and reveal its dimensions.

## RESEARCH METHODOLOGY

Our research is exploratory in nature. It has three main objectives:

- (1) To define the theoretical underpinning of the CKEI capability
- (2) To reveal its dimensions through exploring CKM and innovation practices.
- (3) To show how could the firm sustain a competitive advantage through this capability

To attend these objectives, a qualitative research is undertaken. It is the methodology of choice when there is a lack of theory or when a current theory fails to effectively explain a phenomenon (Merriam, 2002).

More precisely, we have adopted the case study method. Our choice is justified by the need to access to “hidden” data in organizational processes (Lettl and Herstatt, 2004). It was absolutely mandatory to proceed with an “immersion” in reality in order to be able to capture the entire depth and benefit from sources of multiple comprehensions.

Different strategies have been presented in the literature in order to give authors guidelines for performing case study research. Yin’s case study protocol (1984) and, Eisenhardt’s eight –step roadmap (1989) are good examples of research that have been given to address issues of validity and reliability. The two authors present the steps to follow in order to propose a good quality of case study. For the sake of simplicity, we have adopted Yin (2003)’s case study protocol in the present research which is a detailed plan for the research. It is a document in which full details of the case study research must be specified as it is used for replication purposes. It is composed of four steps: (1) an overview of the case study project focusing on the objective of the case study, In our research, (2) field procedures (different data collection techniques used in the case study), (3) case study questions (the specific questions that the case study investigator must keep in mind in collecting data) and (4) the case study report (results and analysis).

### Overview of the case study project

The case in hand is a Tunisian commercial bank that was created on 1982.

The choice of a bank is justified first, by the relational and innovative capacity of the bank and by the extent to which customers are integrated in the day to day activities, and second, by the fact that the need for innovation in this sector is deemed urgent. In fact, the main problem of the banking sector resides in the way organizations could implement a strategy of differentiation in a context characterized by the multiplication of services and products. The increasing rate of “multi-bancarisation”, added to the increasing rate of customers’ exit, push banks to imitate each other in order to survive. Most of the time, they copy each other and launch products that are similar to the other banks. In general these products can’t respond to real customer needs because the customer is not taken into account as an active co producer in the new product development process.

Keeping in mind our objectives, we have spent a period of six months in the bank. As it was difficult to analyse simultaneously all new products in the bank, we chose three new products developed during our immersion period: a new credit card, a technological pack, and a new saving account.

For the credit card, it is a “youth card” addressed to young people and considered as a radical innovation in the Tunisian banking sector. The choice of this product is interesting because young people were involved in the innovation process through the bank blog, market studies and focus groups. This gives us the chance to explore and to analyse how and to what extent customers are integrated in innovation projects within the organization. Concerning the technological pack, it offers a list of 11 configurations of IT packs consisting of an operational computer with internet connection and original software with home delivery. The saving account is a new device and is still in its diffusion phase which enable us to witness the launching of a new product with the different distribution channels, the partners of the bank in this phase, the meetings between managers about the strategy to be adopted in the diffusion of the new product, the meetings with the consultancy bureau to decide about how to attract the target customers, the meetings between managers and customers in order to generate information and collect feedback.

## Data collection techniques:

Our case study is based on triangulating three techniques: observation, documentation and informal interviews. Yin (2003) has discussed six main sources of evidence to apply the case study method. These sources are documentation, archival records, interviews, direct observations, participant-observation and physical artefacts. In this study, the three sources of evidence that are deemed valuable are direct-observation, documentation and informal interviews.

-a-Observation: Observation focused on internal management of customer knowledge within the organizations and the way it is disseminated and used in the three new product processes described above. We observed more precisely the sharing of information and knowledge between employees, employees' behaviour, work atmosphere, the degree to which the bank is endowed by a creative and innovative competency, the degree to which customers' needs are taken into consideration, how customer knowledge is collected and analyzed, the technologies and techniques that are used to collect and structure customer knowledge, etc. This was observed during meetings and workshops between employees as well as meetings between employees and customers whether face to face or online meetings.

b/ Documentation: Consulted documents were mainly related to customer knowledge. They included every document related to customer knowledge generation, dissemination, transformation and use. This was based on internal and external company documents such as market studies (customer satisfaction studies, market segmentation studies, post-campaign studies...), statistics of new products, company's annual reports and official web site, new product brochures, online discussion forums and blog reporting, etc. The goal was to achieve a better insight into the way the company manages external knowledge in order to enhance innovation. Documentation offered us the opportunity to obtain a good understanding of the innovation capability and the use of customer knowledge as a specific type of external knowledge.

C/Informal interviews: The most commonly used interview method in case studies is open-ended and takes place on a face to face basis (Yin, 2003). In our case, 14 informal interviews were carried out with top, middle and key employees who participated to the development of the three new products cited above. Respondents were managers in charge of activities such as marketing; information processing, new product range, strategic planning studies, pre-post campaign studies, distribution channels, electronic banking, etc. We have recorded, transcribed and analysed all interviews on the basis of content analysis.

## The case study questions

We didn't use an interview guide during the immersion period. Questions were relevant to each manager domain, competence and knowledge, and answered to our information needs. To analyse managers' purposes, we have adopted, as mentioned above, the content analysis technique which is consisting in coding and interpreting verbatim in order to identify the main facets that could represent a customer knowledge enabled innovation capability.

The main questions kept in mind when collecting data were:

- Who are the main partners of the bank in the innovation process based on the three new products under study? (focus on the role of customer)
- Are customers integrated in those innovation processes and how were they involved? (identify object, stages, level and modes of integration)
- How is customer knowledge generated, disseminated, transformed and used within the organization?
- How is this knowledge managed in order to constitute an innovative capability?

## Case study report: results and analysis

Drawing on the case study and the previous research on knowledge based capabilities, organizational capabilities, and user involvement (Battor et al, 2008; Rollins and Aino 2005; Wang and Ahmed 2007, Jaratt 2008, Lettl and Herstatt 2004, Lawer (2003, 2005), Rollins 2005), we define CKEI capability as the capacity of the organization to propose new products and services on the basis of an effective management of customer knowledge. In other words, it reflects the degree to which the company is endowed with the expertise of managing properly customer knowledge in order to enhance innovation. It is believed that CKEI may endow the company with a set of organizational competences and management skills as well as by a mindset of customer

knowledge acquisition, dissemination, transformation and use for the sake of securing new products performance.

All in, eight facets are seen to contribute to the making of CKEI: customer active/passive integration in the innovation process, stages of customer integration, customer knowledge structuring, customer knowledge sharing, continuous learning, creativity promoting culture, and effective communication of customer knowledge. Following previous research on organizational capabilities, the resource based view and the knowledge based theory (Eisenhart and Martin 2000; Teece *et al.* 1992, 1997; Barney 1991), we summarize these eight facets in three main dimensions believed to encompass the CKEI capability: integrative capacity, structural capacity and internal management capacity.

## **Integrative capacity**

The firm's integrative capacity of customer knowledge is a specific representation of its absorptive capacity. It is defined as the capacity of the organization to involve customers in the innovation process in order to benefit from their knowledge. During informal interviews with the bank managers, we have asked them about the sources of innovation in their company. Customers clearly appeared as the main source.

Based on Allam and Perry (2002)'s definition of customer involvement and on the case study analysis, we admit that the integrative capacity of the firm depends largely on the level of customer integration in the innovation process (active versus passive integration) and the stage of customer integration (the step of the innovation process he is involved in):

- *A/1- Active versus passive integration:* in passive integration, customers are assimilated to simple information providers, while in active integration, they are considered as co-producers and co-creators of value. In passive integration, customers participate in the innovation process *indirectly*. This type of knowledge is almost knowledge about customers such as knowledge residing in databases. The case study has shown that this type of knowledge is collected through several techniques such as the customers' complaints analysis, their purchase frequencies, their socio-demographic features,...etc. It is, in general explicit knowledge about customers that is coded in data bases. However, in active integration they participate *directly* in the innovation process. The principal methods used in the bank are: focus groups with customers, market studies, online discussion forums, blog, lead users technique (lead users were identified in the case in hand through events such as competitions and challenges proposed to customers. They are annual contests meant to stimulate customers' creativity and innovativeness in order to integrate them in the innovation process.

*A/2- The stages of customer integration:* customer integration varies according to the innovation process (from idea generation to feedback). According to the case study, customers are in general integrated in the idea generation phase and in the feedback phase (through post-campaign studies). This is confirmed by the use of market studies in the bank such as market segmentation and customer satisfaction studies, on the one hand, in order to identify real customer needs and post campaign studies, on the other, in order to collect feedback from customers after the launch of new products. Feedback allows the bank managers make adjustments in order to adapt their products and services to customers' desires.

## **Structural capacity**

It is the capacity of the organization to structure knowledge about, from and for customers and to classify it in data bases in order to transform it into easily sharable knowledge. Managers argue that IT software are needed for data processing and structuring. They recognize that some products have failed in the bank because there was no information safeguarding and follow up related to customer preferences, habits and attitudes towards these products. To structure customer knowledge, data warehousing and data mining are needed (Rolling et al, 2005).

We admit that the structural dimension of CKEI capability is reflected to a large extent in (1) the technology infrastructure of the organization and (2) the employee competence in using technology. In fact, the case in hand has shown that the failure of the youth card is caused, on the one hand, by the lack of information technologies such as CRM systems and, on the other hand, by the lack of employees competence in using existing technologies such as intranet. According to the marketing manager "*We always use intranet to share customer knowledge between different departments and employees. However this is not sufficient, other IT applications are needed such as CRM to ensure knowledge tracking and updating*"

According to the data processing manager: “Initiating employees to use and exploit appropriately data bases is more important than purchasing IT applications”.

## Internal management capacity

It reflects the organizational culture basis and the values the firm want to set up among its employees in order to effectively manage customer knowledge and foster innovation. In fact, it is not sufficient to integrate customers in the innovation process, effective management of the generated knowledge is also needed to succeed in new products development and launch. We admit that the internal management capability of the firms is largely reflected in knowledge sharing between employees, continuous learning from past experiences, the creativity promoting culture and communication effectiveness.

*Knowledge sharing:* Knowledge sharing reflects the bank employees’ competence in disseminating and utilizing customer knowledge in order to enhance innovation. Based on the case study, knowledge is always shared during employees’ workshops, training sessions and seminars.

- *Continuous learning:* It is a core component of CKEI. In fact, to disseminate and manage appropriately customer knowledge, a firm must have the ability to learn from previous experiences. In the present research, feedback is considered as a main source of learning from past experiences. According to the case in hand, this kind of information is collected from customers through different techniques: communities of users, post-campaign studies, service recovery... Continual learning is also practised in the bank by other techniques such as listing the “best practice cases”; preparing previous experience reports (forces and weaknesses), and built on them to minimize mistakes and respond to customers’ needs in the best way.

- *Creativity promoting culture:* It refers to the firm competence in infusing an organizational culture that supports and promotes creativity and innovativeness. In the case before hand, the creativity promoting culture is focused on encouraging employees’ creativity by reward and evaluation systems such as proposing the “excellence prize” for the most innovative employee. Creativity is also sustained by reinforcing awareness of the staff and hierarchy of responsibilities and tasks.

- *Effective communication:* finally, an organization which is endowed by a CKEI capability must have the ability to communicate internally (to its employees) and externally (to customers and other partners) all tasks related to new products. Internal communication is encouraged by the creation of an in-house magazine entitled “the bank News” which is a weekly internal document presenting new procedures used, new products/services launched by the bank, memos, competitors, training programs for the staff,...the magazine is distributed through the bank intranet. For external communication, the bank uses different networks to communicate new products, services and events in order to enhance reputation and attract customers (advertising, blog, web site,...).

### ➤ Verifying the quality of the case study design:

Respecting the case study validity and reliability criterions as given by Yin (2003), we present in the following table the application of those tactics in ours case in order to check and judge the quality the generated results.

Tests	Case study tactics	Application of those tactics in our case study
<b>Construct validity</b>	-use multiple sources of evidence -establish a chain of evidence -have key informant review draft case study report	- <b>Triangulation of techniques</b> - <b>Hold an information data base through transcription of collected information</b> - <b>Transmit this data base for other reviewers to ascertain objectivity</b>
<b>Internal validity</b>	-Do pattern matching -Do explanation building -Adress rival explanations -Use logic models	- <b>Use content analysis for collected data interpretation (reporting and analysing observation and documentation, transcription of interviews, codification, interpretation of verbatims)</b>
<b>External validity</b>	-Use theory in single case study -Use replication logic in multiple case studies	- <b>Use theoretical background (customer knowledge management, innovation and organizational capabilities’ literature, user involvement)</b> - <b>Going to and fro between literature review and case study material</b>
<b>reliability</b>	-Use case study protocol -Develop a case study data base	- <b>In the case study protocol we have presented the research objective, the data collection techniques, the questions asked to managers, and the case study report</b> - <b>hold a case study data base</b>

Table V: Criteria for judging the quality of the case study design, Adapted from Yin (2003) and Cepeda and Martin (2005)

## CONCLUSION

The CKEI capability is the capacity of the organization to propose new products and services based on effective management of customer knowledge. This capability could be at the basis of sustaining a competitive advantage and to do so, an organization should be characterized by three main specific competencies: it should integrate customers actively and from the very early stages, in the innovation process. It should also be characterized by a competence of structuring knowledge about, from and for customers. Finally, it should manage internally (across employees and departments) customer knowledge, through knowledge sharing among employees, continual learning, creativity promoting culture and effective communication of knowledge. We argue that those findings are a valuable extension to existing researches as shown in the literature review section, the case study analysis and the discussion section.

The theoretical contribution of the present research consists in presenting a new theoretical construct combining KM/CKM, innovation and organizational capabilities theories.

The managerial implications consist in the fact that the paper proposes to managers guidelines that allow them to handle new product development projects properly on the basis of their collaboration with customers. Managers have to give more attention to customer integration in the innovation process, to structuring knowledge about, from and for customers and to establishing an organizational culture that reinforces customer knowledge sharing between employees, continuous learning from past experiences related to innovation, employees creativity and effective communication, motivating employees to collaborate between each other and with customers who should be considered as a real partner and co-creator of value.

The results presented in this research are based on a single case study. The use of multiple case studies may enrich our results and generate more substance on the CKEI capability. Also, it might limit the risk of subjectivity. Also, and as the construct is new, further in-depth interviews or focus groups are needed to generate scale items for its measurement. Besides, empirical quantitative research is needed in order to explore the generalized scale items and to assess them reliability. Further research is needed also in order to integrate the CKEI construct in a general model of CKM and innovation.

## REFERENCES

- Allam I. (2002), "An exploratory investigation of user involvement in new service development", *Journal of the academy of the marketing science*, 30, p 250. Available at <http://jam.sagepub.com/cgi/content/abstract/30/3/250>
- ALHawari S., A. N.Talet, H. Alryalat and W. M. Hadi (2008)," The Impact of Knowledge Process about Customer on the Success of Customer Knowledge Acquisition", *Communication of the IBIMA*, 1, 27-33.
- Al Shamary M. (2005), "Implementing knowledge-Enabled CRM Strategy in a large company: A case study from a developing country", working paper, University of Bahrain.
- Cepeda G. and Martin D. (2005), "A review of case studies publishing in management decision, guides and criteria for achieving quality in quantitative research", *Management Decision*, 43, 5/6, pp 851-876.
- Cohen, W.M. and Levinthal, D.A. (1990) Absorptive Capacity - A New Perspective on Learning and Innovation, *Administrative Science Quarterly*, 35, 1, 128-152.
- Derliyski and Frohlich (2004), "Obtaining and leveraging customer knowledge for customer oriented product", University of Kristianstad, Department of business administration, available at:[eprints.bibl.hkr.se/archieve/0000051/01/dissertation.pdf](http://eprints.bibl.hkr.se/archieve/0000051/01/dissertation.pdf).
- Eisenhart K.M. (1989), "Building theories from case study research", *Academy of Management Review*, 4, 4, pp 318-326.
- Eisenhart K.M. and Martin J.A. (2000), Dynamic capabilities; What are they? *Strategic Management Journal*, 21, pp 1105-1121.

- Gebert H., Geib M., Kolbe L., and Riempp G., (2002) "Towards Customer Knowledge Management, Proceedings of the 2nd International Conference on Electronic Business (ICEB 2002), Taipei, Taiwan.
- Gibbert M., Leibold M. And Probst G. (2002), "Five styles of customer knowledge management and how smart companies use them to create value", *European Management Journal*, 20, 5, pp 459-469.
- Jaratt (2008) "Testing a theoretically constructed relationship management capability", *European Journal of Marketing*, 42, 9/10, pp. 1106-1132.
- Lawer C. (2005), "On customer knowledge co-creation and dynamics capability", Granfield University.
- Lettl C. and Herstatt C. (2004), "Users as innovators and developers of radical innovation: An explorative case study analysis in the field of medical technology", Arbeitspapier Nr 22.
- Liao J. J., Kickul J. R. and Ma H. (2009), "Organizational dynamic capability and innovation: an empirical examination of Internet firms", *Journal of Smart Business Management*, 47, 3, pp 263-286.
- Li T. and Calantone R. (1998), "The Impact of Market Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination", *Journal of Marketing*, Vol. 62, October 1998, pp. 13 – 29
- Mithas. M, Ramasubbu. N, Krishnan. M.S, Sambamurthy. V (2004): "Information Technology Infrastructure Capability and Firm Performance an Empirical Analysis"; *Baldrige Paper*, 15 April 2004.
- Ramaswami S. N., Srivastava R. K. and Bhargava M. (2009), "Market-based capabilities and financial performance of firms: insights into marketing's contribution to firm value", *Journal of the Acad. Mark. Science*, 37, pp 97–116
- Rollins M. and Aino H. (2005), "Customer Knowledge Management Competence: Towards a Theoretical Framework", Proceedings of the 38th Hawaii International Conference on System Sciences.
- Revilla E. and Cury T. (2008), "Antecedents and consequences of knowledge integration in product development. An empirical evidence", IE Business school Working paper, WP08-13, 05/03/2008.
- Salojarvi H. and Saino L.M. (2006), "Applying absorptive capacity construct to customer-related knowledge processing", working paper, *Lappeenranta University of Technology*.
- Soparnot R. and Billé J. (2006), "Customer knowledge: a resource for innovation, the PSA case study", working paper, ESCEM School of Business and Management.
- Teece D. J. and Pisano G. P. (1994), "The dynamic capabilities of firms: an introduction", *Industrial and corporate change*, 3, 3, pp 537-556.
- Tippins MJ, Sohi RS(2003), "IT competency and firm performance: is organizational learning a missing link?", *Strategic Management Journal*, 2003 - jstor.org
- Wang C. L. and Ahmed P. K. (2007), "Dynamic capabilities: A review and research agenda" *International Journal of Management Reviews*, 9, 1, p31-51.
- Van Winkellen (2008), "Building the capability to be innovative", *Knowledge Management Review*, 11,3, pp8-15.
- Yin R., (2003), *Case Study Research*, Sage Publications, Third Edition.

# **THE CORRUPTION-ECONOMIC GROWTH NEXUS: EVIDENCE FROM FOUR BRIC COUNTRIES BASED ON THE PANEL DATA APPROACH**

**Yuan-Hong Ho and Chiung-Ju Huang**  
**Feng Chia University, Taiwan**

## **ABSTRACT**

*This paper utilizes panel unit root, panel unit cointegration, and panel error correction model techniques to examine the corruption-economic growth nexus in a panel of four BRIC countries (Brazil, Russia, India, and China) over the 1995 to 2009 period. The empirical results show that there is a significant positive relationship between corruption and economic growth in the short run. However, in the long run, corruption is no longer the most important factor that affects economic growth. Instead, foreign direct investment and the degree of economic openness are the key factors that influence a country's economic growth.*

## **INTRODUCTION**

Corruption is a global issue faced by all countries, governments, and communities. There is not a single description for corruption as it takes on different shapes accordingly to specific culture, ethnicity, government type and scale, economic development, and public behavior. For example, Transparency International (TI) defines corruption as “the misuse of entrusted power for private benefit,” International Monetary Fund (IMF) describes corruption as “the abuse of public authority or trust for private benefit,” and the Asian Development Bank (ADB) defines corruption as “the abuse of public or private office for personal gain.” Jain (2001) further introduces three types of corruption phenomena that occur in a democratic nation. For example, grand corruption involves corruption among high level executives in government, legislative corruption involves corruption among representatives of the general public, and bureaucratic corruption involves corruption among government officials and staff. Regardless of its type, corruption hinders economic and social development, causes political instability and government inefficiencies, and deteriorates the close bond between a nation and her democratic ideals. In response, both emerging market economies and democratic developed countries have begun to seriously consider the social, political, and economic harm corruption brings, and to invest in resources to prevent and control corruption. Similarly, international organizations have also established various anti-corruption plans and departments for this cause. Among the anti-corruption organizations, the international non-government, global civil society organization, TI, stands out as one of the most influential and well-known entities.

While the effects of corruption can be clearly observed, they are often hard to quantify. Obtaining accurate information pertaining to corruption in specific nations is difficult, and quantifying the respective damage is less likely. Social and cultural differences, different standards and tolerance towards corruption also contribute to the complexity of formulating a standardized way to quantify corruption. However, several international organizations have attempted to create metrics to evaluate and quantify a nation's corruption. For example, TI created the Corruption Perceptions Index (CPI) and the Global Corruption Barometer (GCB); Business International came up with the Business International Index (BI); Political Risk Services, Inc. designed the International Country Risk Guide Index (ICRG); and World Bank developed the Governance Indicators. The CPI from TI is known for its accuracy and is currently the most frequently used method for measuring corruption. Following the CPI in popularity, is the World Bank's corruption index (Governance Indicators). In this study, Transparency International's CPI is used as the explanatory variable for its empirical study.

Recent global economic activity has been largely dominated by emerging market economies. The performance of Brazil, Russia, India, and China's economic markets have especially stood out among the others and are now known as the BRICs. In fact, Goldman Sachs' 2003 publication, *Dreaming with BRICs: The path to 2050* projected that within the next forty years, based on population, productivity and capital, and the conventional economic growth model, the BRICs will have a combined economy larger than that of the G6 or the six major industrialized nations, including the United States, Japan, England, Germany, Italy, and France. In addition, the publication states that by 2050, only the United States and Japan, amongst the old G7, will have economies large enough to compare with those of the BRICs. One of the major distinguishing characteristics that differentiated the BRICs nations with others is their scale. More specifically, each of the BRICs nations has belong to the six nations with highest population (the United States and India being the other two), the seven nations with the largest land mass (Canada, United States, and Australia being the other 3), and the eleven nations with the largest economy (the G7 nations being the other seven). None of the other emerging markets countries, such as the Next-eleven (N-11), which includes Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, The Philippines, South Korea, Turkey, and Vietnam, or the VISTA, which includes Vietnam, Indonesia, South Africa, Turkey, and Argentina, compare in scale with the BRICs.

Table 1 displays the relationship between CPI and both the average global GDP growth rate and the GDP growth rate of the BRICs. The statistics show the BRICs as having higher growth rates than the global average, but a CPI score falling towards the end of the list. This seems to suggest that for the BRICs, there is a short term, positive correlation between corruption and economic growth. However, how might corruption and economic growth relate to each other in the long run? This paper intends to examine both short and long run relationships between economic growth and corruption for the 4 BRICs. By using the panel unit root test, the panel cointegration, and the panel error correction model, we will be able to consider cross-country information, which will yield higher testing power and more accurate estimations that surpass the results of using traditional time series approaches.

## LITERATURE REVIEW

Due to growing concern over corruption's harmful effects on economic and social development, numerous studies have been devoted to explore the relationship between economic growth and corruption. Determining how corruption affects economic and social development is more than an intellectual exercise because the results may potentially contribute towards the discovery of multiple solutions to the problem corruption.

According to Tanzi (1998) and Ackerman (1999), corruption negatively impacts a nation's competitiveness by not only decreasing financial investments, economic growth, and government expenditures on education and health, but also leading to imbalanced expenditures, misguided market incentives and poorly allocated national resources. Such negative impact has been well documented by existing studies. Mauro (1995) was the first to publish empirical analyses on the relationship between corruption and economic growth. Cross-country empirical studies suggest that severe corruption significantly deters investment and economic growth. Brunetti et al. (1997), Brunetti and Weder (1998), Campos et al. (1999), and Wei (2000) also published empirical evidence documenting corruption's negative impact on the investments and Porison (1998) and Leite and Weidmann (1998) published empirical evidence document corruption's negative impact on economic growth. However, Mo (2001)'s cross-country analyses initially shows that corruption has a significant negative effect on economic growth; but after factoring variables such as investment, human capital, and political instability into the analyses, has a diminishing impact and becomes statistically insignificant. Monte and Papagni (2001) study the case of Italy municipality shows that corruption not only directly limits the average labor income, but also decreases private investments, which in turn, decreases the efficiency of public investment expenditures and slows down economic growth. Gyimah-Brempon (2002)'s study on African countries show that corruption not only decreases economic growth but also contributes to inequal income distribution. Neeman et al. (2004)'s study shows that the extent that which corruption has a negative impact on a country's economic growth, is determined by the "openness" of the specific country. Svensson (2005)'s re-visit of Mauro (1995)'s study similarly supports the finding that corruption negatively impacts economic growth. Finally, Gyimah-Brempong and de Camacho (2006)'s study shows that while corruption has a negative impact on economic growth, there are significant countries-specific effects. For example, corruption's negative impact is most significant among African countries and least significant among Asian and OECD countries.

	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Brazil</b>									
CPI score	4.0	4.0	3.9	3.9	3.7	3.3	3.5	3.5	3.7
CPI ranking	46	45	54	59	62	70	72	80	75
Growth rate (%)	1	3	1	6	3	4	4	5	-1
<b>Russia</b>									
CPI score	2.3	2.7	2.7	2.8	2.4	2.5	2.3	2.1	2.2
CPI ranking	79	71	86	90	126	121	143	147	146
Growth rate (%)	5	5	7	7	6	7	6	6	-8
<b>India</b>									
CPI score	2.7	2.7	2.8	2.8	2.9	3.3	3.5	3.4	3.4
CPI ranking	71	71	83	90	88	70	72	85	84
Growth rate (%)	5	4	7	8	9	9	8	7	5
<b>China</b>									
CPI score	3.5	3.5	3.4	3.4	3.2	3.3	3.5	3.6	3.6
CPI ranking	57	59	66	71	78	70	72	72	79
Growth rate (%)	8	9	10	10	10	11	10	9	9
<b>Word wide growth rate (%)</b>									
	2.2	2.8	3.6	4.9	4.5	5.1	4.9	3.7	2.1
<b>No. of countries included</b>									
	91	102	133	145	158	163	179	180	180

**Table 1: CPI and Growth Rate**

Sources: CPI data was obtained from TI (<http://www.transparency.org/>). GDP growth rate was obtained from IMF (<http://www.imf.org/external/index.htm>)

Although most empirical studies agree that corruption negatively impacts economic growth, there are some scholars that believe corruption to have the opposite effect. The belief is that corruption heightens the administrative efficiency of government agencies and decreases the transactions cost of time, positively influencing economic growth. Leff (1964), Bayley (1966), and Huntington (1968) suggest that under certain circumstances, individuals or corporations may bribe policy makers to turn around unfavorable situations caused by existing law and regulations and other political inflexibilities and bolstering economic efficiency. In fact, Lui (1985)'s empirical study shows that political bribery has lead to shortened political processes. Similarly, Klitgaard (1988) and Acemoglu and Verdier (1998) both used the theoretical model to prove that when a nation is pursuing the maximization of national output, an optimal level of corruption exists. The studies suggest that while the optimal level may be relatively low, it still does exist because anti-corruption efforts represent a cost in itself. Wedeman (1997) discovered that many countries enjoy rapid economic growth despite facing corruption. Colombatto (2003)'s study suggests that in certain developing countries or totalitarian countries, corruption helps eliminate certain factors that hinder economic development. Furthermore, Glaeser and Saks (2006)'s study on the United States and Treisman (2007)'s cross-country study both show that corruption's impact on economic growth as not being statistically significant. While previous empirical studies on the relationship between corruption and economic growth have led to inclusive results (various results and interpretations), this study attempts to contribute to this line of research by using the newly developed panel unit root tests, panel cointegration tests, and panel-based error correction model to investigate the relationship between economic growth and corruption among the BRICs.

## DATA AND METHODOLOGY

## Data

Our empirical analysis employed annual data on economic growth rate (growth), foreign direct investment (fdi), the degree of economic openness (open), corruption perception index (cor) and share of government expenditures relative to GDP (ge), for Brazil, Russia, India and China over the sample period of 1995-2009. All data were obtained from the data bank of International Monetary Fund (IMF), United Nations Conference on Trade and Development (UNCTAD), United Nations (UN), World Trade Organization (WTO) and Transparency International (TI) respectively.

## Methodology

Ever since Nelson and Plosser (1982) published their seminal work, various studies have been devoted to the investigation of potential non-stationary characteristics of important macroeconomic variables. Researchers have been especially interested in the time-series properties of real output levels. As pointed out by Nelson and Plosser (1982), the modeling of real output levels as either a stationary trend or a difference stationary process has important implications for macroeconomic policy making, modeling, testing and forecasting. Therefore, studies on this issue are of concern to not only empirical researchers but also to policymakers.

While numerous studies support the use of the unit root test of real output levels, critics claim that the drawing of such conclusions may be attributed to the fact that conventional unit root tests typically have lower power. More recently, it has been reported that conventional unit root tests not only fail to consider information across regions, therefore leading to less efficient estimations, but also have lower power when compared to stationary alternatives. It is not surprising that these factors have cast considerable doubt on many of the earlier findings that have been based on real output levels from unit root tests. A tangible approach for increasing the testing power of the unit roots is to consider the use of panel data.

### Levin, Lin and Chu Panel Unit Root Test

Levin, Lin and Chu (2002) found that the panel approach substantially increases power in finite samples when compared with the single-equation ADF test. They proposed a panel-based version of equation (1) that restricts  $\hat{\beta}_i$  by keeping it identical across cross-sectional regions, as shown below:

$$\Delta X_{i,t} = \alpha_i + \beta X_{i,t-1} + \sum_{j=1}^k \theta_{ij} \Delta X_{i,t-j} + \varepsilon_{i,t} \quad (1)$$

where  $\Delta$  is the first difference operator,  $X_{it}$  is the variables deal with,  $\varepsilon_{it}$  is a white noise disturbance with a variance of  $\sigma^2$ ,  $t=1,2,\dots,T$  indexes time periods, and  $i=1,2,\dots,4$  indexes cross-sectional regions. LLC tested the null hypothesis for the existence of a unit root (i.e. the series is non stationary) with  $\beta_1 = \beta_2 = \dots = \beta = 0$  against the alternative of  $\beta_1 = \beta_2 = \dots = \beta < 0$ , based on the test statistic:

$$t_{\beta} = \frac{\hat{\beta}}{se(\hat{\beta})} \quad (2)$$

Where  $\hat{\beta}$  is the OLS estimate of  $\beta$  in equation (1), and  $se(\hat{\beta})$  is its standard error.

### Maddala and Wu Panel Unit Root Test

Using Fisher (1932)'s results and the  $p$ -values from individual unit root tests, Maddala and Wu (1999) develop a panel unit root test. Let  $\pi_i$  as the  $p$ -value of a unit root test from cross section units, the test statistic of Fisher is defined as:

$$-2 \sum_{i=1}^N \log(\pi_i) \rightarrow \chi_{2N}^2 \quad (3)$$

In addition, it demonstrates that:

$$Z = \frac{1}{\sqrt{N}} \sum_{i=1}^N \Phi^{-1}(\pi_i) \rightarrow N(0,1) \quad (4)$$

Maddala and Wu (1999) reports both  $\chi_{2N}^2$  and standard normal statistic values using ADF and Phillips-Perron (1988) individual unit root test, the null hypotheses of them are the same as the Im, Pesaran and Shin (2003) test.

## Pedroni Heterogenous Panel Cointegration Tests

Pedroni (1997, 1999) developed a number of statistics based on the residuals of the Engle and Granger (1987) study. Pedroni supported heterogeneity among individual members of the panel, and included heterogeneity in both the long and short-run cointegrating vectors. By so doing, Pedroni developed seven panel cointegration statistics for varying intercepts and varying slopes. Four of them qualify as pooled panel cointegration statistics that have within-dimension characteristics. The other three, group mean panel cointegration statistics, have between-dimension characteristics. The pooled panel cointegration test statistics are as follows: panel  $\nu$ -statistics, panel rho-statistics, panel PP-statistics and panel ADF-statistics. The group-mean panel cointegration test statistics are as follows: group rho-statistics, group PP-statistic and group ADF-statistics

Pedroni (1997) argued that for cases with longer time spans (such as,  $T > 100$ ), the sample size distortion tends to minimal, while retaining a very high testing power across all seven statistics. However, for shorter panels, alternative statistics appeared to yield conflicting evidence. Pedroni (1997) showed that in terms of testing power, the group-ADF statistic has the best performance in general, followed by the panel-ADF. The panel-variance and group-rho statistics performed poorly in comparison.

## Panel Vector Error Correction Model

When real government revenues and expenditures are co-integrated, a long run relationship exists between them. We can use the vector error correction model to characterize both long run equilibrium relationships and short run dynamic adjustment processes between government revenues and expenditures. The vector error correction model for Brazil, Russia, India and China with heterogeneous panels is shown as follows:

$$\begin{aligned} D(\text{growth})_{i,t} = & \alpha_1 + \sum_k \theta_{11i,k} D(\text{growth})_{i,t-k} + \sum_k \theta_{12i,k} D(\text{cor})_{i,t-k} \\ & + \sum_k \theta_{13i,k} D(\text{fdi})_{i,t-k} + \sum_k \theta_{14i,k} D(\text{ge})_{i,t-k} \\ & + \sum_k \theta_{15i,k} D(\text{open})_{i,t-k} + \lambda_{1,i} \varepsilon_{i,t-1} + \eta_{i,t} \end{aligned} \quad (5)$$

Where  $k$  is the lag length,  $\varepsilon_{i,t-1}$ , and  $\eta_{i,t}$  are error correction terms and statistical noises respectively.  $\lambda_i$  is the speed of adjustment to long-run equilibrium.

## EMPIICAL RESULTS

Table 2 reports the results of the non-stationary tests for growth, fdi, open, ge and cor variables using LLC, ADF-Fisher and PP-Fisher tests. Each data series is non-stationary in terms of levels but stationary with respect to first differences, suggesting that all of the data series are integrated of order one. Having established that growth, fdi, open, ge and cor variables are  $I(1)$  in their level form, the long run relationship is estimated using panel cointegration tests. The panel cointegration models are used in order to draw sharp inferences since the time span of an economic time series are typically short. The estimated Pedroni's test statistics are given in Table 3. The results presented in Table 3 show that the null hypothesis of no co-integration among the series of growth, fdi, open, ge and cor is rejected by the five test statistics at the 1% significance level, except for the

panel v-statistic and group rho-statistic. These results suggested that the corruption perception index (cor), foreign direct investment (fdi), the degree of economic openness (open), and share of government expenditures relative to GDP (ge) are helpful in explaining GDP growth for BRIC countries in the long run, vice versa.

The empirical results of the panel error correction model are reported in Table 4. With the focus on equation (5), the estimated coefficients of  $D(\text{growth})_{t-1}$ ,  $D(\text{cor})_{t-2}$ ,  $D(\text{fdi})_{t-2}$ ,  $D(\text{ge})_{t-1}$ ,  $D(\text{ge})_{t-2}$  and  $D(\text{open})_{t-1}$  are not significant. Thus there is not enough evidence to support that short run causality exists between government expenditures and economic growth. The significance of the speed of adjustment,  $\lambda$  (i.e. the coefficient of  $\mathcal{E}$ ), explains the long run relationship observed during the co-integrated process. We reject the null hypothesis  $H_0: \lambda_i = 0$  for all  $i$  in equation (5). Therefore, long run equilibrium exists between GDP growth and fdi, open, ge and cor variables for four BRIC countries.

**Table 2: Panel Unit Root Tests**

	LLC	test	ADF-Fisher	test	PP-Fisher	test
	Level	Difference	Level	Difference	Level	Difference
<b>growth</b>	0.88424	-4.53939***	7.39801	17.1833*	6.94140	29.6234***
<b>fdi</b>	2.68913	-3.48081***	1.19687	21.8528**	1.13359	15.7660*
<b>open</b>	0.07549	-3.65079***	7.06164	22.8752**	6.19216	35.6952***
<b>ge</b>	-0.23782	-3.90440***	3.23556	21.4293**	3.43317	19.8255
<b>cor</b>	-1.21250	-5.75348***	7.83093	38.3977***	10.4660	37.4921***

Note: \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

**Table 3: Panel Cointegration Tests**

Tests	Test Statistics
Panel v-Statistics	-0.282562 ( 0.3833 )
Panel rho-statistics	-2.311722 ( 0.0276 ) **
Panel PP-statistics	-6.250658 ( 0.0000 ) ***
Panel ADF-statistics	-2.262054 ( 0.0309 ) **
Group rho-statistics	3.353365 ( 0.0014 ) ***
Group PP-statistics	-6.250658 ( 0.0000 ) ***
Group ADF-statistics	-2.499281 ( 0.0176 ) **

Notes: The  $p$ -values are given in parentheses. \*\*\*, and \*\* indicate significance at the 1% and 5% levels.

## CONCLUSION

The commonality between the BRICs is that they represent large countries with huge populations that are able to generate immense need and buying power. China, India, and Russia benefit additionally from their immense man power, while Russia and Brazil enjoy bountiful natural resources. In the recent years, these four countries have experienced such miraculous economic growth not only because of the above reasons, but also because they have exported large amounts of products, services, and resources and have rapidly cumulated foreign reserves. However, each of the BRIC countries faces other economic issues, such as a large income gap between the rich and the poor and money debt resulting from political corruption. Despite having a lower corruption perception index on average and thus are countries known to be facing significant corruption, the BRIC countries still enjoy high economic growth rates likely accelerated by huge foreign investments.

In this study we use panel unit root, panel unit cointegration, and panel error correction model techniques to examine the corruption-economic growth nexus in a panel of four BRIC countries (Brazil, Russia, India, and

China) over the 1995 to 2009 period. The empirical results of this study show that among the various variables behind economic growth, direct foreign investments and economic openness represent the most influential factors, with economic openness having a significant, negative correlation with corruption. It is also found that the corruption perception index with lag one period and lag two periods have a positive correction with current period economic growth. However, this correction is only statistically significant for the lag one period. In addition, the empirical results suggest that government expenditure and economic growth do not have a statistically significant direct correlation. In the short run, estimations from the panel error correction models show that there is a significant positive relationship between corruption and economic growth in the short run. However, in the long run, corruption is no longer the most important factor that affects economic growth. Instead, foreign direct investment and the degree of economic openness are the key factors that influence a country's economic growth. We are unable to validate the claim that higher corruption is beneficial to economic growth because economic growth depends on country-specific factors such as direct foreign investment and market openness.

Although the empirical results of this study do not show the corruption level as having a significant influence on the investments, expenditure, and economic openness, in the long run, when the economy grows to a certain level and government corruption still has not receded, these emerging market economies may likely cease to flourish.

**Table4: Panel Error Correction Model**

Independent Variables	Dependent Variables				
	D(growth) <sub>t</sub>	D(cor) <sub>t</sub>	D(fdi) <sub>t</sub>	D(ge) <sub>t</sub>	D(open) <sub>t</sub>
D(growth) <sub>t-1</sub>	-0.093699 (-0.42489)	0.019376 (1.17103)	-0.000723 (-1.48500)	-0.001538 (-0.93333)	-0.003614 (-1.21920)
D(growth) <sub>t-2</sub>	-0.424778** (-2.01565)	-0.015111 (-0.95566)	-0.0000796 (-0.17096)	0.002154 (1.36811)	-0.002557 (-0.90292)
D(cor) <sub>t-1</sub>	-3.955056* (-1.80092)	0.1648 (1.00012)	-0.000262 (-0.05404)	-0.000508 (-0.03098)	0.004919 (0.16666)
D(cor) <sub>t-2</sub>	-1.030324 (-0.43766)	-0.27631 (-1.56429)	-0.002132 (-0.41004)	-0.004704 (-0.26746)	-0.022292 (-0.70458)
D(fdi) <sub>t-1</sub>	-212.5848** (-2.19880)	-7.66683 (-1.05688)	0.252066 (1.18023)	0.513239 (0.71059)	-0.589898 (-0.45398)
D(fdi) <sub>t-2</sub>	-17.06954 (-0.18596)	-1.164985 (-0.16915)	0.030324 (0.14955)	0.382183 (0.55733)	-0.10466 (-0.08484)
D(ge) <sub>t-1</sub>	-27.36579 (-0.95773)	-0.222624 (-0.10384)	-0.110752* (-1.75464)	0.325725 (1.52591)	-0.598492 (-1.55847)
D(ge) <sub>t-2</sub>	-10.02798 (-0.34320)	-2.938993 (-1.34058)	-0.021151 (-0.32769)	0.016177 (0.07411)	-0.033142 (-0.08440)
D(open) <sub>t-1</sub>	27.53418 (1.54896)	-1.388407 (-1.04098)	0.017649 (0.44946)	0.053328 (0.40157)	0.416197* (1.74209)
D(open) <sub>t-2</sub>	35.05353** (2.34277)	2.231913** (1.98807)	0.010647 (0.32211)	-0.025917 (-0.23186)	0.009262 (0.04606)
ε <sub>t-1</sub>	-0.730742*** (-3.08871)	-0.029136* (-1.64135)	-0.000679 (-1.29944)	-0.002301 (-1.30185)	-0.004703 (-1.47902)

Notes: The t-statistics are given in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. The Schwartz Information Criterion (SIC) suggests 2 lags for our PECM.

## REFERENCES

- Acemoglu, D. and T. Verdier (1998), "Property Rights, Corruption and the Allocation of Talent: A General Equilibrium Approach," *The Economic Journal*. 108(450): 1381-1403.
- Bayley, D. H. (1966), "The Effects of Corruption in a Developing Nation," *Western Political Quarterly*, 19(4): 719-732.

- Brunetti, J. and B. Weder (2003), "A Free Press Is Bad News for Corruption," *Journal of Public Economics*, 87: 1801-1824.
- Campos, J. E. and S. Pradhan (1999), "Budgetary Institutions and the Levels of Expenditure Outcomes in Australia and New Zealand," in *Fiscal Institutions and Fiscal Performance*, Poterba, M. et al. ed., University of Chicago Press, Chicago.
- Glaeser, E. and R. E. Saks (2006), "Corruption in America," *Journal of Public Economics*, 90: 1053-1072.
- Gyimah-Brempong, K., and S. M. de Camacho (2006), "Corruption, Growth, and Income Distribution: Are there Regional Differences?" *Economics of governance*, 7: 245-269.
- Heckelman, J. C. (2008), "Corruption and the Institutional Environment for Growth" *Research Working Paper*, Department of Economics, Suffolk University.
- Jain, A. K. (2001), "Corruption: A review" *Journal of Economic Surveys*, 15:71-121.
- Klitgaard, R. (1988), "Controlling Corruption," University of California Press, Berkeley, CA .
- Kolstad, I., and A. Wiig (2008), "Is Transparency the Key to Reduce Corruption in Resource Rich Countries?" *World Development*.
- Leff, N. (1964), "Economic Development Through Bureaucratic Corruption," *American Behavior Scientist*, 1: 8-14.
- Lui, F. T. (1985), "An Equilibrium Queuing Model of Bribery," *Journal of Political Economy*, 93(4): 760-781.
- Mauro, P. (1995), "Corruption and Growth," *The Quarterly Journal of Economics*, 110: 681-712.
- Mauro, P. (2002), "The Persistence of Corruption and Slow Economic Growth," *IMF Working Paper*, 2, 213.
- Méndez, F., and F. Sepúlveda (2006), "Corruption, Growth and Political Regimes: Cross Country Evidence," *European Journal of Political Economy*, 22: 82-98.
- Mo, Pak Hung (2001), "Corruption and Economic Growth," *Journal of Comparative Economics*, 29: 66-79.
- Monte, A. Del, and E. Papagni (2001), "Public Expenditure, Corruption, and Economic Growth: The Case of Italy," *European Journal of Political Economy*, 17(1): 1-16.
- Neeman, Z., M. D. Paserman and A. Simhon (2004), "Corruption and Openness," *Discussion Paper*, 353, The Hebrew University of Jerusalem.
- Shleifer, A. and Vishny, R. W. (1993), "Corruption," *The Quarterly Journal of Economics*, 108(3): 599-618.
- Tanzi, V. (1998), "Corruption around the World: Cause, Consequences, Scope, and Cures," *IMF Staff Paper*, 45(4): 559-594.
- Turnovsky, S. J. (2009), "Capital Accumulation and Economic Growth in a Small Open Economy," *Cambridge University Press*.
- Weder, M. (2001), "Indeterminacy in a Small Open Economy Ramsey Growth Model," *Journal of Economic Theory*, 98: 339-356.
- Wei, S. J. (2000), "Natural Openness and Good Government," *NBER Working Paper*, No. 7765.

# **BREAKING THE SILENCE-CONSIDERATIONS AND POLICY GUIDELINES FOR THE MANAGEMENT OF THE WHISTLE BLOWING PROCESS IN AN ORGANIZATION**

**Natasja Holtzhausen**  
**University of South Africa, South Africa**

## **ABSTRACT**

*The purpose of this paper is to explore considerations relating to the effective management of whistle blowing in organizations, more specifically the South African public sector. Key to the management is the creation of mechanisms such as policies and hotlines to facilitate the whistle blowing process and to create a more positive organizational image and culture. This paper provides an overview of the indicators of effectiveness of whistle blowing and provides guidelines for the establishment of a whistle blowing policy and process.*

## **INTRODUCTION**

According to Calland (2004:2), "... whistle blowing is about basic issues which lie at the heart of human activity. It covers loyalty and the question of dubious practices. It concerns communication and silence. It is about practicing what one preaches and about leadership. It focuses on responsibility toward others and the accountability of those in charge. It is where public and private interests meet". In the current turbulent times it is imperative that the challenge of whistle blower protection be adequately addressed. Whistle blowing in itself is turbulent, but essential in the fight against corruption. When disclosures are made, organizations should have the opportunity to deal with allegations of wrongdoing in order to establish if it is in fact wrongdoing. Organizations should be informed timeously if they are to be able to act proactively, and should have a whistle blowing process in place to facilitate such proactive action.

When considering legislation aimed at encouraging whistle blowing, policy makers have chosen to use the generic term disclosure when referring to whistle blowing (such as the South African Protected Disclosures (PDA) Act 26 of 2000 and the United Kingdom's Public Interest Disclosure Act of 1998). Whistle blowing is much more than a disclosure, because the person making the disclosure has to be specific. In addition, there is a difference between authorized (following the rules and regulations of the organization) and unauthorized (not according to organizational channels or even in public, e.g. to the media) disclosures. Whistle blowing is regarded by Vinten (1994) and Bakman (2005) as an "... unauthorized disclosure of information that an employee reasonably believes is evidence of the contravention of any law, rule or regulation, code of practice, or professional statement, or that involves mismanagement, corruption, abuse of authority, or danger to public or worker health and safety". This paper will describe the effectiveness of whistle blowing within the South African public sector and explore possible strategies and provide policy guidelines for consideration. The success story of South African Mike Tshishonga will be explored to learn valuable lessons. The paper will further briefly describe components in the whistle blowing process and conclude by elaborating on the effects of whistle blowing on the organizational image and the creation of a whistle blowing culture.

## **EFFECTIVENESS OF WHISTLE BLOWING**

The effectiveness of whistle blowing may be defined in a variety of ways. Legal scholars tend to define the effectiveness of the outcome in terms of the win/lose ratio of lawsuits involving whistle blowers (Terpstra and Baker in Near and Miceli 1985). The focus here is primarily on whether the whistle blower has accomplished what he or she set out to achieve, namely, the initiation of organizational change as opposed to obtaining a judgment. Therefore, the effectiveness of whistle blowing is defined by the extent to which the questionable or wrongful practice (or omission) is terminated at least partly as a result of whistle blowing and within a reasonable time-frame. Near and Miceli (1985) recommend that the operationalization of effectiveness should be addressed. Obviously, reasonableness (in terms of resolution time) involves judgment and perception, and it is likely that it varies from situation to situation, as well as from person to person. There should be concrete evidence that an action has been halted (e.g. corrected financial reports accepted by an outside authority), that termination is attributable to the whistle blower's action, and that the time period is reasonable (e.g. by a certain deadline).

According to Near and Miceli (1995) and Mbatha (2005) there are five primary factors that influence the termination of wrongdoing. Firstly the nature of the whistle blowing event; secondly the disposition of the complaint recipient; thirdly the character of the wrongdoer; fourthly the aspects relating to the act of wrongdoing; and lastly the characteristics of the organization. Five sets of variables affect these factors. Some are individual variables (pertaining to the whistle blower, complaint recipient and wrongdoer), and others are situational variables (organizational and wrongdoing variables). An effective whistle blowing process may have implications for an organization's future (Farrell and Petersen in Near and Miceli 1985). One potential long-term outcome is organizational performance (Perry in Near and Miceli 1985). Although it is generally assumed that corporate wrongdoing harms an organization's performance, empirical results suggest that this is not always the case (Near and Miceli 1985). If the public discovery of corporate wrongdoing does not reduce long-term performance, then executives have little incentive to terminate the wrongdoing. Alternatively, where wrongdoing harms the organization (for example fraud), it will clearly benefit the organization if the wrongdoing is terminated.

The organization's choice also affects a second long-term outcome – its ability to control the external elements in its environment (Near and Miceli 1995), *i.e.* other organizations and constituents. For example, the organization sued for wrongdoing may be viewed with somewhat greater suspicion by regulatory agencies. In the context of the elements that inhabit its external environment, the organization's ability to control the demands of these elements (Near and Miceli 1995) may be impaired or enhanced by its response to the reporting of wrongdoing. Moreover, society may be influenced by whether an organization terminates a particular case of wrongdoing, but society is also influenced by potential changes in the nature of the relationship between the organization and its external environment (e.g. when an organization implements an employee-involvement programme to prevent wrongdoing in the future).

## **The Case Of Mike Tshishonga**

The first successful claim before the South African Labor Court for compensation arising from the PDA is the case of Mike Tshishonga vs. the then Minister and Director General of Justice. In October 2003 Mike Tshishonga (employed at the South African Department of Justice for 30 years and the managing director of the Master's Office Business Unit) leveled serious accusations at former Justice Minister Penuell Maduna. Tshishonga was responsible for addressing corruption in the liquidation industry. The case concerned the appointment of a liquidator in the Retail Apparel Group (RAG) that was liquidated in May 2002. Tshishonga alleged that Maduna had a "questionable relationship" with Enver Motala, a private-sector liquidator. The supposedly nepotistic relationship had led to Maduna's alleged "abuse of the infrastructure and staff of the Justice Department for the purposes of advancing his personal interests," and of endangering South Africa's criminal justice system. Motala was dissatisfied with the manner in which he was sidelined in the appointment of liquidators (Davids 2007).

Tshishonga was in the process of restructuring the Master's Office and the appointment of liquidators. Motala attended a merger meeting of the insolvency practitioner's bodies at the request of the former Minister where other liquidators were excluded. The former Minister met with Tshishonga and expressed his dissatisfaction with the fact that Mr Motala had not been appointed as a liquidator. Minister Maduna then instructed the Master in the Pietermaritzburg Office to appoint Motala. Mr Tshishonga, unhappy with the appointment, acquired a legal

opinion as to the Minister's powers. The appointment of Mr Motala was successfully challenged in court and it was established that the Minister did not have the power to appoint liquidators. The Minister then appointed a subordinate of Mr Tshishonga's, without discussing it with him, to oversee the appointment of liquidators in Pietermaritzburg in the RAG case, and Mr Motala was appointed as the fifth liquidator. Former Minister Maduna thereafter removed Mike Tshishonga as head of the unit and refused to meet with him. Subsequently, Mr Tshishonga enquired from the previous Director General how a politician could instruct an administrator and how the instructions could be executed without following proper procedure, but no reasons were provided. The issue of poor performance was raised, but at a later disciplinary hearing the former Director General stated that poor performance was never an issue and that Tshishonga had in fact sent a clear message of good governance (Davids 2007 and Holtzhausen 2007).

The former Director General commissioned a forensic investigation into Tshishongas' corruption allegations but did not react to the report received. Mike Tshishonga then called on the Office of the Public Protector and when nothing was done about the complaint, he went to the Auditor General. Again, as in the case of the Public Protector, nothing was done. At last, the Public Protector referred the matter of Tshishongas' poor treatment to the Public Sector Commission while the Public Protector investigated the allegations of irregularities. As a final resort Mr Tshishonga discussed the matter with the Minister in the Presidency who stated that a meeting would be set up between the Minister and Director General of Justice and Mike Tshishonga. This meeting never took place. Only then did Mike Tshishonga set up a press conference as a last resort. He was suspended a week later for divulging sensitive information and two weeks after that, he was charged with misconduct. He successfully challenged the suspension in the Labor Court and was reinstated to his previous position. The Department of Justice, however, did not comply with the court order and still continued with a disciplinary hearing where an independent chairperson had found Tshishonga not guilty. The former Director General refused to reinstate Mr Tshishonga and instead offered him a settlement and terminated his employment as agreed by both parties (Davids 2007 and Holtzhausen 2007).

The court found that the disclosure made by Tshishonga to the media was reasonable, as the media disclosure was the fifth disclosure he made, that the correct procedures had been followed and that all the requirements of the PDA had been complied with. The Minister of Justice and the Justice Department were ordered to pay Tshishonga one year's salary as well as the legal costs. The Department of Justice received negative publicity and embarrassment. The court said of this case: "... a defence that the employee breached confidentiality has to be approached so cautiously that it does not strip the PDA of its content" (Davids 2007). In December 2011, at a gathering at the University of Johannesburg, Mike Tshishonga said: "The Protected Disclosures Act was, in the end, what saved me from the ruthless actions of the Justice Department. The way the PDA is set out, makes something that is by no means an easy task, something that if it is done within the prescribed guidelines of the PDA a legal and bearable means of fighting corruption." When analyzing the Tshishonga experience it is clear that strategies must be in place for not only disclosing wrongdoing, but also for the management of the whistle blowing process.

## **A WHISTLE BLOWING STRATEGY TO ENSURE A POSITIVE ORGANIZATIONAL IMAGE**

Whistle blowing might be perceived as a deficiency in the organizational system that should be provided for in an accountable manner. Organizations must have a communication strategy in place to deal with whistle blowing in an effective and proactive manner, informing all stakeholders about whistle blowing (options, procedures, possible consequences, and possible responses). In order for internal whistle blowing to be effective, an internal system must exist within the organization. This system must include the following (Barker and Dawood 2004):

- access to independent advice, for example the Open Democracy Advice Centre;
- proper channels of communication to document and address wrongdoing in the organization;
- a clear statement that unprofessional conduct is taken seriously and an indication of what is perceived as unprofessional conduct;
- penalties for making false allegations of wrongdoing;
- a verifiable whistle blowing procedure;

- an internal committee to facilitate the whistle blowing process and to take account of good practice, or establish an anonymous hotline;
- guidelines to employees on raising concerns outside of the organization if necessary;
- the use of itinerant organizational lawyers as a channel of communication;
- respect for the confidentiality of the discloser if the disclosure is made outside the line management structure to other parties, or providing alternate avenues; and
- management's commitment to the process of whistle blowing and to supporting whistle blowers.

An internal whistle blowing strategy will help to prevent employees from blowing the whistle externally and thus cause embarrassment and negative publicity as experienced by the Department of Justice in the illustrated case. External disclosures are better avoided, since they could raise ethical as well as legal issues in terms of confidentiality and might affect the relationships between the organization, the media and the government. External whistle blowing will only be protected if for example all the internal channels have been exhausted (as was the situation in the Tshishonga case). In addition, external disclosures could involve regulatory issues requiring intervention, and could lead to negative publicity, especially since anonymous disclosures are almost impossible to investigate (Dehn and Borrie 2001), especially if the anonymous disclosure was made through a hotline. A hotline offers anonymity for those reporting corruption, and may be more convenient and less threatening but it should be noted that it is more difficult to verify information received via a hotline. During the Jali Commission of Inquiry investigation on corrupt practices in South African prisons, most the information received was through hotlines. It is necessary that policy guidelines exist to give effect to the PDA and the unique characteristics of each organization—a one size fits all approach will not be appropriate as organizations differ.

## **POLICY GUIDELINES**

Although legislative measures (if followed correctly) protect the whistle blower and an ethical code of conduct provides guidelines, it is important that the organization set up a policy for whistle blowing. The South African Public Service Commission (s.a) created a guide for public managers (that could be useful for managers in both the private and public sector) to promote accountability, implementing the PDA. This document contains certain suggestions on how to put a whistle blowing policy in place. It should be remembered that a policy should be viewed as a way of complying with legislation, a mere aid to creating an environment where employees understand their responsibilities and management demonstrates its accountability. The policy must be actively implemented and employees must be aware of all the protected disclosure avenues available to them. Consensus-based policy includes a consultative process where both managers and workers understand that it is acceptable for them to make a disclosure and that they will be protected. Procedures and rules for reporting alleged wrongdoing must be in place and if not, a consultative process should be used to establish such rules and procedures. It should be noted that if employees feel that they may be victimized, they might make a general disclosure to the broader public which is not ideal as it might prove embarrassing to the Department concerned (see illustrated case) or might even be false. If allegations are made, they should be investigated and responded to within a reasonable time-frame. In cases where a protected disclosure is made, care should be taken that the discloser is not victimized by any other person under the managers' control. This could mean that the identity of the whistle blower stay confidential. It is advisable to appoint a senior official in the organization to whom disclosures can be made and this individual should have the necessary authority to deal with the issue at hand if the line manager is unable to do so. Success stories should be publicized as it will contribute to the creation of a positive whistle blowing culture. Managers need to understand that employees have the right to make disclosures and should know how to deal with such disclosures. If there is a need for it, an independent advice centre can be used to create awareness and provide training to help employees understand and utilize relevant legislation. A policy on whistle blowing should be introduced and promoted.

In order to *understand the issue* it is advisable to involve all employees to promote, display and ensure good practice. Wrongdoing should be explained to the employees as well as the effects and forms of serious wrongdoing. Employees' views on what is perceived as right and wrong should also be considered. For *employees to see the policy in action* it is necessary for them to know what actions are unacceptable and to feel free to ask management beforehand rather than afterwards whether certain actions would be appropriate. Serious wrongdoing should be dealt with in a firm manner. *Openness to concerns* should be taken seriously as it is not

easy to report a concern, especially if it is about perceived corruption. Managers must be open to such concerns before they turn into grievances, and should act upon such concerns. If an employee requests confidentiality, it should be respected, and employees need to know that they will be safe from reprisals. Employees should know that there are other routes besides line management available to them, such as a Director General, the Public Service Commission, the office of the Auditor-General, the office of the Public Protector, the South African Revenue Services, the Institute for Security Studies and the Open Democracy Advice Centre. Employees must know that they can contact such a person in confidence. In *dealing with concerns* it should be kept in mind that there are two sides to a story and that all allegations must be thoroughly investigated. If employees have concerns about their own careers and safety, this should be respected. Deterring and victimizing employees for making a disclosure is a disciplinary offence. The whistle blower process is a serious matter, and abusing the system to make unfounded allegations with malicious intent would be a disciplinary matter. The discloser should be given feedback about the results of the investigation and any steps that might be taken (Public Service Commission s.a).

Policies create the broad outline of what a whistle blowing culture should entail. It then becomes important to develop the details in terms of the type of mechanisms that should be in place to affect the policy that has been created. A whistle blowing plan is crucial, since it will help curb corruption in the organization, thereby increasing productivity and moving away from a culture of fear towards a more open, transparent culture. An official channel (such as a dedicated e-mail) within the organization may not work (Martin 1999), as employees may feel threatened or fear that their identity will not remain confidential. However, Vinten (1994:51) stresses that "The argument that information disclosure poses a challenge to an organization's authority structure, may not be the case where disclosures are positively encouraged and a channel for reporting is available".

## **EFFECTS OF WHISTLE BLOWING ON THE ORGANIZATIONAL IMAGE AND THE CREATION OF A WHISTLE BLOWING CULTURE**

According to Transparency International in the 2010 (a) Global Corruption Barometer corruption levels have been on the increase globally and many citizens are of the belief that governments are unsuccessful in the fight against corruption. What is encouraging is that there is a belief among the public that they have a constructive role to play in the fight and that there is a willingness to act on corruption as it occurs (61% of respondents in Sub-Saharan Africa indicated that they would report corruption). It is important to create an ethical organizational culture that encourages whistle blowing so that corruption and any perceived wrongdoing can be exposed. It should be noted that South Africa is, according to Corruption Perceptions Index (2010b), 54 out of 178 countries identified and achieved a 4.5 average out of a 10 to indicate the level of corruption. The South African Public Service Commission Annual Report (2010) reported 1,430 cases of alleged corruption among provincial, national departments and public bodies for the year of 2009-2010. In the 2010 State of the Public Service Report, the Public Service Commission registered 1,204 cases of financial misconduct for the 2008-09 financial year showing a steady increase over the previous six years. This is a clear indication that South Africa still has a long battle to fight against corruption.

The 2010 Global Integrity Report evaluates a variety of integrity indicators. One of these indicators is whistle blower protection which scored a 77% average in South Africa. This is primarily because there are specific whistle blowing frameworks in place as well as a variety of mechanisms to disclose wrongdoing. However, the problem lies with the practical implementation of these internal reporting mechanisms. That is why the whistle blowing process should include appropriate, workable and accessible channels within the organization to report wrongdoing as well as alternative channels if there is any possibility that management may be implicated in the alleged wrongdoing (Barker and Dawood 2004). The Department of Public Service and Administration has issued Minimum Anti-Corruption Capacity for Departments and Organizational Components in the Public Service guidelines, which entail that all government departments create internal information systems to record claims, and ensure capacity to investigate them. An effective organizational culture of whistle blowing will have channels of communication in place for complaints and grievances to be aired (Dehn and Borrie 2001).

In order to create an organizational culture that encourages protected disclosures, necessary policies must be in place. For protected disclosures to become part of the organizational culture, employees need to know that they will be protected from occupational detriment and retaliation if they disclose wrongdoing through the appropriate channels. Managers should also know how to act when wrongdoing is disclosed. An organization should have a code of ethics, which is a formal document that discusses the practices of the organization and the way employees are expected to conduct themselves at work. The importance of a code of ethics is that its objective is to ensure that all employees uphold the morals and culture of the organization, by acting in the best interests of the organization and the public interest. This means that the whistle blowing culture that has to develop within the organization needs to be explicitly expressed within its code of ethics (Bakman 2003).

Clear procedures have to be put in place with regard to authorized disclosures. The managers and public officials of the organization have to understand and embrace what these procedures entail as part of their everyday work ethic. Once the organization has established a whistle blowing culture, it becomes more difficult to act in a wrongful manner, because the culture is able to straighten out incorrect procedures whenever they may occur. This means that a policy must be established within the organization that gives explicit information on the prevention of organizational wrongdoing (Bakman 2003). According to Cloete in Holtzhausen (2007) ethics in public administration can be defined as "the collection of moral principles, norms, values and obligations that serve as conduct rules to be observed by political office-bearers and officials to ensure openness, courtesy, responsiveness, respect for the law, excellence, efficiency and economy", thus a strong focus on behavior. Hunt (1998) states that organizations that behave unethically have similar experiences in terms of their cultural patterns and states that different cultures prevail within unethical organizations: A culture of hypocrisy (double standards and not practicing what is preached). From this culture develops a culture of fear, where subordinates fear confronting their superiors because it could lead to intimidation. The culture of fear introduces a *laissez-faire* attitude, resulting in subordinate complacency, where there is a tendency not to follow proper procedures or protocols. The culture of fear then develops into a culture of corruption, in which employees practice secrecy and conspiracy, and try to serve their own interests at the expense of the client.

Every organization needs to take the steps towards developing an ethical whistle blowing culture. However, this not a concrete thing, but rather a way of thinking about living and communicating within the organization. Dehn (1999) discusses the components of a whistle blowing culture. It is important to understand the components of this culture, because corruption is rampant in society. The aim of a whistle blowing culture is to address organizational wrongdoing. The essentials of a whistle blowing culture involve having a strong and clear signal from the top of the organization that management is against corruption and is committed to going about its business lawfully. Secondly, the existence of a whistle blowing culture will help to ensure that whistle blowing to a designated authority will be protected. Thirdly, this will encourage managers to be receptive to concerns about corruption and to deal with them properly. Lastly, the culture that develops will address the particular circumstances in which a broader disclosure may be justified.

Managing whistle blowing is about breaking the culture of silence and fear. Legislation is often the first step taken in trying to break the silence; however, the culture of silence still exists, because whistle blower legislation often has too many loopholes for organizations to take it seriously. Mechanisms that are put in place should be multi-faceted, and should enable the individual to see the organization's point of view as well. Confidential reporting systems are one of the mechanisms that could help promote a culture of whistle blowing. Management should know that a confidential reporting system within the organization can be effective, and can help prevent organizational wrongdoing. However, if it is not correctly implemented, and management does not have employee buy-in, the system will not become an effective mechanism that can promote organizational competence and skilful employees (Bakman 2003), as was determined by the Global Integrity report.

## **CONCLUDING THOUGHTS AND RECOMMENDATIONS**

The purpose of this paper was to explore considerations relating to the effective management of whistle blowing in organizations, more specifically the South African public sector. Although the focus of this paper fell on South Africa, some of the implications might be useful to managers across the globe. Corruption is a global occurrence and on the rise and both public and private sector organizations are struggling in the fight against

corruption. One of the mechanisms that can be utilized in the fight is to create an ethical organizational culture. Part and parcel of this organizational culture is the protection of those who disclose perceived wrongdoing.

The case of Mike Tshishonga offers valuable lessons that can be learned. For a disclosure to be considered protected, the necessary channels must be followed, firstly internally and thereafter externally if a resolution cannot be found. It is only after all the internal channels have been exhausted, that the person can go outside the organization to regulatory bodies such as the Public Protector and the Public Service Commission and as a last resort the media. Tshishonga showed determination and perseverance and did not allow seniors, including a government Minister, to derail his mission in disclosing corruption-even after unfounded allegations were laid against him. The disclosure was also made in good faith and not with malicious intent and the process described in the PDA was followed. Managers must take note of this case in so far that four attempts were made to disclose the wrongdoing but nothing was done. The decision to blow the whistle is not an easy one and the allegations deserved to be investigated with the necessary respect, dignity and feedback must be provided in a timely fashion. It is unfair to launch counter allegations (to attack the credibility of the whistle blower) against those who make disclosures as this will only contribute to the culture of silence of fear and in the end a negative, distrustful organizational culture.

Key to the management is the creation of mechanisms such as policies, hotlines and dedicated personnel to facilitate the whistle blowing process and to create a more positive organizational image. This article provided an overview of the indicators of effectiveness of whistle blowing and provided guidelines for the establishment of a whistle blowing policy and process. The paper stated that policy need to be communicated to all employees so that they can be aware of the channels (internal and external) available to them that can be utilized to blow the whistle. Proper procedures have to be in place to ensure that concerns about wrongdoing are raised and addressed in the workplace.

A whistle blower must have a purpose, a clearly definable goal. This goal is to help fight corruption. This paper set out to describe various aspects in aid of the establishment of more effective whistle blower protection process. Suggestions for the establishment of a whistle blower strategy, policy and process were provided. It is vital that these aspects become part of the culture of the organization. An organizational culture characterized by employees who feel safe to disclose wrongdoing-without fear of retaliation and where action is taken to investigate the allegations.

The author is keenly aware of the limitations of this paper. To construct the process of whistle blower protection in limited space is a mammoth task and therefore this paper only presented an overview of the identified points of discussion. An additional weakness is the lack of an exploration into the ethics debate that is closely associated with the topic under discussion. Future research ventures could possibly address ethics and a specific discussion on organizational culture and climate. It is hoped that this paper will stimulate discourse on how to actually and practically create an ethical culture. In a book on his ordeal, "Whistleblower-the whistle blower society" Mike Tshishonga quotes the following: "What is the lesser of the two evils-if the wicked carry on their wicked ways or if good men and women stand idly by and simply let it happen?" For good men and women to be able to contribute in the fight against corruption, it is imperative that those who want to disclose wrongdoing, be encouraged to do so and the allegations be treated with the consideration it deserves.

## REFERENCES

Barker, R. and Dawood, R. Whistleblowing in the organization: wrongdoer or do-gooder? *Communicare*, Vol. 23 Issue 2 (2004):119-138.

Bakman, F. *The Management of Whistleblowing in a financial institution*. Unpublished Masters Mini-dissertation. Johannesburg: Rand Afrikaans University, 2003.

Calland, R. *Whistleblowing Around the World and in South Africa: Some Critical Observations*. Paper read at the Institute for Directors Breakfast. 6 October 2004.

Dehn, G. A Nine point plan. *Public Concern at Work*, 2007. Available online at: <http://www.pcaw.co.uk>. Downloaded on 24 January 2007.

Dehn, G. and Borrie, G. Whistleblowing: A New Perspective. *Public Concern at Work*, 2001. Available online at: <http://www.u4.no/document/literature.Cfm?key=40>. Downloaded on 12 March 2004.

Hunt, G. *Whistleblowing in the social services: Public accountability & professional practice*. London: Arnold, 1998.

Holtzhausen, N. *Whistle blowing and whistle blower protection in the South African public sector*. Unpublished D Litt et Phil Thesis. Pretoria: University of South Africa, 2007.

Lewis, D.B. *Whistleblowing at work*. London: Athlone, 2001.

Martin, B. *The Whistleblower's Handbook*. Oxfordshire: Jon Carpenter Publishing, 1999.

Mbatha, J.S. *The ethical dilemmas of whistle-blowing and corruption in the South African Public Sector*. Unpublished D.Admin Thesis. Empangeni: University of Zululand, 2005.

Near, J.P. and Miceli, M.P. Organizational dissidence: The case of whistle-blowing. *Journal of Business Ethics*, Vol. 4 (1985):1-16.

Near, J.P. and Miceli, M.P. Effective whistle-blowing. *Academy of Management Review*, Vol.20 Issue 3(1995):679-708.

Public Service Commission, S.a. *Whistle-blowing- A guide for Public Sector Managers Promoting Public Sector Accountability Implementing the Protected Disclosures Act*. Available online at: [www.gov.za](http://www.gov.za). Downloaded on 12 November 2006.

Rothschild, J. and Miethe, T.D. Whistleblowing as resistance in modern work organizations: the politics of revealing organizational deception and abuse. In Jermier, J.M., Knights, D. and Nord, W.R. *Resistance and Power in Organizations*. London: Routledge, 1994.

Transparency International. *Global Corruption Barometer*. 2010a. Available online at: [www.transparency.org](http://www.transparency.org). Downloaded 3 May 2011.

Transparency International. *Corruption Perceptions Index*. 2010b. Available online at: [www.transparency.org](http://www.transparency.org). Downloaded 3 May 2011.

Uys, T. *Betrayal, loyalty and trust: The social psychology of whistleblowing*. Paper read at the International Institute of Sociology: Frontiers of Sociology, Stockholm, Sweden 5-9 July 2005.

Vinten, G. (ed.). *Whistleblowing: Subversion or Corporate Citizenship?* New York: St. Martin's Press, 1994.

# INCOME INEQUALITY AND ECONOMIC GROWTH IN ASIA

**Chiung-Ju Huang and Yuan-Hong Ho**  
**Feng Chia University, Taiwan**

## ABSTRACT

*This study utilizes the Panel Vector Error Correction Model (PVECM) over the 1990 to 2008 period to examine the relationship between economic growth and income inequality experienced within ten Asian countries with varying levels of democracy; classified as “Free” countries, “Partly Free” countries, and “Not Free” countries. The empirical results show that the impact of income inequality on economic growth is positive but not significant among any of the Free, Partly Free, and Not Free countries. Meanwhile, the impact of economic growth on income inequality is significantly negative in Free countries and insignificantly positive in Partly Free and Not Free countries. In addition, the impact of economic growth on the degree of freedom is significantly positive in Free countries, significantly negative in Partly Free countries, and insignificantly positive in Not Free countries. The degree of freedom in Free countries could reduce the income inequality, while at the same time, decrease economic growth. An increase in the degree of freedom in Partly Free and Not Free countries could decrease economic growth and increase the income inequality. However, the impacts of the degree of freedom on economic growth and income inequality are not significant among the Free, Partly Free, and Not Free countries.*

## INTRODUCTION

Although Southeast Asia has experienced significant economic growth in recent years, it has also experienced an increase in its wealth and the income inequality. The *Key Indicators 2007* reported by the Asian Development Bank (ADB) validate this finding, stating that while Southeast Asia has the fastest growing economy, it also has the most serious income inequality. The income inequality is most severe in China, Cambodia, India, South Korea, and Taiwan. According to Kuznets (1995), economic inequality increases over time while a country is developing, and then after a certain average income is attained, inequality begins to decrease. Kuznets showed an inverted U curve to demonstrate the relationship between income inequality (usually representing by the Gini coefficient) and economic development (usually representing by per capita incomes). However, Kuznets hypothesis may not apply in all cases. For example, some Asian such as Taiwan and South Korean have experienced economic growth accompanied with higher per capita rates and less severe income inequality during their development. Only after a certain level of economic development was met, did these countries begin experiencing high income inequality along with high economic growth.

A large number of empirical studies have attempted to explore the relationship between income inequality and economic growth; such as Samanta and Heyse (2006), Jomo (2006), Ricardo (2006), Alfranca et al. (2003), Panizza (2002) Psacharopoulou et al (1995), Janvry and Sadoulet (2000) Barror (1996), Alesina and Rodrik (1994), and Persson and Tabellini (1994) etc. While most studies explore how OECD countries, European countries, Latin America, or Americas have experienced rapid economic growth accompanied with increasing economic inequality, there are few studies that focus on Asian countries. This study examines the relationship between economic growth and income inequality experienced within ten Asian countries.

Some political scientists propose that economic development is the essential condition of democracy, where economic development directly leads to democracy. As it is, many highly developed countries such as US, UK, France, Canada, Germany, Australia, New Zealand and Japan are in fact democratic nations. However, some political scientists believe the opposite; that it is democracy that leads to economic development. Thus, a large number of empirical studies have attempted to explore the relationship between income inequality and

economic growth. However, there are still only few studies that discuss the role of democracy or the degree of freedom in the economic growth and income inequality relationship. In this study, we incorporate the degree of freedom variable while investigating the impacts of democracy on economic development and income inequality.

*Freedom in the World*, the annual report published by the US-based Freedom House, reports on the degree of democratic freedoms in nations, and assesses the current state of civil and political rights on a scale from 1 (“most free”) to 7 (“least free”). This ranking is highly correlated with several other ratings of democracy also frequently used by researchers. In this study we apply the “civil liberties” score published by the Freedom House to classify the ten Asian countries as “Free” countries, “Partly Free” countries, and “Not Free” countries in order to examine the relationship between economic growth and income inequality experienced within ten Asian countries with varying levels of democracy.

## DATA AND ECONOMETRIC METHODOLOGY

### Panel Unit Root Tests

A variety of procedures for the analysis of unit roots in a panel context have been developed in an attempt to combine information from the time-series dimension with that of the cross-sectional dimension. Given that many interesting findings involve relatively short time-series dimensions, and that conventional unit root tests turn out low power results when applied to single time series the well-known low power of conventional unit root tests when applied to a single time series, four panel unit root tests which are Levin, Lin and Chu (LLC) test, Im, Pesaran, and Shin (IPS) test, ADF-Fisher test, and PP-Fisher are employed in this study.

One of the popular panel unit root tests is that of Levin, Lin, and Chu (2002). Their test is based on analysis of the equation as shown below:

$$\Delta y_{i,t} = \alpha_i + \beta y_{i,t-1} + \gamma_i t + \sum_{j=1}^k \theta_j \Delta y_{i,t-j} + \varepsilon_{i,t} \quad (1)$$

Where  $\Delta$  is the first difference operator,  $\varepsilon_{i,t}$  is a white noise disturbance with a variance of  $\sigma^2$ ,  $t = 1, 2, \dots, T$  represents time periods, and  $i = 1, 2, \dots, 10$  indexes cross-sectional regions. This model allows for two-way fixed effects ( $\alpha$  and  $\theta$ ) and unit-specific time trends. LLC test involved the null hypothesis  $H_0 : \beta_i = 0$  for all  $i$  against the alternative  $H_A : \beta_i = \beta < 0$  for all  $i$ , with auxiliary assumptions under the null also required about the coefficients relating to the deterministic components.

The Im, Pesaran, and Shin (2003) test extends the LLC framework to allow for heterogeneity in the value of  $\beta$  under the alternative hypothesis. IPS relaxed the assumption of identical first-order autoregressive coefficients of the LLC test and developed a panel-based unit root test that allows  $\beta$  to be different across regions under the alternative hypothesis. The null and alternative hypotheses are defined as:  $H_0 : \beta_i = 0 \quad \forall i$ ;  $H_A : \beta_i < 0$ , for some  $i$ . IPS demonstrated that their test has better finite sample performance than that of LLC.

The Fisher-ADF test proposed by Maddala and Wu (1999) and the Fisher-PP test proposed by Choi (2001) assume an individual unit root process and compute probabilities by using an asymptotic Chi-square distribution. The advantage of the Fisher test is that unlike the IPS test, it does not require a balanced panel. Additionally, the Fisher test allows the use of different lag lengths in the individual ADF regression and can also be carried out for any unit root test derived. One disadvantage of the Fisher test is that the p-values have to be derived via Monte Carlo simulation.

### Panel Cointegration Tests

Pedroni (1997, 1999, 2004) developed a number of statistics based on the residuals of the Engle and Granger (1987) study. Pedroni’s panel cointegration procedure allows for considerable heterogeneity in the

panel and there is seven panel cointegration statistics for varying intercepts and varying slopes. Four of the statistics, known as the pooled panel cointegration statistics, are within-dimension based statistics, while the remaining three, known as the group mean panel cointegration statistics, are between-dimension based.

Pedroni argued that for cases with longer time spans, the sample size distortion tends to minimal, while retaining a very high testing power across all seven statistics. However, for shorter panels, alternative statistics appeared to yield conflicting evidence. Pedroni showed that in terms of testing power, the group-ADF statistic has the best performance in general, followed by the panel-ADF. The panel-variance and group- $\rho$  statistics performed poorly in comparison.

## Panel Vector Error Correction Model

If variables in the empirical model are nonstationary and cointegrated, we can use the panel vector error correction model (PVECM) that is a restricted panel vector autoregression (PVAR) model with a cointegration built into its specification. The cointegration term is known as the correction term since deviations from the long-run equilibrium are corrected gradually through a series of partial short run adjustments. The PVECM is shown as follows:

$$\begin{aligned} \Delta GDPPC_{i,t} = & \beta_{1,0} + \sum_{k=1}^p \beta_{11,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{12,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{13,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{14,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{15,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{16,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{17,k} \Delta HC_{i,t-k} + \lambda_{1,i} ETC_{i,t-1} + \eta_{1i,t} \end{aligned} \quad (2)$$

$$\begin{aligned} \Delta Gini_{i,t} = & \beta_{2,0} + \sum_{k=1}^p \beta_{21,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{22,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{23,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{24,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{25,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{26,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{27,k} \Delta HC_{i,t-k} + \lambda_{2,i} ETC_{i,t-1} + \eta_{2i,t} \end{aligned} \quad (3)$$

$$\begin{aligned} \Delta CL_{i,t} = & \beta_{3,0} + \sum_{k=1}^p \beta_{31,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{32,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{33,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{34,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{35,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{36,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{37,k} \Delta HC_{i,t-k} + \lambda_{3,i} ETC_{i,t-1} + \eta_{3i,t} \end{aligned} \quad (4)$$

$$\begin{aligned} \Delta G_{i,t} = & \beta_{4,0} + \sum_{k=1}^p \beta_{41,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{42,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{43,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{44,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{45,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{46,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{47,k} \Delta HC_{i,t-k} + \lambda_{4,i} ETC_{i,t-1} + \eta_{4i,t} \end{aligned} \quad (5)$$

$$\begin{aligned} \Delta I_{i,t} = & \beta_{5,0} + \sum_{k=1}^p \beta_{51,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{52,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{53,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{54,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{55,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{56,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{57,k} \Delta HC_{i,t-k} + \lambda_{5,i} ETC_{i,t-1} + \eta_{5i,t} \end{aligned} \quad (6)$$

$$\begin{aligned} \Delta FTD_{i,t} = & \beta_{6,0} + \sum_{k=1}^p \beta_{61,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{62,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{63,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{64,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{65,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{66,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{67,k} \Delta HC_{i,t-k} + \lambda_{6,i} ETC_{i,t-1} + \eta_{6i,t} \end{aligned} \quad (7)$$

$$\begin{aligned} \Delta HC_{i,t} = & \beta_{7,0} + \sum_{k=1}^p \beta_{71,k} \Delta GDPPC_{i,t-k} + \sum_{k=1}^p \beta_{72,k} \Delta Gini_{i,t-k} + \sum_{k=1}^p \beta_{73,k} \Delta CL_{i,t-k} + \sum_{k=1}^p \beta_{74,k} \Delta G_{i,t-k} \\ & + \sum_{k=1}^p \beta_{75,k} \Delta I_{i,t-k} + \sum_{k=1}^p \beta_{76,k} \Delta FTD_{i,t-k} + \sum_{k=1}^p \beta_{77,k} \Delta HC_{i,t-k} + \lambda_{7,i} ETC_{i,t-1} + \eta_{7i,t} \end{aligned} \quad (8)$$

where *GDPPC* denotes economic growth measured as the real capital GDP, Gini standards for income inequality proxied by Gini coefficients, *CL* stands for democracy proxied by civil liberties scale, *G* is the real government expenditures as a percentage of GDP, *I* represents the real capital investment, *FTD* denotes the degree of dependence on foreign trade, human capital (*HC*) is measured as the secondary education enrollment rates, *i* represents the panel identity or cross-country identifier, *k* represents the lag length, whilst *p* represents the optimal lag length selected in accordance with the Akaike Information Criterion (AIC) and the Schwarz Bayesian Criterion (SBC). Finally, *ETC* represents the error correction term.  $\lambda_{j, i}$  and  $\eta_{j, it}$  ( $j=1, \dots, 7$ ) represent the speed of adjustment to long-run equilibrium and the statistical noise, respectively.

## Data

Annual data involving 10 Asian countries from 1990 to 2008 was used in the analysis. We adopt the “civil liberties” scale to categorize the 10 countries with the overall status of “Free,” “Partly Free,” or “Not Free.” Countries with ratings averaging between 1.0 to 2.5 are considered “Free”, countries with ratings averaging between 3.0 to 5.0 are considered “Partly Free”, and countries with ratings averaging between 5.5 to 7.0 “Not Free”. Free countries consist of Japan, South Korea, and Taiwan. Partly Free countries include Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Not Free countries are China and Vietnam. The higher “civil liberties” score a country gets, the less degree of freedom it has.

Data on *GDPPC*, *G*, and *I* are obtained from the Penn World Table. Data on *Gini* is obtained from the Central Intelligence Agency (CIA) World Factbook, World Development Indicators (WDI) databank, and each country’s Bureau of Statistics. *CL* is obtained from the U.S. Freedom House. Data on *FTD* is obtained from the United Nations (United Nations, UN) and each country’s Bureau of Statistics. Data on *HC* is obtained from WDI databank, Yearbook of Statistics Singapore, and the Ministry of Education Taiwan.

## EMPIICAL RESULTS

The panel unit root tests were conducted using four techniques: LLC, IPS ADF-Fisher, and PP-Fisher. The results are reported in Table 1. For Free countries and Partly Free countries, variables except *Gini* are nonstationary according to all of the four panel unit root test statistics. *Gini* is stationary according to PP-Fisher test but is nonstationary according to the other three tests. Also, *Gini* is treated as a nonstationary variable. Therefore, all variables are nonstationary for Free countries and Partly Free countries. For Not Free countries, we were unable to reject the null hypothesis of unit root at the 1% level of significance according to four panel unit root tests. Thus, we observed that all variables are nonsationary in Not Free countries as well. Finally, the first differences of all variables were found to be stationary, although is not reflected in the findings below.

**Table 1: Panel Unit Root Test Results**

Country	Method	Variable						
		<i>GDP</i>	<i>Gini</i>	<i>CL</i>	<i>G</i>	<i>I</i>	<i>FTD</i>	<i>HC</i>
Free	LLC	0.414	0.616	-0.299	-1.318	-0.923	4.719	-1.482
	IPS	2.415	-0.06	0.322	-0.469	0.374	4.99	-1.748
	ADF-Fisher	0.539	7.003	0.882	8.044	3.026	0.319	12.839
	PP-Fisher	0.386	22.024***	0.871	9.154	4.71	0.21	18.769
Partly Free	LLC	0.961	0.206	0.723	-0.119	-0.439	-1.273	-0.659
	IPS	3.456	-0.77	0.179	0.584	0.7	0.036	0.556
	ADF-Fisher	1.206	9.963	6.93	7.371	4.811	10.036	9.297
	PP-Fisher	1.276	26.909***	7.657	5.558	4.026	10.496	8.755
Not Free	LLC	4.494	0.024	0.406	0.371	-1.778**	3.201	-0.491
	IPS	4.583	3.333	1.428	-0.049	-1.001	3.814	0.719
	ADF-Fisher	0.004	12.691	0.827	5.584	6.737	0.117	6.894
	PP-Fisher	0.000	0.024	0.726	3.063	6.54	0.224	8.754

Notes: The level models have been specified with individual effects. \*, \*\* and \*\*\* indicate the rejection of null hypothesis of unit root at the 10%, 5%, and 1% level of significance.

To determine whether a cointegration relationship exists, the recently developed methodology proposed by Pedroni (1999) is employed. It employs four panel statistics and three group panel statistics to test the null hypothesis of cointegration. Table 2 presents Pedrono's test for potential cointegration among the following variables: *GDPPC*, *Gini*, *CL*, *G*, *I*, *FTD*, and *HC*. For Free countries, the panel cointegration results show that the null hypothesis of no cointegration among the series of *GDPPC*, *Gini*, *CL*, *G*, *I*, *FTD*, and *HC* is rejected by the five test statistics at the 5% level of significance, with the exception of the panel  $\rho$  statistic and group  $\rho$  statistic. The panel cointegration results for Partly Free countries and Not Free countries were found to be the same. Thus, it is evident that there is a cointegration relationship among the variables when dependent variable is *GDPPC* for Free, Partly Free and Not Free countries.

**Table 2: Panel Unit Root Test Results (with GDPPC as dependent variable)**

Test	Free Test Statistic	Partly Free Test Statistic	Not Free Test Statistic
Panel $v$	42.010***	131.613***	4.712***
Panel $\rho$	1.627	1.307	0.733
Panel PP	-2.768***	-9.131***	-2.186**
Panel ADF	-2.049**	-6.874***	-2.183**
Group $\rho$	2.219	2.7091	1.305
Group PP	-3.641***	-6.3341***	-1.959**
Group ADF	-1.928**	-3.971***	-1.973**

Note: \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

Due to the fact that the variables included in the model are nonstationary and cointegrated, PVECM is adopted in this study. The results of PVECM for Free, Partly Free, and Not Free countries are reported in Table 3, Table 4, and Table 5 respectively. In this study, we focus on the relationship between economic growth and income inequality experienced within ten Asian countries with varying levels of democracy. The interactive effects of other variables are important and computed in Table 3, Table 4, and Table 5. However, the focus of this study is around the impacts of economic growth (*GDPPC*), income inequality (*Gini*), and the degree of freedom (*CL*).

**Table 3: PVECM Results for Free Countries**

Independent Variables	Dependent Variables						
	$\Delta GDPPC_t$	$\Delta Gini_t$	$\Delta CL_t$	$\Delta G_t$	$\Delta I_t$	$\Delta FTD_t$	$\Delta HC_t$
$ETC_{t-1}$	0.0568** [ 1.882]	0.0004*** [ 2.9701]	0.00024 [ 0.2721]	-0.0048*** [-2.5281]	-0.0009 [-0.0921]	-0.0248 [-1.1671]	0.0211*** [ 2.771]
$\Delta GDPPC_{t-1}$	0.4794* [ 1.9431]	-0.0024** [-2.147]	-0.0137* [-1.876]	0.0273* [ 1.7581]	-0.0508 [-0.637]	0.3966** [ 2.284]	-0.0702 [-1.126]
$\Delta Gini_{t-1}$	42.0031 [ 1.2195]	-0.3220** [-2.1025]	0.2966 [ 0.2905]	-3.2884 [-1.5185]	0.7158 [ 0.0645]	-20.3417 [-0.8395]	19.0084** [ 2.185]
$\Delta CL_{t-1}$	0.5721 [ 0.115]	0.0105 [ 0.475]	0.0150 [ 0.102]	-0.1621 [-0.518]	-1.9420 [-1.208]	-2.9766 [-0.851]	2.4542* [ 1.954]
$\Delta G_{t-1}$	2.9795 [ 0.875]	-0.0093 [-0.615]	-0.1457 [-1.443]	0.3615* [ 1.688]	0.4825 [ 0.438]	-3.7851 [-1.580]	0.9838 [ 1.144]
$\Delta I_{t-1}$	-0.9412 [-1.451]	0.0017 [ 0.599]	0.0205 [ 1.063]	-0.0073 [-0.179]	0.1476 [ 0.704]	-1.1400** [-2.498]	0.3957** [ 2.415]
$\Delta FTD_{t-1}$	-0.0444 [-0.214]	-0.0011 [-1.158]	0.0065 [ 1.066]	0.0043 [ 0.334]	-0.0441 [-0.660]	-0.1498 [-1.029]	-0.0199 [-0.381]
$\Delta HC_{t-1}$	-0.5383 [-0.955]	0.0022 [ 0.880]	-0.0006 [-0.034]	0.0486 [ 1.369]	-0.0710 [-0.389]	0.3149 [ 0.794]	0.0891 [ 0.626]

Notes: The t-statistics are given in brackets. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. The optimal lag length is 1 selected by SBC.

For Free countries, as shown in Table 3, the error corrective term has significantly positive coefficients on economic growth and income inequality equations, indicating that previous disequilibrium in the economic

growth and income inequality equations will be corrected in the current period. However, the magnitudes of the coefficients of the *ETC* in these equations are small, implying that the speed of adjustment to equilibrium in the economic growth and income inequality is very low. In the economic growth equation, the past level of economic growth has a significantly positive impact on the current level of economic growth, while the past level of income inequality and civil liberties have an insignificantly positive impact on the current level of economic growth. In the income inequality equation, the past levels of economic growth and Gini coefficient have a significantly negative impact on the current level of income inequality, while civil liberties has an insignificantly positive impact on income inequality. In the civil liberties equation, the past level of economic growth has a significantly negative impact on the current civil liberties, while income inequality has an insignificantly positive impact on civil liberties.

For Partly Free countries (in Table 4), the error corrective term has a significantly negative impact on economic growth. The past level of economic growth has an insignificantly negative impact on the current level of economic growth, while the past levels of income inequality and civil liberties have an insignificantly positive impact on the current level of economic growth. Meanwhile, in the income inequality equation, income equality is significantly affected by the past level of itself. The past level of economic growth has an insignificantly positive impact on the current level of income inequality and the past level of civil liberties has an insignificantly negative impact on the current level of income inequality. In the civil liberties equation, economic growth and income equality have a significantly positive impact on civil liberties.

**Table 4: PVECM Results for Partly Free Countries**

Independent Variables	Dependent Variables						
	$\Delta GDPPC_t$	$\Delta Gini_t$	$\Delta CL_t$	$\Delta G_t$	$\Delta I_t$	$\Delta FTD_t$	$\Delta HC_t$
<i>ETC</i> <sub>t-1</sub>	-0.0446*** [-4.899]	0.0000 [-1.212]	3.62E-06 [ 0.791]	3.70E-06 [ 0.560]	1.51E-05 [ 0.353]	-0.0001 [-0.991]	-0.0001 [-1.311]
$\Delta GDPPC$ <sub>t-1</sub>	-0.0094 [-0.058]	0.0000 [-1.074]	0.0002** [ 1.99612]	6.35E-05 [ 0.542]	1.20E-07 [ 0.0002]	-0.0018 [-0.739]	-0.0004 [-0.448]
$\Delta Gini$ <sub>t-1</sub>	117.0247 [ 0.047]	-0.2977** [-2.570]	2.4589** [ 1.975]	-0.5043 [-0.281]	-3.1831 [-0.27287]	-7.2468 [-0.1948]	22.4279 [ 1.4838]
$\Delta CL$ <sub>t-1</sub>	350.7956 [ 1.594]	-0.0028 [-0.267]	0.0695 [ 0.628]	-0.1095 [-0.686]	1.956449* [ 1.886]	0.5100 [ 0.1542]	0.3584 [ 0.267]
$\Delta G$ <sub>t-1</sub>	-38.0165 [-0.225]	0.0035 [ 0.438]	-0.1114 [-1.312]	0.1465 [ 1.19570]	-0.0330 [-0.041]	-1.3066 [-0.5147]	0.2306 [ 0.223]
$\Delta I$ <sub>t-1</sub>	-16.8312 [-0.568]	0.0019 [ 1.371]	-0.0271* [-1.820]	-0.0173 [-0.805]	0.1131 [ 0.810]	-0.5618 [-1.261]	-0.0116 [-0.064]
$\Delta FTD$ <sub>t-1</sub>	7.8901 [ 0.982]	-0.0004 [-1.029]	-0.0071 [-1.753]	0.0019 [ 0.331]	0.0060 [ 0.159]	0.0534 [ 0.442]	-0.0338 [-0.688]
$\Delta HC$ <sub>t-1</sub>	-40.0810** [-2.001]	-0.0001 [-0.152]	-0.0131 [-1.303]	0.005506 [ 0.379]	-0.3368 [-3.567]	1.0099*** [ 3.353]	-0.1737 [-1.419]

Notes: The t-statistics are given in brackets. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. The optimal lag length is 1 selected by SBC.

For Not Free countries (as shown in Table 5), the error corrective term has a significantly negative impact on income equality and civil liberties. Therefore, in the economic growth equation, the past level of economic growth has a significantly positive impact on the current level of economic growth, while the past level of income inequality and civil liberties have an insignificantly positive impact on the current level of economic growth. In the income inequality equation, the past level of Gini coefficient has a significantly positive impact on the current level of income inequality. The past levels of economic growth and civil liberties have an insignificantly positive impact and insignificantly negative impact on the current level of income inequality, respectively. In the civil liberties equation, income equality has a significantly positive impact on civil liberties and economic growth has an insignificantly negative impact on civil liberties.

## CONCLUSION

In recent years, several Asian countries have experienced rapid economic growth accompanied with increasing economic inequality. This study examines the relationship between economic growth and income inequality experienced within ten Asian countries with varying levels of democracy. Utilizing the civil liberties score published by the US-based Freedom House, we classified the ten Asian countries as Free countries (Japan, South Korea, and Taiwan), Partly Free countries (Indonesia, Malaysia, the Philippines, Singapore, and Thailand), and Not Free countries (China and Vietnam). This study utilizes the PVECM on data covering the period 1990 to 2008 and takes into consideration variables including economic growth, income inequality, real investment, government expenditure, trade dependency, human capital, and civil liberties.

The empirical results show that the previous level of income inequality has a significantly negative impact on the current level of income equality for any of the Free, Partly Free, and Not Free countries. The impact of income inequality on economic growth is positive but not significant among any of the Free, Partly Free, and Not Free countries. Meanwhile, the impact of economic growth on income inequality is significantly negative in Free countries and insignificantly positive in Partly Free and Not Free countries. These findings imply that an increase in the previous level of economic growth will cause a significantly decrease in income inequality in the Free countries but will cause income inequality become insignificantly worse in Partly Free and Not Free countries. In addition, the impact of economic growth on civil liberties is significantly negative in Free countries, significantly positive in Partly Free countries, and insignificantly negative in Not Free countries. These findings indicate that an increase in the previous level of economic growth in Free countries will cause a decrease in the civil liberties score that means an improvement of the degree of freedom. However, an increase in the previous level of economic growth will cause the degree of freedom decreased in Partly Free countries. Similarly, an increase in the previous level of economic growth in Not Free countries will cause the degree of freedom improving but the effect is not significant.

Overall, the higher the civil liberties score a country receives, the lower degree of freedom a countries has. Empirical results around the relationship among degree of freedom, economic growth, and income inequality, indicate that an increase in the degree of freedom in Free countries could reduce the income inequality, while at the same time, decrease economic growth. Likewise, an increase in the degree of freedom in Partly Free and Not Free countries could decrease economic growth and increase the income inequality. However, the impacts of the degree of freedom on economic growth and income inequality are not significant among the Free, Partly Free, and Not Free countries.

**Table 5: PVECM Results for Not Free Countries**

Independent Variables	Dependent Variables						
	$\Delta GDPPC_t$	$\Delta Gini_t$	$\Delta CL_t$	$\Delta G_t$	$\Delta I_t$	$\Delta FTD_t$	$\Delta HC_t$
$ETC_{t-1}$	-0.0004 [-1.348]	0.0000*** [-2.227]	3.50E-06*** [ 3.375]	0.0000 [-0.619]	1.5E-05*** [ 3.025]	2.10E-05 [ 0.788]	1.92E-06 [ 0.090]
$\Delta GDPPC_{t-1}$	1.1611*** [ 24.410]	2.87E-05 [ 1.486]	-0.0001 [-0.495]	-0.0002 [-0.355]	-0.0003 [-0.397]	0.0036 [ 0.804]	0.0035 [ 0.981]
$\Delta Gini_{t-1}$	50.7596 [ 0.1509]	-0.2784** [-2.039]	2.65597** [ 2.157]	0.5348 [ 0.176]	-4.1473 [-0.694]	-29.6062 [-0.934]	-40.4066 [-1.586]
$\Delta CL_{t-1}$	43.19778 [ 0.928]	-0.0180 [-0.952]	0.1430 [ 0.839]	-0.7868* [-1.871]	0.8922 [ 1.080]	2.5189 [ 0.574]	-2.9866 [-0.847]
$\Delta G_{t-1}$	15.3728 [ 0.952]	0.0115* [ 1.756]	-0.0352 [-0.595]	0.4137 [ 2.834]	0.1523 [ 0.531]	1.789527 [ 1.176]	-0.4033 [-0.330]
$\Delta I_{t-1}$	-11.080 [-1.119]	0.0036 [ 0.885]	-0.010 [-0.288]	-0.012 [-0.130]	0.0578 [ 0.329]	0.2709 [ 0.290]	1.2446 [ 1.660]
$\Delta FTD_{t-1}$	4.7520** [ 2.034]	0.0013 [ 1.376]	-0.0302 [-3.537]	-0.0143 [-0.679]	0.0075 [ 0.180]	0.1381 [ 0.627]	0.2097 [ 1.185]
$\Delta HC_{t-1}$	1.5505 [ 0.618]	-0.0013 [-1.249]	-0.0058 [-0.632]	-0.0492** [-2.169]	0.085428* [ 1.916]	0.6479*** [ 2.739]	-0.0533 [-0.281]

Notes: The t-statistics are given in brackets. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. The optimal lag length is 1 selected by SBC.

## REFERENCES

- Alberto, A. and D. Rodrik, (1994), "Distributive Politics and Economic Growth," *The Quarterly Journal of Economics*, 109(2): 465-90.
- Alfranca, O. and M. A. Galindo (2003), "Public Expenditure, Income Distribution, and Growth in OECD Countries," *International Journal of Production Economics*, 9: 133-139.
- Barro, R. (1996), "Democracy and Growth," *Journal of Development Economics*, 1(1): 1-28.
- Choi, I. (2001), "Unit Root Test for Panel Data," *Journal of International Money and Finance*, 20: 249-272.
- Engle, R., Granger, C. (1987), "Cointegration and Error Correction: Representation, Estimation and Testing," *Econometrica*, 55: 251-276.
- Im, K. S., M. H. Pesaran, and Y. Shin (2003), "Testing for Unit Roots in Heterogeneous Panels," *Journal of Econometrics*, 115: 53-74.
- Janvry, A. and E. Sadoulet (2000), "Growth, Poverty, and Inequality in Latin America: A Causal Analysis, 1970-94." *Review of Income and Wealth*, 46(3): 267-287.
- Jomo K. S. (2006), "Growth with Equity in East Asia?" *United Nations, Department of Economics and Social Affairs*, 33: 1-52.
- Kuznets, S. (1955), "Economic Growth and Income Inequality," *American Economic Review*, 45(1): 1-28.
- Levin, A., C. F. Lin, and C. S. J. Chu (2002), "Unit Root Test in Panel Data: Asymptotic and Finite-Sample Properties," *Journal of Econometrics*, 108: 1-24, 2002.
- Maddala, G.S. and S. Wu (1999), "A Comparative Study of Unit Root Tests with Panel Data and A New Simple Test," *Oxford Bulletin of Economics and Statistics*, 61: 631-52.
- Panizza U. (2002), "Income inequality and Economic Growth: Evidence from American Data," *Journal of Economic Growth*, 7: 25-41.
- Pedroni, P. (1997), "Panel Cointegration; Asymptotic and Finite Sample Properties of Pooled Time Series Tests, with an Application to the PPP Hypothesis: NewResults," Working Paper, Indiana University.
- Pedroni, P. (1999), "Critical Values for Cointegration Tests in Heterogeneous with Multiple Regressors," *Oxford Bulletin of Economics and Statistics*, 61: 653-670.
- Pedroni, P. (2004), "Panel Cointegration: Asymptotic and Finite Sample Properties of Pooled Time Series Tests with an Application to the PPP Hypothesis," *Econometric Theory*, 20: 597-625.
- Persson, T. and G. Tabellini (1994), "Is Inequality Harmful for Growth?" *The American Economic Review*, 84(3): 600-621.
- Psacharopoulos, G. (1995), "Poverty and Income Inequality in Latin America during the 1980s," *Review of Income and Wealth*, 41(3): 245-624.
- Ricardo, A. C. (2006), "Revisiting the Relationship between Income Inequality and Economic Growth," *Lecturas de Economía*, 64: 37-58
- Samanta, S.K. and A. Heyse (2006), "Income Inequality and Economic Growth in Developing Countries: An Empirical Analysis," *Indian Journal of Economics*, 5(2): 243-254.

# WHAT'S FAIR IN FAIR TRADE? A CASE STUDY OF A BRAZILIAN COOPERATIVE

**Hélio Arthur Reis Irigaray and Vanessa Janni Epelbaum**  
**Unigranrio, Brazil**

## ABSTRACT

*This paper presents the results of the analyze of the practices of fair trade from the workers' perspective. Theoretically, fair trade correlates politically correct politics and markets; therefore, being an alternative to the commercial conventional system. Fair trade aims at eliminating the figure of self-regulating market, which is characterized by the compulsory search for marginal utility, self-interest, and profit optimization. But is fair trade feasible in practice or just a utopic dream? How do workers involved in these projects perceive fair trade itself? We found out that the in practice, at this popular cooperative, from the workers' standpoint, fair trade does indeed promote life quality, since it allows them to make money in the neighborhood (no waste of time in long commuting; facility to look after their children and house chores) and continuous learning (the women do have the time to learn new things and talk to each other).*

*On the other hand, these workers have no idea whatsoever of what fair trade is all about and they believe that they are "exploited" by the market. Moreover, the market logics prevail, since COOSTURART must produce goods demanded by the market. Consequently fair trade, as seen in the bibliographical and documentary research, is still incipient in Brazil and it is more rhetorical than practical.*

## INTRODUCTION

Fair trade, as it became known in international literature, was crystallized in the last 20 years gaining contours of social movement in its appearance, followed by principles of social economy and ultimately, its products and production processes now incorporate the cultural conventions of humanity and the principles of the International Labor Organization (ILO), the Charter of Human Rights and more recently the dimensions of sustainable development. Today, organizations for certification of products, importers, dedicated stores and trading mechanisms with incentives for social groups of small producers in southern countries and different prices for their products, consist of production and marketing strategies, which seek work on campaigns that denounce unfair commercial practices, organized by pressure groups in society that call attention to the need to change the unequal trade relations between North and South (MASCARENHAS, 2007).

Fair trade faces many challenges. In the political and ethical plan, which has mobilized over its scholars is the implementation of its principles, resulting from double condition of acting within and against the market. There are also those related to the issue of promoting solidarity between socially unequal economies, and therefore act in the opposite context of socio-economic and commercial as well as the question of how to provide meanings that generate solidarity, and how to make Fair trade more inclusive, that is, involving a larger number of producers and workers as beneficiaries of their own actions, since the number of producers in the South involved in this kind of trade is still small to meet the goals of a changing social and working life significant. In addition to these challenges to help confront the Fair trade, according to Schneider *apud* Fajardo (2010), a challenge for the operational plan is to achieve a fair return under the conditions of small producers, because for him, there is no working capital, neither cash. According to SEBRAE (2004), distribution and logistics are also challenges that can hardly be overcome in small structures, most often with few resources, lack of infrastructure and low professionalism. So there are the middlemen who use this vulnerability causing a vicious circle, but

according to Schneider *apud* Fajardo (2010), the producer who engages in fair trade attempts to break with this situation, trying to join in associations or cooperatives so they can raise funds with the NGOs or public institutions that support such initiatives.

The producers premises that those who produce search valorize what they offer to the market, but also their own personal and collective identity. On the other hand, those who buy and care for environmental and business ethics can finance an investment associate in order to ensure continuity of supply.

And those who consume establish a compromise with the producers and seek to know the origin and the conditions under which goods are produced. Therefore, viewed from a historical perspective, Fair trade attempts to rescue the original conception of the trade and exchange not only of goods but of ideas, concepts, customs and behaviors (FAJARDO, 2010).

In its turn, Fair trade emerged as a counterpoint to the problems of traditional trade. According to Araújo (2005, p.26) Fair trade is “an initiative that seeks to correct at least some of the losses suffered by small producers and workers exploited in an international context of failure, where the multinationals, motivated by the benefits, take the lead”. It is a model that can serve as a symbol of a distinct trade, where both producers and consumers wins.

Today Brazil distributes products through Fair trade organizations such as World Vision (northeast) to Fair trade shops in Europe, especially in the Netherlands. Textile products are exported to Europe through the NGO Onda Solidária / Brazil Social Chic (Rio de Janeiro). Some Brazilian products have been certified with the FLO, like orange and tangerine juices, coffee, Brazil nuts, among others. A movement of sophistication of the handcraft, can be seen in a prominent national and international scenario (BRASIL SOCIAL CHIC, 2010).

At the federal level of government, the current government through the Department of Economic Partnership (SENAES) under the Ministry of Labor and Employment, headed by economist Paul Singer, aims to create a specific focus for this sector of the economy that is growing inside and outside the country. Its goal is to develop economic policies supportive programs that can integrate various ministries and generate jobs in local communities. In this context it was formed in SENAES, a working group with the different actors of the Brazilian Fair trade, ministries and civil society, which has as its goal creating a normative that regulates public Fair trade in the country and is the starting point for construction of the Brazilian System of Fair trade.

The Fair trade movement by placing himself as an alternative to conventional trading system involves eliminating the figure of the self-regulating market, characterized by compulsive pursuit of marginal utility and self-interest, replacing it with a new market governed by principles based on solidarity.

The paper is structured into six sections including this introduction. Section 2 presents the Brazilian Cooperative: COOSTURART. Section 3 presents the Fair trade in Brazil and section 4 the research method. Section 5 concludes the paper and Section 6 presents the limitations and recommendations for future researchs.

## **THE BRAZILIAN COOPERATIVE: COOSTURART**

Founded April 28, 2002 with 39 associates, COOSTURART was legalized by obtaining registration in the CNPJ under number 05.405.502./0001-16 on 18/11/2002. Over the next two years, has formed partnerships with several institutions such as Viva Rio and the City Hall of Rio de Janeiro, which enabled the upgrading of facilities and procurement of machinery suitable for the activity of the Cooperative. A fundamental partnership to COOSTURART was with the West Zone Cultural Center, where the idea of the cooperative was born. In March 2003, COOSTURART was selected, through a notice, to integrate the process of incubation of the Technological Incubator of Popular Cooperatives - ITCP / COPPE / UFRJ. Over three years of their partners and cooperators participated in the courses offered and received advisory services accounting / finance, legal, economic and social development, as part of the incubation process.

In relation to its structure, thirty women are part of the cooperative, but the scalability is forty people working, "everything on demand". Although the goal of the Cooperative, is to have increased production so that it can absorb as many people as possible from the community.

Between 2002 and 2003 COOSTURART was looking for institutions that foster entrepreneurship . And in 2003 went through the process of incubation of the Technological Incubator of Popular Cooperatives - ITCP / COPPE / UFRJ. The incubation process lasted three years and it was interesting especially in legal and accounting aspects, promoting capacity building in these two areas. Incubation was done through technical visits, meetings and form filling. Meanwhile the share of production was not met according to the expectations of the Cooperative. An important aspect in the process of incubation was the opportunity to meet other groups that have caused the cooperative work and exchange of experience between them. It is noteworthy that before the incubation process the Cooperative had only twenty people, and after incubation, that number started to turn around thirty people

## **THE FAIR TRADE IN BRAZIL**

The Fair trade is an alternative to generating jobs and income for disadvantaged groups of production and commercial perspective in the context of these groups. In interviews with each of the eleven cooperative who are currently working in the cooperative, it was pretty clear that the cooperative is the "dream job" of those who are conscious of the quality of life that is afforded to those working in the cooperative (giving lunch to children, able to go home at any time in case of any problem). The Executive Secretary of FBES (2006) underscores the systemic efficiency of cooperatives that result in better quality of life and work for each and for all.

In the present context arises the need of considering social and economic alternatives that allow interactions between different individuals, depriving the capitalist system as the only one present in the scenario of the relationships within the society (Fernandes & Botelho, 2010)

In the same way Fleury (2002) proposes that the complexity of social problems, diversity of actors and existing conflicting interests are factors that explain the politics networks. That's because the networks bring a new organizational configuration, implicitly carry within them the traditional need of management and organizational theory to establish and define an order in the face of uncertainty as standards and rules of behavior need to be institutionalized within and for the organizations.

With a globalized economy, unfavorable terms of trade to Southern countries become more evident. The reduction of terms of trade in North X South trade is intensified by the loss of relative importance of raw materials and commodities exported by countries in the South compared to products with more technology, bundled services and capital from the north, as explained Mascarenhas (2007).

In recent years Fair trade incorporated the alternative trading organizations that went on to establish the contours of social movement with voluntary basis. Over the past 20 years this movement has crystallized into product certification organizations and importer with incentives for the development of small communities of workers in the South and different prices for products (RANSON, 2001 *apud* MASCARENHAS, 2007).

Among the internal aspects of COOSTURART, seemed that not all cooperatives have managed to incorporate the logic of cooperative work, when at the end of the month to demand payment, regardless of the production of the Cooperative.

Fair trade can contribute to the strengthening of collective economic organizations, focusing on the territories, and therefore represent a change project by another type of sustainable and democratic development in the world. Also not confined to trade relations, it also includes initiatives for cooperation between producers, importers and consumers.

The present study suggests that COOSTURART corroborates with some principles governing the Fair trade as seen in the research literature and documents, even incipient in Brazil.

## **RESEARCH METHOD**

In order to answer if fair trade is feasible in practice or just a utopic dream and how do workers involved in these projects perceive fair trade itself, we have conducted a research in a popular cooperative (COOSTURART), located in poor community, in the outskirts of Rio de Janeiro, Brazil. The relevance of this article lies upon the necessity of better understanding how the underprivileged Brazilians make a living out of the formal labor market. According to the municipal government of Rio de Janeiro (2006), 1.092.476 people live in poor communities, exposed to social violence, and the lack of social services (hospitals, schools, garbage pick-up); and consequently, excluded from the economic system. Fair trade rises as an alternative for work and income generation for those who are in disadvantage.

This research was carried out at COOSTURART, a popular cooperative which was founded April 28, 2002 by 39 unemployed women, whose only skills were sewing and embroidering. In March 2003 they were legalized as a formal enterprise by the city and started receiving managerial support from the Federal University of Rio de Janeiro. The project was to establish a cooperative that operated on the fair-trade logics.

This popular cooperative has served as a case study to (re) think, as well as correlate, the theoretical questions with the actual practices. COOSTURART represents an experience of international scope but, simultaneously, it portrays fair trade in the local scale.

In order to understand how these workers perceive fair trade itself we have spent 6 months in the cooperative, observing and interviewing all these workers. We have taken notes of our observations and recorded the interviews. These conversations were submitted to discourse analysis.

## CONCLUSIONS

The literature and the approach to the Cooperative COOSTURART contribute to the understanding one of the biggest challenges of Fair trade, which is the two conditions: to act against and within the conventional market, as Mascarenhas (2007).

COOSTURART represents an alternative to generating jobs and income for disadvantaged groups of commercial production which is in line with the current context where increasingly emerges the necessity of considering social and economic alternatives that allow interactions between different individuals, depriving the capitalist system as the only one present in the scenario of the relationships within the society (Fernandes & Botelho, 2010).

Among the internal aspects of COOSTURART, it seems that not all cooperatives have managed to incorporate the logic of cooperative work, when at the end of the month they demand payment, regardless of the production of the Cooperative.

The willingness to go through the process of incubation by the Technological Incubator of Popular Cooperatives - ITCP / COPPE / UFRJ signals the desire of COOSTURART to organize, strengthen themselves internally and have a better production. Furthermore the research shows that exists, a predisposition of the federal government to increase alternative forms of economic production in the country, initially with the creation of Secretariat of the Solidarity Economy (SENAES) under the Ministry of Labor and Employment. More recently have been promoting meetings and working groups to discuss and mobilize groups of small producers, industries and other organizations in the country with a view to build a Brazilian system of fair trade involving a larger number of local social groups, for the benefit of localities.

Fair trade can contribute to the strengthening of collective economic organizations, focusing on the territories, and therefore represent a change to another type of sustainable and democratic development in the world. Also is not confined to trade relations, it also includes initiatives for cooperation between producers, importers and consumers

The present study suggests that COOSTURART corroborates with some rules of Fair trade as seen in the research literature and documents is still incipient in Brazil and it is more rhetorical than practical.

## Limitations and Recommendations

Like all research, this study has limitations that suggest possibilities for future studies.

This work was based on the context of Fair trade, Solidarity Economy and the relationship between suppliers and customers, however, used only the experience of the cooperative COOSTURART to corroborate the theoretical.

Here it is a recommendation that other Brazilian experiences and even international, are examined in greater depth in future research aiming at demonstration that Fair trade is still incipient in Brazil.

Little is known about the effects of the investments made in the context of fair trade, considering that analysing the investments already made are not just enough, but also the results obtained and verify the results meet the expectations of stakeholders.

Another aspect that could be explored in future research is the question of the need to search for competitive advantage that is needed in the current context fully globalized.

This leads to the conclusion that, because it is a process still under construction, is full of successes and failures, difficulties and opportunities that must be adjusted along the route. Thus it is recommended that these aspects are explored in new research.

## REFERENCES

ARAÚJO, Paulo Sergio Costa. Modelo Qualitativo de Organização e Gestão de Cadeias de Suprimento Baseado em Economia Solidária, Comércio Justo e Supply Chain Management: O Caso da Cadeia da Amêndoa da Castanha do Caju do Pará. Dissertação de Mestrado, Programa de Engenharia em Transportes, UFC, Fortaleza, 2005.

BRASIL SOCIAL CHIC, Histórico do Comércio Justo, 2010. In: [www.brasilsocialchic.com/v01/index.php](http://www.brasilsocialchic.com/v01/index.php) .

COPPE / UFRJ. Instituto Alberto Luiz Coimbra de Pós Graduação e Pesquisa de Engenharia. <http://www.coppe.ufrj.br>

[FAJARDO, Elias. Consumo Consciente. Comércio Justo. Rio de Janeiro: Senac Nacional, 2010.](#)

FBES – Fórum Brasileiro de Economia Solidária. In: <http://www.fbes.org.br/>

FERNANDES, Raquel; BOTELHO, Maria. Economia Solidária e a Estruturação de um Mercado mais Justo: O Caso da Associação Mãos Mineiras e da Cooperativa Chico Mendes. In: <http://www.poli.usp.br/>

FLEURY, Sonia. El desafío de la gestión de las redes políticas, 2002.

ILO. Internacional Labour Organization. In: <http://www.ilo.org>

MASCARENHAS, Gilberto Carlos Cerqueira. O Movimento do Comércio Justo e Solidário no Brasil: Entre a Solidariedade e o Mercado. Tese de Doutorado, Programa de Pós Graduação em Desenvolvimento, Agricultura e Sociedade, UFRRJ, Rio de Janeiro, 2007.

ONDA SOLIDÁRIA (ONG). In: <http://www.ondasolidaria.org.br>

SEBRAE, 2004. Pesquisa Mundial de Comércio Justo. In: <http://www.biblioteca.sebrae.com.br>.

SENAES, 2010. Ministerio do Trabalho e Emprego. In: <http://www.mte.gov.br>

# FINANCIAL AND MONETARY ANALYSIS OF ENDOGENEITY AND EXOGENEITY OF MONEY SUPPLY IN A TRANSITIONAL ECONOMY: CASE OF THE REPUBLIC OF SERBIA

**Aleksandar Ivanović, Alexander College of Arts, Business & Management, Serbia**

**Petar Bojović, Union University, Serbia**

**Slobodan Spasić, Faculty of Applied Ecology “Futura”, Serbia**

## ABSTRACT

*This paper contrasts the monetarists' view of money supply exogeneity, causal impact of money on economic activities, and role of a central bank as money circulation regulator, with Neo-Keynesians' treatment of money supply as endogenous, causal priority of real economic flows, and a central bank as interest rates regulator. The structure and importance of monetary aggregates are illustrated in the case of Serbia. The empirical analysis of money demand in Serbia confirmed the results obtained in stability tests from other transitional countries, that early years of transition are characterized by instable money demand, while it achieves stability at its later stage.*

## INTRODUCTION

Monetary theory and relevant empirical studies of monetary phenomena have been mainly engaged in the effects caused by the amount of money (money supply) to other economic values – prices, investment, employment, and level of economic activity in general. Interest in researching those factors that, by their own changes, determine actual amount of money in circulation has been growing. This research begins with frequent debates lead on a theoretical level among the economists of Neo-Keynesian preferences and the members of the monetary current regarding the causes affecting the cyclical fluctuations in money supply movement. The supporters of monetary ideas find them in the monetary policy itself, arguing that cyclical movement occurs as the result of sudden and relatively large oscillations between (short-term) expansive and restrictive monetary policy actions on economic trends. Neo-Keynesians challenge the monetarist view by claiming that the cycles in the movement rate of money supply growth are endogenously determined by the behavior of banks and non-financial sector undertakings. The influence of these two economic agents blurred anticycling power of monetary policy on money supply movement.

Concerning the degree to which monetary conditions **dominate** over other factors affecting the movement of nominal income, the results of empirical research done in developed market economies point out that a correlation between the amount of money and nominal income eventually gave no precise answer to the question of causal link: whether amount of money influences nominal income or *vice versa*, if nominal income influences amount of money. Money supply circulation is not solely the result of monetary policy instruments' force but is also under influence of total economic system, as various economic variables may directly cause the changes in the money supply volume.

*First*, the volume of loans, which stands as the most important source of money creation, is determined by the economic entities' decisions in terms of their borrowing and the willingness of banks to lend their funds. Loan demand is higher in terms of increased economic activity and a higher general price level. Furthermore, it can be expected that loans demand be more pronounced in the periods of economic expansion than in the periods of economic recession, due to the fact that in the first case the risk of payment default by the

individual businesses is relatively small. *Second*, changes in the economic relations with foreign countries balance (including capital transactions – both short and long term) provoke the volume of reserve money by varying the amount of foreign exchange reserves in the banking system. *Third*, the impact on money supply can also be directed through certain financial behavior of the household sector manifested in its pursuit to keep a larger amount of cash hidden at home instead of investing it in the bank savings or converting it into other assets (increased liquidity preference). Therefore, the reduction in reserve money in the banks reduces the possibility of money placement and reduces the money supply through bank loans. *Finally*, in response to the effects of certain variables within the economic system caused by money supply circulation, monetary policy can trigger various instruments of monetary regulation. Thus, holders of monetary policy are given possibility to regulate the actual amount of money in circulation. Not only do different economic variables affect the money supply in several ways, but also some of them can act simultaneously in a completely opposite directions, e.g. higher prices will provoke, via credit expansion, an increase of amount of money in circulation, but will also decrease the money supply over the trade balance worsening (imports higher than exports) and the formation of contractive effect on banking system foreign exchange reserves.

Economic models contain two types of variables – exogenous and endogenous. The movement of the endogenous one is a result of the joint action of other variables in the model. Exogenous is the one whose value is assumed to be determined by the factors outside the observed model. Small models, whose purpose is to explain the behavior of a few variables, include a large number of exogenous variables. Wider models, intending to explain in more details functional relationship between relevant variables, have fewer of them. Exogenous variables do not require an explanation in the model, due to a common assumption that they are determined outside the model itself. Money supply is usually treated as endogenous (not engaging in the degree of endogeneity), as it contains the so-called ‘feedback effect’. It means the initial effect of changes in money supply moves from money to real trade flows and then returns back to the monetary sector. Money supply could be referred to as endogenous particularly in those cases where monetary authority allows the money supply changes to be adjustable simultaneously with bank reserve changes and money demand alterations occur under the influence of factors beyond its control (defensive action or passive monetary policy conduction). In the absence of appropriate (preventive) actions of central banks, it is fair to expect that autonomous factors produce unexpected (and powerful) changes in the money market.

Many economists of Neo-Keynesian orientation point out a number of institutional factors supporting an assumption of predominant endogenous nature of money supply. They underline that money supply is insufficiently controlled by the central bank if it implements one stabilization policy on the credit market; or if banks borrow unmeasuredly from the central bank, using central bank deferential attitude when it comes to loans of this kind; or if they alter the assets structure on liabilities side of their balance sheet, increasing the share of non-monetary liabilities over other financial features used as money. Stabilization credit policy implemented by the central bank in a developed market economy has main goals to keep fluctuations of interest rates at minimum and simultaneously maintain a low level of interest rates, to provide favorable conditions for investment activity development. The first objective minimizes uncertainty, while the other holds investment cost of funding on relatively low level, so that the state is able to finance its budget deficit with reduced costs. When increased loan demand leads to interest rates rise, the central bank will, in an attempt to stabilize the interest rates movement, sell the securities in the open market. *Vice versa*, when demand for non-bank loan decreases, the central bank will buy securities. These activities will cause reducing or augmenting the range of base money alternately. Stabilization credit policy mechanism ensures credit money affluence and satisfies demand for it in the short term. At a given goal in terms of interest rates levels, the scale of such alterations in the monetary base depends on the non-banking economic agents’ attitude. In the multibanking system, commercial banks can borrow liquid assets directly from the central bank, using *discount window* mechanism. Although it is assumed that the central bank takes care of the volume of such loans and limits them if they are not intended for any emergency needs, the practice often shows this assumption is not satisfied. In short term, once the demand for commercial loans is high, banks try to attract more funds in their deposit by raising the yield on (typically) highly profitable types of their non-monetary liabilities, such as various forms of time deposit and securities, whose owners are paid then relatively high interest rates.

If this is widespread, it is possible that majority of the banking system experience a gradual change in the composition of their liabilities, reducing the ratio between demand deposits and non-

monetary forms of liabilities. Since the reserve requirement for demand deposits is higher than for some forms of non-monetary liabilities, the same alteration of commercial banks liabilities structure leads to the partial release of their reserves from the regime of required reserves, providing certain amount of banks' *free reserves*, ready for new credit loans placement. This institutional laxity in sophisticated financial markets allows banks to act more freely in terms of creating a loan, which would be rather impossible in case of complete implementation of measures and restrictions imposed by the central bank. Under such conditions, changes in economic activity get much stronger weight in the process of forming money supply specific volume in relation to the monetary authority actions. Whether money supply is an endogenous or exogenous variable has a significant influence on the decisions taken by the central bank. If it is endogenous, the central bank has to take into account the above mentioned 'feedback effect' in making its policies. This also means the statistical evaluations of the link between money and income, derived on the basis of a model in which money is taken as exogenous, are not completely reliable, provoking a need for careful handling of obtained results in practice. Neo-Keynesians explain 'feedback effect' in money supply in the following way: when monetary authorities increase the quantum of money supply to stimulate economic activity, increased activity will cause an increase in money demand and interest rates. It overflows to the enlargement of bank's opportunity cost linked to holding cash reserves in excess of required reserves. As a result, banks tend to reduce their liquidity reserves to a minimum, offering free reserves, and thus create money, which leads to further enlarging of money supply volume. Although monetarists acknowledge the existence of 'feedback effect', they look at money supply as an exogenous variable for two reasons: they believe the effect that goes from the money to real trade flows prevails (the opposite i.e. refundable effects are very weak); and monetary authorities can control the behavior of the money in circulation and influence economic activity, regardless of the existence of feedback effects from the real to the monetary sector.

## **MONETARISTS' POINT OF VIEW**

According to the standard monetarist explanation, the money volume alterations are determined by the factors outside the economic system, the actions of monetary authorities based on independent, prudent monetary policy. Therefore, money volume is exogenously determined variable, whose changes are not a passive response to changes in demand for money resulting from fluctuations in the economic activity. This point of view is based on numerous empirical studies of monetary developments in the US economy during a long period 1867-1960 performed by Milton Friedman (1963). The first element of his claim that the changes in amount of money in the US economy in this period were largely determined by money supply refers to the fact that changes in money volume, by the rule, precede changes in the economic activity flows. Secondly, the most significant alterations in the money volume were in fact of exogenous character in the sense they were determined by money supply, which was realized through self-implemented monetary policy. Thirdly, the relationship between money and economic activity (represented by the size of nominal GDP) was stable, despite changes in the institutional factors that affected the cash circulation and despite changes in methods of monetary authorities aimed at controlling this circulation.

Orthodox monetarist position on the exogeneity of money supply is exposed to a numerous criticism. Money supply ( $M$ ) is multiplied amount of base money ( $B$ ) and its changes ( $M = m \cdot B$ ) are greatly influenced by the behavior of monetary multiplier ( $m$ ), which is a complex parameter, whose size depends on the behavior of two main ratios - ratio of cash (to bank deposits) and bank reserve ratio (to total bank deposits). Raising both ratios may deviate from the value required by the central bank to set monetary policy implementation. Within these limits, formulated by the range of primary money and control of total bank deposits, the particular size of the ratios of cash and bank reserves are determined by the preferences and behavior of economic agents and commercial banks. These behavioral ratios are susceptible to the effects of different factors. Although the primary money (monetary base) is, in principle, controlled by monetary authorities, economists (from among Neo-Keynesians) alert that the supply of the base money does not always have to be necessarily exogenous (in certain periods and at different combinations of autonomous flows in its creation). Changes in the supply of base money is exogenous only if it is initiated by the monetary authorities' independent action, and not as a response to alterations of one or more of the assumed exogenous variables, such as income or interest rate. Thus, for instance, monetary policy in Great Britain and, to some extent, in the USA in late 1970s and early 1980s was dictated by the efforts to achieve the

balance in foreign trade relations, to finance the changeable state deficit, and to avoid large fluctuations in interest rates, which was the monetary policy most general goal (Kaldor, Trevithick, 1981).

Goodhart (see: Struthers, Speight, 1986) contested on several grounds the ability of monetary authorities to determine accurately the base money supply. In his analysis, he starts from a given volume of the state budget deficit and argues that this deficit can be financed in three ways: first, by selling to the private sector of the economy a certain amount of securities (say, by issuing public debt); second, with the inflow of capital from abroad; and third, by direct borrowing from the central bank, which means creating a new quantum of reserve money. Thus, as the factors that determine changes in the monetary base during one period, the following three can be easily distinguished: the scope of the state budget deficit, the volume of securities of the public sector, which can be realized in the financial markets, and the size of foreign capital that is disposable to transfer into domestic economy. Size of budget deficit is determined by the state (public) spending and tax policies that are not subject to rapid change. Capital inflows from abroad responds moody to domestic interest rates, which also applies to the sale of securities in the private sector of the economy. In short, from all the above-mentioned flows affecting changes in the monetary base, one course is largely beyond the control of monetary authorities (budget deficit), while the other two react very unpredictably to interest rates level modifications. The only response to these factors' impacts on the reserve money movement, Goodhart acknowledges in their neutralization through compensatory changes in the public debt emission, or through open market operations. His analysis highlights the dilemma of monetary authorities in developed market economies that are caught between the appropriate budgetary policy, determining the necessary amount of money in circulation and control of interest rates. He concludes that successful monetary control is not workable with large budget deficit, unless the monetary authorities accept drastic raise of interest rates, but this enters the area of priorities selection in the implementation of certain monetary policy.

Monetarist view of money exogeneity does not rule out the existence of some feedback from business activities to the money supply during an economic cycle (Friedman, 1969, 1970). Friedman (1963) shows that the cyclical variation of currency and bank reserves ratios were largely responsible for the continuous changes (contraction and expansion) of the money supply at a given volume of the monetary base. However, monetarists believe these effects are secondary to the effect of base money, whose movement is of exogenous nature. Starting from the empirical relationship between the monetary base and money multiplier, Meltzer (1969) came to the result that 85% of variability in the current movement of money (monthly growth rates) result from changes in the movement of the monetary base and government deposits (treasury deposits) in the current and previous month.

Certain deviation from orthodox monetarist position regarding the exogeneity of money supply is brought by the members of the group sometimes referred to as "*open economy monetarism*", known for developing the modern theory of monetary approach to balance of payments. The thesis of money supply exogeneity holds ground within the closed (global) economy, but within an open economy starts from the premise that the obligation of maintaining a fixed exchange rate entails a loss of control over the quantum of money supply by domestic monetary authorities (Laidler, 1982). In spite of becoming an endogenous in an open economy with fixed exchange rates, being then not controlled by the central bank, the money supply changes following the global rate of monetary expansion and maintains the role of the independent factor with causal effect on the domestic nominal income.

## NEO-KEYNESIANS' POINT OF VIEW

The thesis the money is endogenous is usually associated (perhaps somewhat unjustly) with Kaldor (1970, 1981, 1982), but the views of the endogeneity of money in circulation are rooted back to Smith and Ricardo as well as in certain remarks of Keynes (although *The General Theory* assumes exogeneity of money). *The Report of the Radcliffe Committee* contains a clear position on the endogeneity of money, insisting that a sharp line between money and other forms of financial assets of economic subject cannot be drawn, as they all contain a monetary quality which is, of course, of different force from one form to another. If we try to limit the liabilities of certain financial institutions (e.g. banks), commercial units will access the creation of new financial institutions, whose liabilities will finance the desired volume

of consumption. Finally, monetary authorities cannot stop the creation of non-bank money generated by mutual lending to business units. Thesis of the endogeneity of money was highlighted by Cramp (1970) and Moore (1979, 1983) as well as discussed in the works of Tobin (1970) and Laidler (1981). For Neo-Keynesians, the central bank in a developed market economy has no ability to control the amount of money in circulation – either in long or in short term. While the monetarists adjust the money demand through changes in the money supply price level (controlled by monetary authorities, i.e. exogenously), Neo-Keynesians insist on the fact that money supply adjusts to money demand in the long run. The cash matches (reacts) to so-called “needs of trade”.

The postulate of Neo-Keynesians that the existing quantity of money is also endogenous in the short term is relatively new. According to Kaldor, in an economy where the majority of money supply takes the form of deposits there is no place for discrepancy between the amount of money required and actual amount of money in circulation. Monetary authorities cannot cause an increase of money holdings of non-banking economic agents over their desired level. An increase of the volume of money in circulation (monetary expansion) can be implemented either in conjunction with fiscal policy (by the monetization of government budget deficit) or through *open market operations*. In the first case, the excess of money in circulation will be followed simultaneously by raising the level of income of non-banking economic agents (through fiscal expansion – increased government consumption expenditures). Real economy consequences of monetary expansion are integrated into the Keynesian scheme of multiplier effects – expenditures (i.e. spending, especially investments) of non-banking economic agents react to the resulting increase in their incomes, provoking spiral multiplier effects. In another case, monetary authorities can step in front of non-bank economic entities with an attractive offer to buy bonds in their possession. However, the transaction will occur only if non-bank economic subjects want to get rid of the bonds they hold in their portfolios and to exchange this form of property for cash. They cannot be forced to keep more money in their portfolios than the volume they want. If they somehow received more money than they want to keep, there is a simple mechanism for canceling such a surplus of money, being a credit mechanism between the banking sector and the sector of non-banking economic agents. Since the debt to the banking sector is widespread among non-banking business entities (created on the basis of external funding of certain transaction parties – by raising loans from banks), this extra money will be used to repay such debt. The cancellation of money surplus will be full and automatically will go within a financial (or clearing) system recognizing the widespread use of an *overdraft* clause, allowing the owner of checks account an automatic debit with the bank, i.e. transforming his a vista deposit account into credit up to a limit stipulated with the bank. Money excess can never exist so long to influence the spending’ flows. Kaldor also excludes the possibility of scarcity of money, due to supposed central bank actions, providing an adequate level of macrosystem liquidity. If the central bank does not approve the current rate of monetary expansion, its reaction will be towards raising its discount rate, as the interest rate paid by commercial banks for money borrowed from the central bank. However, the central bank cannot strictly persist on a pre-fixed low level of base money without risking a collapse of the banking system (what is definitely not its intention). Thus, money supply is always determined by money demand, even at the chosen interest rate of the central bank. If these arguments are accepted, then the amount of money actually plays only a passive role in determining nominal income. By excluding the possibility of both money excess and scarcity of money in macroeconomic system, we also eliminate the basis for any transmission process leading from money supply to consumption, prices, and production. Nevertheless, Kaldor does not exclude the possibility monetary policy is used actively, i.e. interest rate policy is used to affect investments in Keynesian style. One of the factors that influence the fluctuations in money demand is interest rates changes (which can be induced exogenously). The thesis of money exogeneity of orthodox monetarism could be applied in an economy with commodity money, where money supply would not be completely elastic and within its boundaries, economic agents would have no opportunity to cancel any excess funds. However, in the economy where credit money works money exogeneity is impossible and causal relationship (with exogenous interest rate) goes only from money demand to money supply.

Moore has offered a similar view, based on the US economy experiences, but which may be applied to all developed market economies. He finds wrong the monetarist description of money supply, which takes the changes within exogenously controlled reserve aggregate (base money) as the cause of certain changes in money supply. Although there is a relatively stable relationship between the base money and money supply as well as between money supply and total nominal income, Moore argues a causal relationship is completely opposite, as both monetary base and money supply are, in fact, endogenous. He pulls one of main evidence for it out of degree to which the change of base money can be statistically explained with the alterations of

relevant economic variables, especially nominal wages. Economists have been trying for a long time to reach the best statistical adjustment of so-called "reaction-function" of the central bank in relation to the macroeconomic goals of economic policy, such as inflation, unemployment, the balance of payments, and interest rates. Econometric analysis (with US economy data) proved the growth rate of nominal wages to be the explanatory variable with the highest degree of significance (Moore, 1979). Moore's scenario shows that nominal wage grow even in the periods of labor productivity declining (due to the rigidity in the movement of wages downwards), which results in firms' illiquidity, forcing them to ask for bank loans to settle down their due financial obligations. If commercial banks have no free credit potential, the pressure is shifted towards the central bank, expected to provide the additional amount of money i.e. to expand the banks' credit potential, in order to prevent unemployment, which is considered unacceptable.

Consequently, the monetary authorities give in under the pressure of commercial banks, allowing for new loans creation. Moore concludes that in conditions where money supply is basically "politically endogenous" (in developed market economies), the central bank cannot maintain too rigid attitudes in monetary policy, due to the political pressures imposed by the emergence of unemployment. Monetarists agree with Moore's theory, but point out that the central bank should not alleviate views regarding pre-agreed monetary policy in case of unemployment. Hence, the behavior of nominal wages (as integral part of demand for firms' working capital and as the determinant of workers' disposable personal income) plays a central role in determining the demand of non-banking economic entities for bank loans. In Moore's opinion, the credit market is the field for monetary adjustment process induced by nominal wages increase. The actions of the central bank (as the center of the monetary system of a country) are aimed only to let the money supply adjust to increased demand for bank loans. The ability of central banks to control the rate of growth of monetary aggregates depends more on their ability to control the growth of banking loans than of the monetary base. However, the ability of monetary authority to control the rate of expansion of bank loans is limited. Each sudden increase of wages shows it is tough for the central bank to limit the rate of monetary growth. Money supply is an endogenous variable and the behavior of nominal wages is the most important determinant of its cyclical movement. For orthodox monetarism, the exogeneity of money and causal impact of money on a number of economic activities are two related features and a central bank is usually represented as money circulation regulator. For Kaldor, Moore, and other Neo-Keynesians, the endogeneity of money and causal priority of various economic variables in relation to the flows of money and credit are two closely related features, and a central bank is presented as a subject that is called upon (in the active sense) just for one reason – to bring the interest rates to a certain level.

## **ASSESSMENT OF DIFFERENT THEORETICAL VIEWPOINTS**

In modern monetary theory the most acceptable concept seems to be the one based on the interconnections and interaction of real and financial flows in the reproduction process and which stresses that it is impossible to establish a one-way causal relationship between the changes in the amount of money, on one side, and the volume of production, employment, and price levels, on the other side. There are no econometric findings that would strongly confirm either pure exogeneity or endogeneity of the existing money volume. True money supply volume is jointly determined by the actions or behavior of both monetary authorities and the private sector of the economy, including non-banking economic entities, commercial banks, and other financial institutions. Private sector portfolio behavior is crucial in mediating between the central bank monetary policy and the actual outcome in terms of given money supply volume handed by the economic agents. If the transactional money amount held by economic agents is perceived more as an average target cash holdings over certain period, rather than fully balanced cash holdings that strictly meets the economic agents' portfolio balance requirements at any time (what is accepted more and more by contemporary monetary economists), then the exogenous change in the real volume of money supply in relation to the aggregate representing the sum of average target money holdings will cause progressive effects of adjustment over longer period. At macro level, during the process of adjustment, economic agents will keep real funds that are either above or below the sum of their average targeted amounts of money. In the case of money surplus, the firms will hold a larger amount of real funds than they want, until some combination of lower interest rates, higher prices and higher real income brings the balance between desired funds (aggregately observed) and real volume of money supply. In the case of money shortage (when current real

funds of economic agents are below their target level), the economic agents will gradually try (by increasing their income and/or reducing their spending) to form their own average targeted amounts of real funds. If these changes in the behavior of economic agents (caused by the decreased amount of money in circulation) are present on a larger scale, it will have certain impact on real economic movements – a reduction in nominal income growth and these effects will be present until the moment of final balancing between money demand and the existing money supply volume. If money holdings of certain firms fall below the level needed to maintain their liquidity, and assuming they are unable to economize (e.g. through an increased usage of trade credit, in case they are enough credit-worthy) or to re-contract their earlier financial obligations, or to do it quickly enough, then a number of firms will not be capable of fulfilling due obligations, thus spreading the problem of illiquidity through macrosystem and endangering the normal functioning of the financial system. Particular combination of certain economic agents' impact may also result in the exogenous character of money supply. If monetary authorities have firmly defined target in terms of reaching certain volume of monetary expansion and are prepared to repurchase at any price from the economic agents in open market operations the amount of securities necessary to realize the defined objectives, then the money expansion is truly independent of the portfolio decisions of banks and non-banking economic agents in the economic system.

## THE CASE OF SERBIA

The example of Serbia (with dinar – RSD as the domestic currency) can be presented on the developments of its monetary aggregates in 2009, in which **reserve money** grew by 3.8% in nominal and declined by 2.6% in real terms. Dinar-denominated reserve money shrank by 77% of the amount by which the foreign currency component rose. Thus, reserve money creation was realized via the foreign exchange and withdrawal via the dinar channel. Net foreign assets rose by RSD 196 bln, of which the gross foreign exchange (FX) reserves of the National Bank of Serbia (NBS) were up by EUR 2.4 bln and total FX liabilities by around EUR 1 bln. NBS gross FX reserves swelled because of regular inflows and the drawdown of two IMF loan tranches, SDR allocation, and the privatization of the Serbian Oil Company (NIS). The outflows were driven by NBS's sale of foreign currency in the interbank FX market. At the year-end, the NBS gross FX reserves reached EUR 10.6 bln. The withdrawal of reserve money through the national currency channel was effected mainly via repo sale of NBS treasury bills to banks. In spite of several cuts in the key policy rate during the year, the repo stock in bank portfolios rose by RSD 73.9 bln. The modified structure of required reserves allocation, i.e. reduction in the dinar portion of allocated FX required reserves gave an additional boost to bank investment in securities. Tighter fiscal policy led to a RSD 51.8 bln increase in government funds in NBS accounts. The third factor contributing to reserve money withdrawal was the reduction in other NDA, induced by increased NBS capital and exchange rate gains. Within the structure of dinar-denominated reserve money, the largest decline was recorded with bank reserves (RSD 67.8 bln), mainly due to the reduction in the dinar portion of required reserves (RSD 53.4 bln) for banks signatories to the Vienna Initiative. Bank excess funds declined by RSD 14.5 bln, whilst currency in circulation rose by RSD 5.4 bln from end-2008.

**Total money supply M3** (consisting of money supply M2 and FX deposits), driven by an increase in FX savings with banks, recorded a mild year-on-year rise. The velocity of circulation of monetary aggregates M1, M2, and M3 was declining over the year, which points to a gradual rise in demand for money. **Money supply M1** (comprising of the currency in circulation and transaction deposits) increased by 7.4% nominally (or 0.7% in real terms) from end-2008. Against the background of heightened operational risk during the economic downturn, firms held more funds in their current accounts, which provided the strongest contribution to a rise in this M1 component (RSD 12.2 bln). A RSD 24.1 bln rise in savings and term deposits impacted not only on growth in M1, but also on nominal growth in **money supply M2** (including M1 and dinar savings and term deposits) – 10.6% (or 3.7% in real terms). Up by 21.5% nominally (13.9% in real terms), M3 displayed the sharpest growth dynamics in 2009. Raising of the government-guaranteed amount of savings deposits (from EUR 3,000 to EUR 50,000) and an increase in bank interest rates during the “Savings Week” led to the return of household FX savings (withdrawn by end-2008) into the banking system and their further rise. New household FX savings rose by EUR 1.2 bln, outstripping the amount withdrawn in earlier months (EUR 960 mln) and reaching close to EUR 6.0 bln. The ratio of NBS FX reserves to M3 rose by 73.1% in 2008 to 84.3% in 2009, whereas the ratio of overall banking sector FX reserves to M3 increased from 81.4% to 95.7%. Movements in net domestic and foreign assets led to M3 creation. Bank loans, notably to the corporate sector, gave the

strongest contribution to M3 growth. Government borrowing via T-bills sale to banks exceeded the increase in deposits on accounts with the NBS, providing further contribution to money creation.

A slowdown in **bank lending**, in train since the second half of 2008, continued into the first half of 2009. In the second half of 2009, most notably in the third quarter, loans to the corporate and household sectors were on a moderate rise, although the rate of growth was much slower than in 2008. Bank external borrowing continued to be the dominant source of finance for bank lending, whereas household and corporate FX deposits were the main domestic source of lending growth. Bank claims on the non-financial sector rose by 16.1% nominally (RSD 181.2 bln). Excluding the effect of exchange rate differentials (cca. 75% of loans are foreign currency-clause indexed), the real increase equals around 10%. Relative to end-2008, bank loans in the domestic market increased by 8.8% in real terms (including the exchange rate effect), of which corporate and household sectors were up by 12.8% and 1.5% respectively. A sectoral breakdown shows that trade and industry enterprises received most loans. Within household lending, housing and consumer loans witnessed the strongest growth. In March, banks began to extend subsidised loans within the Government's Programme of Measures to Ease Negative Effects of the Global Financial Crisis. They approved around EUR 1.1 bln in such loans, mainly liquidity loans to the corporate sector. By end-2009, banks were approving subsidized housing construction loans, which led to a mild increase in the share of housing loans in total newly extended loans. The share of subsidized in newly extended bank loans moved around 10% on average (Annual Report, 2009: 31–34).

Most transitional countries have faced problems of extensive external debt, high budget deficit, and high inflation rates, as well as the instable money demand (as shown by stability tests) in early years of transition, while at a later stage the stability of money demand was achieved and interest rates became increasingly important as the transition mechanism tool, because monetary policy makers started using them to a greater extent rather than the rate of exchange for the purpose of monetary targeting. The results of the empirical analysis of the stability of the money demand function in the Republic of Serbia and factors influencing it in short and in long term also proved that money demand in the entire period observed showed signs of instability and could not be used for efficient targeting monetary aggregates (Maravić, Palić, 2005).

## REFERENCES

- Annual Report, National Bank of Serbia, 2009. Retrieved April 30, 2011, from [http://www.nbs.rs/system/modules/yu.nbs.arhiva/arhiva.html?godina=2009&SUBMIT=Preview&prefix=annual\\_report&sufix=pdf&loc=90%2F90\\_4&pathName=name3&lang=ENG](http://www.nbs.rs/system/modules/yu.nbs.arhiva/arhiva.html?godina=2009&SUBMIT=Preview&prefix=annual_report&sufix=pdf&loc=90%2F90_4&pathName=name3&lang=ENG).
- Cramp, A. B. „Does Money Matter?“ *Lloyd's Bank Review*, October 1970: 23–37.
- Friedman, M., Schwartz, A. J. *A Monetary History of the United States 1867–1960*, Princeton University Press, 1963.
- Friedman, M., Schwartz, A. J. “Monetary and Business Cycles“, *Review of Economics and Statistics*, Vol. 45 (Suppl.), February 1963: 32–64.
- Friedman, M., Meiselman, D. I. “The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States, 1897–1958“, in *Commission on Money and Credit: Stabilization Policies*, Englewood Cliffs: Prentice Hall, 1963.
- Friedman, M. *The Optimum Quantity of Money and Other Essays*, Chicago: Aldine, 1969.
- Friedman, M. “The New Monetarism: Comment“, *Lloyd's Bank Review*, October 1970: 52–53.
- Kaldor, N. “The New Monetarism“, *Lloyd's Bank Review*, July 1970: 1–18.
- Kaldor, N., Trevithick, J. “A Keynesian Perspective on Money“, *Lloyd's Bank Review*, January 1981: 1–9.

Kaldor, N. *The Scourge of Monetarism*, Oxford: Oxford University Press, 1982.

Laidler, D. "Monetarism: an Interpretation and an Assessment, *Economic Journal*, March 1981: 1–28.

Laidler, D. *Monetarist Perspectives*, Cambridge Mass.: Harvard University Press, 1982.

Maravić, J., Palić, M., *Econometric Analysis of Money Demand in Serbia*, Belgrade: National Bank of Serbia, Research Department, April 2005. Retrieved April 30, 2011, from [http://www.nbs.rs/export/internet/english/90/90\\_0/econometric\\_analysis\\_of\\_money\\_demand\\_in\\_serbia.pdf](http://www.nbs.rs/export/internet/english/90/90_0/econometric_analysis_of_money_demand_in_serbia.pdf).

Meltzer, A. "Controlling Money", *Federal Reserve Bank of St. Louis Review*, May 1969: 1–18.

Moore, B. J. "The Endogenous Money Stock", *Journal of Post Keynesian Economics*, Vol. 2, No. 1/1979: 49–70.

Moore, B. J. "Unpacking the Post-Keynesian Black Box: Bank Lending and the Money Supply", *Journal of Post Keynesian Economics*, Vol. 5, No. 4/1983: 537–556.

Struthers, J., Speight, H. *Money: Institutions, Theory and Policy*, London: Longman, 1986.

Tobin, J. "Money and Income: Post Hoc Ergo Propter Hoc?", *Quarterly Journal of Economics*, May 1970: 301–317.

# **FINANCIAL ANALYSIS OF MONETARY–CREDIT MULTIPLICATION IN A TRANSITIONAL ECONOMY: CASE OF THE REPUBLIC OF SERBIA**

**Aleksandar Ivanović, Alexander College of Arts, Business & Management, Serbia**

**Petar Bojović, Union University, Serbia**

**Slobodan Spasić, Faculty of Applied Ecology “Futura”, Serbia**

## **ABSTRACT**

*The factors reflecting the behavior of a central bank, commercial banks, households and corporate sector and affecting the changes of monetary multiplier, banks' credit potential, and credit multiplier have been identified. Several issues on the impact of money multiplication on monetary policy have been discussed. Main monetary aggregates and other parameters have been analyzed on the case of Serbia as a country where banks have relatively high credit potential. Empirically proven instability of money demand points to the sensitivity of Serbian economy to external shocks. One of the reasons for an unstable money demand function are dynamic changes in the financial system, with newly introduced or changed institutions, banking products, payment instruments, and savings drive.*

## **INTRODUCTION**

Banks perform many functions and provide various services. Not all banks perform the whole spectrum of possible functions neither do they all provide the same services. Still, it is generally considered that the core activities of the bank consist of three functions: (1) banks are creators of money, (2) banks are financial intermediaries, and (3) banks form the main route for transferring the effects of monetary policy through the economic system. Of course, these three functions are interrelated and it is obvious that the last two result from the first of these functions. In modern market economies, there are a number of different institutions (other than banks), which are financial intermediaries – i.e. institutions that mobilize the free cash in the economy, or transfer funds from the accumulation, from economic entities (sectors) that accumulate more than they invest, to the economic entities (sectors) that invest more than they accumulate. In most countries, banks are the main institutions that perform this function. The traditional role of the banks as the guardian of the liquid assets of economic entities and the main source of loans within the microsystems has provided the banks with a special status in public, which they continue to have to this day. Lending activity of banks, which “creates” liquidity, i.e. the fact that the liabilities of banks include deposits that represent money, makes banks different from other financial institutions. Banks are only able to serve as a source of “reserve” of liquidity for other economic entities (including other financial institutions).

Banks constitute the core of financial institutions whose liquidity has a significant impact on the functioning of financial markets and the availability of money and loans. Therefore, by developing instruments of monetary policy, central banks have paid special attention to those instruments that allow the impact on liquidity position of banks. The most obvious example is using the mechanism of banks' reserve requirements. The tendency of economic entities to deposit an increasing share of available funds in the banks (a process that began nearly two centuries ago) has resulted in the demand deposits – as a form of liabilities in the balance of commercial banks – being gradually recognized and finally accepted as the equivalent of cash (banknotes and coins). The importance of banknotes and coins as monetary instruments is being more and more suppressed. In modern economies, banks (with their demand deposits, which can be transferred) constitute the backbone of the system of payment, and final account of economic and financial transactions in these economies is taking place

in the banking books. Moreover, the system of commercial banks is able to create their own liabilities through the process of credit expansion. Specifically, the banks (as a system) can influence the increase or decrease of the volume of credits available for the macrosystem – i.e. they can expand or restrict their loans and thus increase or decrease the amount of money available. All this happens through the offer of available liquid assets that exist within the banking system as a whole. The financial potential of the banks represents the total assets that the banks have collected as deposits or created by their credit activity. Financial potential is based on the total credit and business activities of banks. All sources of funds of banks are on the liabilities side of the balance sheet of banks, and investments are on the side of the banks' assets. Investments and resources generally must be in balance, with free and chargeable assets of banks being located on the bank account with the Central Bank.

## **FACTORS AFFECTING MONETARY MULTIPLIER CHANGES**

Different influences and behavior of individual institutional sectors should be taken into account, both within the process of the monetary multiplication and in the overall process of money creation. Different functions, types of economic activities, motives, etc. determine different role and influence of certain institutional sectors in these processes. In this regard, four main groups of economic entities should be distinguished:

- The Central Bank, including the impact and operation of the Central Government;
- Other monetary institutions, i.e. financial institutions involved in the process of money creation;
- Non-monetary local entities, which can be further classified as non-monetary financial institutions and non-financial entities, and these further classified as: companies, limited local public administration, population, etc;
- Foreign countries, including financial obligations and demands by domestic entities from foreign entities.

The following six ratios reflect four groups of determinants of the monetary multiplier. The coefficient of liquid reserves of commercial banks  $r_1$  ( $R_1/D_b$ ) reflects the behavior of the commercial banks sector. The behavior of population, companies, and other non-banking economic entities are reflected in the movement of cash coefficient  $g$  ( $G/D_B$ ) and the coefficient  $d_m$ , represented by the relationship between the deposited money and total deposits ( $D_m/D$ ). The effects of fiscal and quasi-fiscal policy on monetary behavior of non-banking economic entities are represented by the coefficient  $l$  ( $D/D_b$ ). The coefficient of required reserves  $r_0$  ( $R_0/D_b$ ) represents the impact of the Central Bank (monetary authorities) on monetary multiplier (also the impact on base money). Finally, the coefficient of other funds deposited by commercial banks with the Central Bank  $r_2$  ( $R_2/D_b$ ) is of hybrid nature, because it largely expresses the influences on the changes of monetary multiplier that come from the monetary authorities, and to a lesser extent, the impacts resulting from certain monetary behavior of commercial banks.

### **The Behavior of the Central Bank and Commercial Banks**

The Central Bank influences the monetary multiplier and the entire process of money creation by:

- Deciding on the emission of base money and the structure of the instruments of such emission;
- Determining the rate of reserve requirements of monetary institutions with the Central Bank;
- Decisions on the compulsory deposits of monetary or non-monetary entities with the Central Bank; and
- Foreign exchange transactions, including financial transactions with foreign countries and the purchase and sales of foreign currencies in relation with other monetary institutions, having impact on the difference between foreign assets and liabilities of these institutions (F).

Commercial banks and other monetary institutions affect:

- The use of the maximum credit potential i.e. whether their domestic investments (K) will reach the maximum amount or will remain below this amount;
- Holding the base money on accounts at the Central Bank over the amount that corresponds to the rate of required reserves, which affects, more or less, the absorbing of the base money to ensure liquidity (R); and
- The use of instruments for base money emissions below the framework offered by the Central Bank (B).

Three coefficients below reflect the behavior of the banking sector:

1) The first of them is the coefficient  $r_0$ , as the ratio of required reserves of commercial banks ( $R_0$ ) and their total deposits ( $D_b$ ). This coefficient expresses the changes (controlled by the monetary authorities) in the structure of deposits, either those limited i.e. falling under the regime of reserve requirements or those free from it.

2) The ratio  $r_1$  expresses the changes in money multiplier caused by the change in the amount of funds on the bank accounts held at the Central Bank. Assets of banks on their accounts at the Central Bank consist of two primary components: the minimum amount of assets that must be kept in their business account to ensure the liquidity of the bank (determining its liquidity or illiquidity – the so-called liquidity reserves) and excess liquidity assets of commercial banks, that represent the assets available for investment. The amount of the total liquid assets of commercial banks is conditioned by the behavior of these banks in terms of maintaining the necessary level of liquidity reserves and the tendency for minimizing the unused (free) assets at their disposal, in long-term sense.

3) The coefficient  $r_2$  includes the changes of other deposited funds of the commercial banks with the Central Bank. This category of funds of commercial banks includes heterogeneous components: funds invested in treasury bills issued by the Central Bank and the bank funds deposited with the Central Bank on other bases.

## The Behavior of Households and Corporate Sector

Domestic non-monetary entities may affect:

- The use of the investments of monetary institutions underneath the framework offered by these institutions (in the case of lower loan demand than the supply);
- Keeping cash in circulation (G);
- Deciding on keeping money at all (money demand), which also means deciding on the spillover of money into non-monetary financial forms, or vice versa, the spillover of non-monetary financial forms into money (N).

The behavior of the households sector is represented with the ratio of total amount of cash, which is in the possession of this sector, to total deposits at commercial banks ( $g = G/D_b$ ). The increase of cash in circulation slows down the process of monetary multiplication. Change in the structure of money supply in terms of relatively rapid growth of cash in relation to deposits (the process known as *currency drain* or *currency leakage*) depends on the financial behavior of the population, i.e. preferences of holding the available financial assets in the form of cash and holding other forms of financial assets. The Central Bank does not directly regulate the amount of cash that people keep in their financial holdings, neither does it directly regulate the increase of cash in successive time intervals. The supply of cash is provided by commercial banks under their liquidity reserves held with the Central Bank. Several basic factors influence the preference of the population to hold a certain proportion of their financial assets in cash:

1) Keeping the cash for the population means the possession of the means of payment that is available at all times to be used to purchase goods and services or to carry out other duties. Accordingly, the holding of financial assets in the form of cash means keeping perfectly liquid assets that can be used directly as a means of payment.

2) Cash is not an interest-bearing financial asset for the households sector. Under the assumption of rational financial behavior of the population, interest rate effect will act to reduce the holding of cash in the structure of total financial assets of the sector. It should be expected that the population would retain only a small part of total financial assets that may be needed for operational current payments in the form of cash holdings. The proportion between cash and interest bearing financial assets of the population, under the above assumption, tends to move more and more in favor of the latter, if the level of interest rates is higher.

3) Between the criterion of the necessary for the sum for current payments and high interest rates, there are a number of other factors whose effects influence the formation of the actual proportions of holdings of cash and interest-bearing forms of financial investments within the total financial assets of the population. They relate to both the rationality of financial behavior of the population (different inertial factors, traditions, speculative motives) and the organizational ability of financial institutions (especially banks) to attract financial sector surplus from them.

Taking the value of  $D_b$  in the denominator of the quotient, which represents the coefficient  $g$  and not the value of  $D_m$  (deposited money), or at least  $D_m$  plus savings deposits at banks, will partly reduce the expressive possibilities of this coefficient, in terms of analyzing the factors of change in the amount of money in circulation. The total deposits in commercial banks ( $D_b$ ) also include, in addition to deposited money (as a component of money supply), other non-monetary deposits – other demand deposits, termed deposits, restricted deposits, the

so-called associated assets, funds for housing and utilities building, and one non-specific amount of other liabilities of banks. However, some of these non-monetary deposits, primarily restricted deposits, are primarily determined by the appropriate monetary policy measures. Restricted deposits are a special category of demand deposits, which can be used only for some specific objectives or after the expiration of a certain period, in accordance with the legislation under which they were formed. Why is the value of  $D_b$  used after all? This was done in an effort not to burden the expression of monetary multiplier with large number of coefficients, as it already contains a relatively large number of coefficients. Expressing the coefficient  $g$  through the values of  $G$  and  $D_m$ , for example, would require increasing the total number of parameters within the money multiplier  $m$ , which would not only further complicate deriving its value (in the technical sense) but it would be even more difficult to analyze this multiplier (viewed from the standpoint of available econometric methods).

The behavior of the sector of business organizations is represented as a coefficient  $d_m$  ( $D_m/D$ ), where  $D_m$  represents the deposit money, the largest share of which is in the hands of corporations. Demand for deposited money for these economic entities has the characteristics of transactional demand for money.  $D$  marks the total deposits with monetary institutions - the Central Banks and commercial banks. The division into two coefficients  $g$  and  $d_m$ , for the two main non-banking sectors, corresponds to the institutional system according to which the largest amount of cash is in the hands of the population and the companies hold the largest amount of deposits.

## **BANKS CREDIT POTENTIAL AND CREDIT MULTIPLIER**

Credit potential of a bank means the maximum amount of bank investments in terms of rational liquidity policy. Therefore, we can talk about the bank credit potential in the net and gross amount. In the net sense, the credit potential means the maximum amount of investments at a certain point. In the gross sense, it means the maximum amount of new investments in a given period. Credit potential of banks depends primarily from:

- The amount of collected funds;
- Term structure and stability of collected funds;
- Necessary amount of non-invested funds to ensure the bank liquidity; and
- The credit potential of the bank in the gross sense (the amount of new loans) depends on the maturity structure and the collectibility of existing investments.

The amount of the collected assets is determined, on the one hand, by the savings and financial savings of non-monetary entities, and on the other hand, by the possibility of investments of financial savings in financial forms issued by non-bank entities (state firms), which is contributed to by the development of the financial market. In circumstances of underdeveloped financial market, most of the financial savings of non-monetary entities is aimed at banks. However, on the relatively low level of economic development, it is necessary to consider the relatively low financial savings, which acts in contradiction to the credit potential of banks. Since then, in the countries with less differentiated financial structure, the credit potential of banks is relatively higher than in developed economies.

Regarding the term structure and stability of the collected funds, for most of them are significant conditions of depositing with banks. It is logical to expect a greater preference of the investors to the liquid (short-term or non-termed) deposits. However, the policy of incentives for longer-term deposits can significantly alter the behavior of investors (higher interest rates, ability to raise deposits if necessary, special advantages in terms of obtaining loans, etc.). It is normal for banks to stimulate termed investment, with longer terms, because it allows for a higher credit potential and long-term investments: firstly, as a result, they may invest most of the funds collected (less holding liquidity reserves); secondly, the long term stability of the deposit allows investments with a longer terms, without the risk of insolvency.

The amount of bank funds not invested and their holding in liquid form on the bank business accounts with the Central Bank depends on several factors:

- The maturity structure of bank assets and stability of the behavior of investors, especially in possible emergency economic conditions, in terms of holding-withdrawal of the deposits with the banks;
- Additional sources of liquid assets, in case of emergency, that banks can use to improve their liquidity; and
- The liquidity structure of bank investments and the possibility of their rapid reduction in the event of

emergency needs (the maturity structure of investments).

In general, the credit potential of banks depends on two groups of factors: the inflows or outflows of banking assets and the credit multiplier, but also on their schedule. The monetary multiplier reflects various combinations of the credit multiplier ( $m_k$ ), non-monetary spillover multiplier ( $m_n$ ), and multiplier of foreign currency transactions ( $m_p$ ). Therefore, the size of the credit multiplier cannot be directly linked with the size of the monetary multiplier: in case of a higher (or increased) credit multiplier, a lesser (or decreased) monetary multiplier can exist, depending on the movement of the other two multipliers.

As for the numerical value of credit multipliers, generally the same remarks as with the monetary multiplier apply. With credit multiplier, minor deviations below one can be logically assumed, especially below zero (negative values). In fact, the possible influence is excluded, in that direction, coming from the side of the overflow of money into non-monetary instruments of monetary institutions ( $N$ ), as well as the influence of foreign assets and liabilities of these institutions ( $F$ ). It is present with the monetary multiplier, but not in the credit multiplier. However, on the other hand, greater variations of credit multiplier than the monetary multiplier can be assumed in their positive values and at a higher level than the level of monetary multiplier (assuming that the algebraic sum of  $F-N$  is generally negative). Infinite value of the credit multiplier in the absence of primary emissions ( $B = 0$ ) does not have any sense here either, as it does not have with monetary multipliers, either.

## MONEY MULTIPLICATION AND MONETARY POLICY

The questions about the role of institutional sectors in the monetary multiplication process and the overall process of money creation are related to the aforesaid issue of the level of efficiency of control of these processes by the Central Bank. The basic question that arises here is: how is it possible to achieve effective control of the movement of money (which is an essential task of monetary policy), if its motion is influenced by other institutional sectors having autonomous behavior in this field, both other monetary institutions and non-monetary entities? How it is possible to control oscillations in the money supply? Which strategy of monetary control should monetary policy holders accept? What immediate determinants of money supply should be the focus of the attention of the monetary policy holders in order to ensure the desired changes in the amount of money in circulation by handling them? The answers to these questions depend on the reliability of the adopted theory of money supply and the importance of the results of empirical tests of its basic assumptions in the particular circumstances of an economy.

Monetary multiplier ( $m$ ) as a variable that connects the monetary base ( $B$ ) with the monetary supply ( $M$ ), is largely presented as an endogenous variable, whose direct determinants cannot be easily and quickly managed by using the adequate instruments of monetary regulation. Holders of monetary policy are left with the control of the monetary base as a most feasible way to successfully regulate the amount of money in circulation. The monetary base is a key determinant of money supply. Hence, the strategy of monetary control, which should be adopted by the monetary policy holders, could be easily formulated as the following rule: control the monetary base in order to control the money supply changes.

Can the analysis of changes in the amount of money in circulation proceed from the assumption that the variable  $B$  is one exogenous, determined variable, determined by monetary policy measures? Such an assumption would mean that the holders of monetary policy are able to determine the amount required size of  $B$  at any moment.

In short, we can say that the above assumption is not correct if you take a statement derived strictly on the basis of such assumption. Discretionary monetary policy measures of the Central Bank are not the only factors that lead to the generation or withdrawal of reserve money, but decisions of non-banking entities and banks can also contribute to oscillations in the variable  $B$ . The amount of base money depends partly on the actions of the Central Bank (especially loans to other banks, and direct loans to customers), and partly on endogenous factors - foreign exchange transactions with foreign countries, deposits of non-banking entities - which involve a considerable uncertainty in the movement of the total amount of base money. Therefore, it would be right to start from the hypothesis that the net changes in the amount of base money ( $B$ ) are within the limits that are controlled by the holders of monetary policy.

## THE CASE OF SERBIA

Most parameters necessary for the analysis of credit potential and monetary multiplication in Serbia (with dinar RSD as the national currency) could be found among the following inflation determinants, presented in the Inflation Report (February 2011: 11–31) of the National Bank of Serbia (NBS) for the last quarter of the year 2010:

- **Money market interest rates.** They mirrored the rise in the key policy rate and deposit rates, particularly after the implementation of incentives offered by banks during the November “Savings Week”, while lending rates picked up slightly. Banking sector liquidity improved in response to a reduction in dinar required reserves, banks’ waning interest in repos, and seasonal, end-of-year growth in excess reserves, which gave the boost to the overnight interbank rate. A hefty rise in effective rates on T-bills continued from the previous quarter and a hike in up to 6-month rates may be correlated with the large issue of short-term bills coming up to almost 80% of total bills issued.

- **Monetary aggregates.** As reserve money declined through the foreign exchange channel by 1.4% in real terms, dinar transactions prompted its issue. Net FX reserves exceeded the threshold set by the IMF program by EUR 940 mln. A reduction in bank investment in repo securities was the key generator of dinar liquidity. The government ended the year with rising balances in accounts with the NBS, which dampened the growth in reserve money. In real terms, M1 and M3 gained 1.5% and 1.4% in the fourth quarter respectively, while M2 lost 1%. During the year, money supply rose at a slower pace than prices, inducing by the year-end a real drop of 11.1% and 14.9% year-on-year in M1 and M2, while M3 was up just 2.4% year-on-year in real terms, remaining below its long-term trend. Higher household FX savings were the main factor behind rising FX deposits. To encourage saving in dinars, the NBS offered a reduction in dinar reserve requirements, but dinar household savings recorded no major increase and FX savings prevailed as the favorite option among Serbian citizens. Relative to the third quarter, *monetary multiplier stayed unchanged as reserve money and dinar deposits increased proportionally*. The velocity of money remained comparable to the previous quarter levels. Throughout 2010, the velocity of money moved above the 2009 values, confirming the incipient recovery of economic activity. Bank lending to non-governmental sectors (mostly to the corporate sector) continued to provide the strongest impetus to M3 growth (5.9%). Growth in net government borrowing, both via FX borrowing from domestic banks and the issue of T-bills pushed M3 up by 1.8 percent.

- **Bank lending.** Banks stepped up their lending, particularly to the corporate sector. Quarter-on-quarter, corporate lending rose 6.5% in real terms, while household lending gained 1.6% and, due to a faster pace of lending – relative to end-2009, total lending increased by a real 16.2%. Among domestic sources of funding, the largest contribution to quarterly growth in lending came from the growth in savings (3%), especially growth in household FX deposits in November in response to attractive rates traditionally offered by banks to mark the Savings Week. Banks reduced their holdings with the NBS (1.2% contribution), mainly at the expense of investment in repos. The rise in net foreign borrowing contributed 2.7% to overall lending activity. The loans in greatest demand were those for liquidity and investment purposes. Investment loans stepped up from the third quarter, but remained second to liquidity loans, which shows maintaining liquidity continues to be one of the main difficulties for Serbian economy. Firms continued reducing their foreign financial debt, net trade loans declined, household lending eased, and growth in housing loans proceeded, while the use of consumer and cash loans and current account overdrafts decreased.

- **Foreign exchange market movements.** Relative to the third quarter, dinar depreciated 1.3% on average against the euro. Depreciation pressures reflected an increased corporate demand for foreign exchange, increase in the key policy rate, an upgrade in the outlook of the country’s credit rating, the fall in risk premium measured by EMBI (*Emerging Markets Bond Index*), and new reserve requirement policy. To ease excessive daily volatility of the exchange rate, the NBS intervened by buying foreign exchange from banks on several occasions. By contrast to the first three quarters, net foreign capital inflow was somewhat higher than the current account deficit, which reflected on movements in the IFEM. As the current account deficit was relatively low thanks to increased remittances, capital inflow was sufficient for its financing and for giving a boost to the NBS foreign exchange reserves.

- **Capital market trends.** Substantial growth in trading in the domestic capital market was reinforced by a pick-up in stock exchange indices. Higher returns on the government bonds weighed down on market capitalization.

- **Aggregate demand.** In terms of impact on GDP outturn, the decline in domestic demand, reflecting lower capital investment and government spending (due to the fall of labor costs in public sector), outweighed the

positive impact of increased net exports and foreign demand. The drop in real household income, mainly in real wages, weakened household spending, domestic consumption, and retail trade turnover. Achieving their pre-crisis level for the first time, exports outpaced imports, exerting a positive impact on overall economic activity.

- **Economic activity.** Following certain growth in previous quarters, it contracted and negative output gap widened. The fall in GDP was mainly due to a contraction in manufacturing, as industrial output recorded a decline.

In the Table 1 below, main monetary aggregates in the Republic of Serbia are presented for 12-years period from 1999 to 2010, with values in millions of dinars at the end of period i.e. at the end of each year from this period.

**Table 1: Main Monetary Aggregates in the Republic of Serbia, 1999-2010** (in millions of dinars, end of period)

Year	Currency in circulation	Bank dinar reserves with NBS	Dinar reserve money	Total reserve money	Demand deposits	Time dinar deposits	M1	M2	M3	Foreign exchange reserves of NBS (EUR m)	Foreign exchange reserves of commercial banks (EUR m)
	1	2	3	4	5	6	7	8	9	10	11
1999	6,707	1,989	8,696	11,971	8,072	3,897	14,779	18,676	24,946		
2000	10,933	7,931	19,013	34,026	16,093	5,868	27,026	32,894	65,204		
2001	25,266	16,256	41,643	58,052	32,967	9,864	58,233	68,097	125,414		
2002	43,719	25,732	69,543	101,908	50,096	17,081	93,815	110,896	191,491	2,186	678
2003	42,979	27,947	72,267	115,430	56,324	25,591	99,303	124,894	244,731	2,836	669
2004	45,165	32,092	82,383	147,948	66,093	34,951	111,258	146,209	322,876	3,104	595
2005	53,650	40,703	100,341	247,808	91,299	47,231	144,949	192,180	458,870	4,922	547
2006	68,461	65,463	143,409	396,972	131,629	78,876	200,090	278,966	634,470	9,020	518
2007	77,000	82,076	169,020	439,172	171,873	141,612	248,873	390,485	903,871	9,634	1,222
2008	90,075	218,857	319,781	514,125	150,669	154,281	240,744	395,025	992,151	8,162	920
2009	95,519	151,030	254,268	533,776	162,908	178,341	258,427	436,768	1,205,570	10,602	1,425
2010	91,750	87,412	188,161	537,338	161,536	157,209	253,286	410,495	1,360,777	10,002	1,684

Source: [http://www.nbs.rs/static/nbs\\_site/gen/latinica/90/statisticki/SBMS01.xls](http://www.nbs.rs/static/nbs_site/gen/latinica/90/statisticki/SBMS01.xls), NBS, retrieved April 27, 2011

The **stability of money demand** indicates the effectiveness of monetary policy and growth of a particular economy. The increasing money demand generally shows a country's improved economic situation, as opposed to the falling one, being usually a sign of deteriorating economy, because the rising money demand brings about the increase in production and/or causes the rate of money circulation to decline, while the falling money demand is the result of the contracted output in real terms. The growing production relates to the long-term aspect of money demand or the need for money (transaction demand), as the increased issue of money which is consistent with price stability may solely be achieved in the long run if it follows the growth of output. In the short term, a decreasing rate of money circulation may cause money demand to rise irrespective of the movements in real production. However, the ongoing increase in money supply regardless of the trends in production leads to the stronger inflationary pressures.

The rising discount rate and required reserve ratio result in increased interest rates, which in turn cause money demand to decline. Money demand affects economic activity and exchange rate stability thereby creating the background for applying a transmission mechanism bringing the objectives in line with the instruments of monetary policy, used by the central bank to influence money demand, mainly indirectly pursuing its monetary policy. Money demand as money in real terms i.e. money supply deflated by general price level (retail price index or GDP deflator) is (positively correlated) function of the overall economic activity (presented e.g. by the industrial production index, as earnings increase in parallel to its growth, causing the rising number and volume of transactions and a more pronounced need to hold money) and (negatively correlated) to the set of variables reflecting the opportunity cost of holding money (the higher need to hold money, the higher opportunity cost), typically measured by the deposit interest rate which might be earned (own rate of money), inflation expectations, and fluctuations in exchange rate.

The results of the empirical analysis of the stability of money demand in Serbia and factors influencing it, based on well-specified both long- and short-term models, proved that money demand in the entire observed period showed signs of instability, which points to the sensitivity of Serbia's economy to external shocks. In practice, the relation between money supply and inflation rate proves much more complex than the results of simplified model analysis suggest. Applying the Johansen's procedure and error-correction model pointed to the strong cointegration between the real money, overall economic activity, inflation, and interest rates. The long-term earning elasticity is close to one and the opportunity cost variables have expected designations. The short-term model shows that the money demand is still mostly affected by the expected inflation, which is only normal for this stage of transition.

This analysis also showed that the interest rate payable on short-term highly liquid transaction deposits, as the instrument of monetary policy, has not yet had a significant role in Serbian circumstances. The significance attached to the exchange rate variable in the short-term proves high level of euroization of both balance sheet assets and liabilities. To a certain extent, the above facts cause the instruments of monetary policy to be less efficient.

One of the reasons for an unstable money demand function is the dynamic nature of changes in the Serbian financial system in the last several years. During the transition period newly introduced institutions and banking products have brought about changes in the payment instruments and savings drive, all pointing to the conclusion that the money demand could not be seen as a fully predictable and that the central bank could not determine the money supply rate comparable to the prices stability. Nevertheless, access to timely information, as well as application of modern methods of analysis could greatly aid the central bank in enhancing its assessments and monitoring the reaction of the economy and citizens to its monetary policy measures. (Maravić, Palić, 2005).

## REFERENCES

Inflation Report, National Bank of Serbia, February 2011, Retrieved April 28, 2011, from [http://www.nbs.rs/export/sites/default/internet/english/90/90\\_5/inflation\\_report\\_february\\_2011.pdf](http://www.nbs.rs/export/sites/default/internet/english/90/90_5/inflation_report_february_2011.pdf).

Maravić, J., Palić, M., *Econometric Analysis of Money Demand in Serbia*, Belgrade: National Bank of Serbia, Research Department, April 2005. Retrieved April 30, 2011, from [http://www.nbs.rs/export/internet/english/90/90\\_0/econometric\\_analysis\\_of\\_money\\_demand\\_in\\_serbia.pdf](http://www.nbs.rs/export/internet/english/90/90_0/econometric_analysis_of_money_demand_in_serbia.pdf).

[http://www.nbs.rs/static/nbs\\_site/gen/latinica/90/statisticki/SBMS01.xls](http://www.nbs.rs/static/nbs_site/gen/latinica/90/statisticki/SBMS01.xls), NBS. Retrieved April 27, 2011.

# FOREIGN DIRECT INVESTMENTS AND INCENTIVES FOR THEM: THE CASE OF SERBIA

**Aleksandar Ivanović**

**Alexander College of Arts, Business & Management, Serbia  
Leonora Fuxman, St. John's University, USA**

## ABSTRACT

*The Republic of Serbia, as an internationally recognized leader in business reforms, as well as a proven investment location in the South–Eastern Europe, has attracted over US\$ 20 billion of inward foreign direct investment in the last decade. It offers highly capable intellectual capital and customs free access to the 15% of the world market with over billion consumers. It has a favorable geographical position and represents an excellent logistics base, with modern telecommunications and transportation infrastructure and competitive transport and utility fees as well as other overhead costs. Attractive tax regime, conducive to doing business, includes a competitive standard VAT rate, a number of various tax incentives, and the corporate income tax of 10%, being the second lowest in Europe. Financial incentives mean considerable non–refundable state grants and other financial support offered by the Government for new foreign investment projects in Serbia.*

## FOREIGN DIRECT INVESTMENTS TO SERBIA IN FIGURES

### Foreign Direct Investments (FDI) to Serbia until the Year 2000

Foreign direct investments to Serbia had been severely restricted during the years of the economic embargo in the last decade of the previous century. As soon as UN sanctions were lifted, a number of foreign investors (mostly from the neighboring countries, Russia, and Asia) expressed a considerable interest in capital investment. The main sectors attracting the largest interest of first foreign investors were metal manufacturing and machinery, infrastructure improvement, agriculture and food processing, as well as chemicals and pharmaceuticals. It was highly important that foreign investors could hold majority shares in Serbian companies.

Serbia was then still a member of the two-country federation with Montenegro, called formerly Yugoslavia, and later on – Serbia and Montenegro. In 1997, foreign direct investment (FDI) inflows into Serbia and Montenegro reached US\$ 740 million, but dried up with the onset of the conflict in Kosovo. FDI inflows averaged US\$ 122.5 million in 1998 and 1999, but fell down to only US\$ 25 million in 2000 ([1]).

### Amount of FDI to Serbia since 2001 by Years, Countries, and Industries

Since major political changes in 2000 and the onset of economic reforms, Serbia has grown into one of the premier investment locations in Central and South-Eastern Europe. It has attracted over US\$ 20 billion of inward foreign direct investment in the last decade (see Figure 1).

The world-class companies and banks, such as FIAT, Telenor, Strada, US Steel, Michelin, Gazprom, Siemens, Intesa Sanpaolo, and many others top a list of leading foreign investors in Serbia. Serbia's strong FDI track record is also substantiated by internationally recognized awards for local Greenfield investors. Between 2004 and 2006, OECD awarded Greenfield projects in Serbia as the largest investments of this type in South-Eastern Europe. The first Award was presented to Ball Packaging Europe (headquartered in USA), followed by METRO Cash & Carry (Germany), and Israeli Africa-Israel Corporation – Tidhar Group for their Airport City Belgrade real estate project.

Inward FDI (\$ millions)	
2009	2,404
2008	3,363
2007	3,569
2006	5,474
2005	1,616
2004	987
2003	1,389
2002	503
2001	178
2000	52

**Figure 1: Foreign Direct Investments ([2])**

Inward FDI by Industries (2005-2009)	
Industry	Investment Value (USD million)
Financial Intermediation	5,294.4
Manufacturing	3,161.3
Transport and Telecommunications	2,681.6
Real Estate, Renting	2,060.9
Wholesale, Retail, Repairs	1,829.2
Mining and Quarrying	578.6
Construction	351.8
Hotels and Restaurants	178.8
Other Utility, Social and Personal Services	166.0
Agriculture	131.2
Public Administration and Social Insurance	95.9
Electricity, Gas and Water	13.0

**Figure 2: Foreign Direct Investments by Industry**

Regarding the FDI country structure, investors from the European Union top the list, accounting for about 70% of the total FDI influx. The leading position on the country list is held by Austria, followed by Greece, Norway, Germany, the Netherlands, and Italy, while major investor countries also include Slovenia, France, Hungary, the Russian Federation, and Luxembourg. The actual amount of the USA investment is significantly higher than the official figure as American companies invest primarily through their European affiliates. This also holds for Belgium, Denmark, Israel, and a number of other countries ([3]).

Over the past five years, service sectors have proven to be the most attractive to the international investors. Banking and Insurance recorded the largest FDI inflow of US\$ 5.3 billion. Manufacturing industries held the second position with US\$ 3.2 billion, followed by Transport and Telecommunications, Real Estate and Renting, as well as Trade (see Figure 2).

## THE LIST OF REASONS TO INVEST IN SERBIA

There are a number of reasons why foreign investors should invest in Serbia. It offers:

- most improved business environment and highly recognized investment location;
- customs duty-free access to the 15% of the world market with a billion consumers;
- unique and very competitive combination of high-quality skill-set and low-cost workforce;
- favorable geographical position, logistics base, modern telecommunications and transport infrastructure, with competitive transport and utility fees as well as other overhead costs;
- attractive tax regime, conducive to doing business, with competitive standard VAT rate, a number of tax incentives, the corporate income tax being the second lowest in Europe; and
- considerable financial incentives through non-refundable state grants and other support.

### Improved Business Environment and Recognized Investment Location

According to the Economist Intelligence Unit, “Serbia is forecasted to make the largest improvement in the business environment in the region of Eastern Europe between 2009 and 2013. Out of 16 countries included in the research, Serbia will be leading the region in terms of business reforms by a wide margin.” Pricewaterhouse Coopers ranked Serbia as the third most attractive manufacturing and the seventh most attractive services FDI destination among emerging economies. Ernst & Young recorded nearly 150 inward investment projects in Serbia in 2007, 2008, and 2009 – being the second best performance in the South Eastern Europe region.

Serbia hosted some of the largest international investors, too, including the biggest Greenfield projects in South East Europe for three consecutive years awarded by OECD:

- Ball Packaging Europe, USA, in 2004,
- Metro Cash & Carry, Germany, in 2005, and
- Airport City Belgrade, Israel, in 2006.

Belgrade, the capital of Serbia, was awarded as the City of the Future for Southern Europe in 2007 by the fDi Magazine. The selection criteria were: economic potential, transport, cost effectiveness, human resources, IT and telecommunications, quality of life, and FDI promotion. In 2008, the municipality of Indjija was ranked by the same magazine among the top 25 most attractive locations for foreign direct investment in Europe ([4]).

## Duty-Free Access to 15% of the World Market with a Billion Consumers

### *Local and Global Market*

Serbian local market, with 7.5 million people, is the second largest in South East Europe. Before the general financial and economic crisis, the average net monthly salary rose from € 194 in 2004 to € 402 in 2008, which – coupled with rapid consumer loan expansion – fueled a significant increase in local demand, particularly reflecting in a double-digit surge in retail trade turnover on an annual basis. International retail chains have opened up dozens of new stores in Belgrade and across the whole country, so that from 2004 to 2009 total retail and wholesale foreign investment reached more than € 1.6 billion. However, locating and starting a business in Serbia means much more – the opportunity of exporting to a more than one billion people market without paying any customs duties. Namely, Serbia can serve as a manufacturing hub for duty-free exports to a huge market including the European Union, the United States of America, the Russian Federation, Kazakhstan, Turkey, South East Europe, the European Free Trade Agreement members, and Belarus. This customs-free regime covers most key industrial products, with only a few exceptions and annual quotas for a limited number of goods. Upon the completion of negotiations with Egypt, the territory with duty-free access for Serbia would increase by the population of additional 77 million. This can be seen from the Figure 3 ([5]).

Serbia's Preferential Trade Agreements		
Market	Trade regime	Number of inhabitants
European Union	Preferential Trade Regime	494,070,000
United States	Generalized System of Preferences	302,558,000
Russian Federation and Kazakhstan	Free Trade Agreement	158,950,800
Southeastern Europe	Free Trade Agreement	29,990,542
Belarus	Free Trade Agreement	9,689,800
EFTA*	Free Trade Agreement	13,000,000
Turkey*	Free Trade Agreement	75,000,000
<b>Total Market Size</b>		<b>1,083,259,142</b>

\*Free Trade Agreements with Turkey and EFTA likely to take effect by the end of 2010.

**Figure 3: Serbia's Free Trade Agreements**

### *Trade Liberalization and Free Trade Agreements (FTA)*

It is very important that Serbian exports to the **European Union** market are free-of-customs according to the Stabilization and Association Agreement. Only for several food products (such as baby beef, sugar, and wine) export quantities are limited by annual quotas. On the other hand, imports from the European Union are pursued based on the Interim Trade Agreement, as part of the Stabilization and Association Agreement, providing for the progressive abolishment of import customs duties for industrial and certain agricultural products from the EU countries by 2014. This FTA is in force since February 1, 2010 ([6]).

Bilateral trade with the **United States** of America is pursued under the Generalized System of Preferences (GSP) and its benefits provide for a preferential duty-free entry for approximately 4,650 products, including most finished and semi-finished goods and selected agricultural and primary industrial products. Certain sensitive goods (e.g. most textile products, leather goods, and footwear) are not eligible for duty-free exports. The list of goods eligible for GSP treatment is reviewed and adjusted twice per year, with input from US industries, and it can be checked up on the official site of the Office of the US Trade Representative ([7]).

Serbia is the only country outside of the Commonwealth of Independent States that enjoys a Free Trade Agreement with Russia. This Free Trade Agreement, signed in August 2000, makes Serbia particularly attractive to foreign investors in the manufacturing sector. It stipulates that goods produced in Serbia, with over 50% value added in the country, are considered to be of the Serbian origin. For the need of exports to Russia, the FORM A Certificate is required as a proof of goods' Serbian origin. The only tariff charged is the customs record keeping tariff, amounting to 1% of the goods value. The list of products, excluded from the Free Trade Agreement, is revised annually. For instance, in 2009 the duty-free regime was extended to the following goods: all drugs, confectionery products, apple juice, malt beer, fresh grape wines, all soaps, wool clothing, refrigerators, freezers and all refrigerating devices, washing and drying machines, wooden upholstered seats, wooden office furniture, sleeping bags, sheets, and similar goods.

Serbia is a member of the Central European Free Trade Agreement (CEFTA) comprising of a free trade area with 29 million people, being also the region with the highest growth rate in Europe. CEFTA is the trade agreement between the following countries in **South Eastern Europe**: Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Serbia, and the United Nations Interim Administration Mission (UNMIK) in Kosovo. The Agreement, in effect as of July 2007, envisages the abolishment of customs restrictions for industrial and agricultural products in the CEE countries by 2010. In addition, it stipulates accumulation of products origin, meaning that products exported from Serbia are considered of the Serbian origin if integrated materials originate from any other CEFTA country, the European Union, Turkey or EFTA members (see below), provided that such products have undergone sufficient processing (if the value added there is greater than the value of the materials used in Serbia). For exports to CEFTA members, the EUR 1 Certificate is required as a proof of goods origin ([8]). The full version of the Agreement can be found on the official site of the Stability Pact for South Eastern Europe ([9]).

The Free Trade Agreements with Turkey, EFTA members, **Belarus, and Kazakhstan** envisage mutual abolishment of customs and non-customs duties in trade between the countries. There are only a few exceptions to the Agreement with Belarus, including sugar, alcohol, cigarettes, as well as used cars, buses, and tires.

Since September 1, 2010, trade between Serbia and **Turkey** has been regulated upon the model implemented in trade with EU ([10]). Industrial products originating in Serbia can be exported to Turkey without paying customs duties. Imports of industrial products into Serbia are generally customs-free, but for a large number of goods customs duties are to be progressively abolished over the six-year period, from 2010 to 2015. For trade in agricultural products customs duties remain in effect, with certain Most Favored Nation reductions for a number of products.

Serbian industrial products exported to EFTA member countries (Switzerland, Norway, Iceland, and Liechtenstein) are exempted from paying customs duties, except for a very limited number of goods, including fish and other marine products. Customs duties for imports of industrial products originating in EFTA states will be gradually abolished by 2014. Trade in agricultural products is regulated by separate agreements with each of **EFTA members**, providing for mutual concessions for specified products. This Agreement, in force since October 1, 2010, should enable export of Serbian products customs free to a market of 13 million people ([11]).

Serbia is also a signatory of a partial scope agreement – the Protocol on Trade Negotiations (in force since 1973) along with: Bangladesh, Brazil, Chile, Egypt, Israel, Republic of Korea, Mexico, Pakistan, Paraguay, Peru, Philippines, Tunisia, Turkey, and Uruguay ([12]).

## **Competitive Combination of Highly Qualified and Low-Cost Workforce**

The labor force in Serbia combines working efficiency with sizable labor supply, skills and high quality with low costs. Throughout years of cooperation with blue-chip companies such as Siemens, Alcatel, Fiat, and IKEA, Serbian workers have received specific know-how and adopted advanced technology applications and rigorous quality control standards. Having vast experience in both manufacturing and management, local staff requires minimum training to adopt cutting-edge technologies and assembly processes. There are also a significant number of Serbian experts, returning to the country after gaining top-quality expertise in international companies around the globe.

Highly qualified staff is widely available. Labor supply is yearly increased by approximately 75,000 high school graduates as well as 35,000 university and 2-year college graduates. Of the total number of graduates, technical universities account for approximately 30% and technical education is particularly strong, as high school students are among the best performers at world contests in natural sciences, while Serbian engineers are well known for their expertise. ScienceWatch.com, an open Web resource combining the newest Science Watch@newsletter material, data, analysis, interviews, and commentary source data drawn from Essential Science IndicatorsSM, for past two years has rated Serbia as a Rising Star in a broad spectrum of sciences ([13]).

Management education has also been accelerated by the introduction of joint graduate and post-graduate courses organized by local universities and renowned Western business schools such as the French HEC and Grenoble, British Heriot-Watt and Sheffield University, and Californian Lincoln University. International as well as local headhunting agencies operate in major Serbian cities, offering a full range of consulting services, including executive search, staff training, and salary surveys. In addition, Serbia boasts the highest English speaking proficiency in Eastern Europe. Finally, international elementary and high schools are widely available in Serbia, offering curricula in English, German, French, and Russian.

Average salaries in Serbia are low enough to ensure cost-effective operating. Total costs for employers stand at merely 50% of the level in EU countries from Eastern Europe. Social insurance and Salary Tax amount to roughly 65% of the net salary but the tax burden for employers can be reduced through a variety of financial and tax incentives available.

## Favorable Logistics Base, Transport Infrastructure and Utility Fees

### *Transportation Infrastructure*

Serbia as a logistics base is almost perfect location for a company to efficiently serve its customers from the EU, South Eastern Europe or Middle East. It borders the EU, at the Hungarian, Bulgarian, and Romanian state lines, although offering the benefits of operating outside the EU, while being able to provide services and goods transport in projected and flexible time frames. Owing to its position on the geographic borderline between the East and West, Serbia is often referred to as a gateway of Europe. Two important European corridors, No. VII – the River Danube and No. X – the international highway and railroad, intersect on the Serbian territory providing excellent transportation connections with Western Europe and the Middle East. The summary of its transportation infrastructure can be seen in Figure 4 below.

By using well-developed road connections, a shipment from Serbia can reach even the remotest parts of Europe in less than 72 hours. Goods can move rapidly cross-country, too. The road network features 498 km of toll motorways and 136 km of toll semi-motorways. By the end of 2012, a total of €2.9 billion will be invested in the construction of the six major highways.

Main railway lines account for 50%, 35% of the network is electrified (in particular main lines), while 7% of the lines are double-tracked. The main lines are designed for freight trains of 1,000–1,200 t and 120 axles, i.e. train lengths of 600 m plus locomotive as well as passenger trains of 600 t, and for a maximum speed of 120 km/h except for the Belgrade – Bar (80–100 km/h), Niš – Preševo, and Niš – Dimitrovgrad lines. However, the present permissible train speeds are below the designed speeds on most lines and line sections – e.g. the average permissible speed on the Corridor X lines is limited to 82 km/h. The major part of the main lines are of the class D4, i.e. permitting an axle load of 22.5 t and 8 tons/m, which applies generally in Western Europe. The government plans modernization and reconstruction of the railway lines on the Corridor X in order to increase the average speed, along with electrification and construction of the double-gauge railway tracks on certain sections. The total amount of investment funds is estimated at around €1.7 billion.

Serbia offers also an outstanding potential for river transportation. A highly cost-effective way of transport can be pursued on three rivers, giving a total of 959 km of safe navigable routes. The international River Danube, in the length of 588 km, can be used throughout the year, while artificial canals Rhine–Main–Danube, allowing barge traffic between the North Sea and the Black Sea, and the canal Danube–Tisa–Danube in Serbia create a network of routes providing access to all Danube basin countries. The Danube River features a total of 12 ports: Apatin, Bačka Palanka, Belgrade, Bogojevo, Kovin, Novi Sad, Pančevo, Prahovo, Šabac, Senta, Smederevo, and Sremska Mitrovica. The Sava River links the following countries in the region: Slovenia, Croatia, Bosnia and Herzegovina, and Serbia, and is in the process of gaining the status of the International Navigable Route.

Transportation Infrastructure	
Length of road network	40,485 km
Length of railway network	3,809 km
Length of navigable routes	959 km
Number of river ports	12
Number of international airports	2

Source: Ministry of Infrastructure

**Figure 4: Transportation Infrastructure**

Telecommunications Infrastructure	
Fixed telephony penetration rate	42%
Fixed telephony digitalization level	97%
Number of fixed telephony providers	3
Mobile telephony penetration rate	130%
Number of mobile telephony providers	3
Internet penetration rate	22%
Number of Internet service providers	>200

**Figure 5: Telecommunications Infrastructure**

Serbia can be reached by air using one of two available international airports – in Belgrade and Niš. There is a Civil Airport Bor and 16 sports airports, too. Transport by air to and from Belgrade is possible to almost every destination in the world, directly or by layover ([14]).

## Telecommunications: Fixed and Mobile Telephony and Internet

Serbia has a good voice telephony access and a strong Internet penetration rate (see Figure 5). Telekom Srbija (49% owned by the Serbian Government) is the major provider of fixed telephony services. Telenor (owned by the Norway's Telecommunications Group) obtained the second fixed telephony license in January 2010, while local company Orion Telekom recently became the third fixed telephony operator. The cost of basic telephone services is very competitive relative to that of most countries in the region. There are also more than 40 VoIP operators in Serbia, providing low-cost solutions for making international calls.

Mobile phone networks are widespread, covering 90% of the country geographically. There are three mobile telephony service providers: Telekom Srbija, Telenor, and VIP Mobilkom (the subsidiary of Austrian Mobilkom). The three operators support second and third generation mobile networks, while mobile phone operators in Serbia boast the lowest prices for domestic calls as compared to other European countries.

There are various types of Internet access possibilities through the usage of different new technologies, such as CDMA, HSPDA, and IPTV. The usage of frequency bands on 2.4GHz and 5.8 GHz in Serbia is free-of-charge. With more than 1.7 million Internet users, the country has a penetration rate of around 22% ([15]).

## Utility Fees

The 100% state-owned Electric Power Industry of Serbia is the sole electricity supplier now. The electricity price varies according to the consumption category and daily tariff rate, ranging between €0.0112 and €0.0487/kWh. As a natural gas supplier in Serbia, the state-owned company Srbijagas pursues its pricing policy in accordance with world prices of oil derivatives and the US dollar exchange rate fluctuations. The price of natural gas is set every 15 days, currently standing at €0.3057/m<sup>3</sup> (see Figure 6 for distribution of major utility fees in 2010). The waterworks in Serbia are operated at the municipality level with water prices set by local authorities ([16]).

Major Utility Fees ( March 2010)	
Item	Amount
High Voltage Electricity for Industrial Consumers (€/KWh)	0.0112-0.0336
Middle Voltage Electricity for Industrial Consumers (€/KWh)	0.0123-0.0369
Low Voltage Electricity for Industrial Consumers (€/KWh)	0.0162-0.0487
Gas for Industrial Consumers (€/m <sup>3</sup> )	0.3057
Water for Industrial Consumers (€/m <sup>3</sup> )	1.2800

1 Based on a sample of 22 municipalities  
Source: Electric Power Industry of Serbia, Srbijagas, Statistical Office of the Republic of Serbia

Figure 6: Major Utility Fees

## Corporate Tax Policy and Tax Incentives Attractive for Foreign Investors

The summary of favorable tax environment in Serbia is represented in Figure 7 below. The **Value Added Tax** (VAT) rates are as follows: the standard VAT rate – 18% (for most taxable supplies) and the lower VAT rate – 8% (for basic food stuffs, daily newspapers, utilities, etc.). The standard VAT rate is lower compared to most other countries in the region and among the most competitive in Central and (South) Eastern Europe (Figure 8).

Principal Tax Rates in the Country	
VAT	Standard rate – 18% Lower rate – 8%
Corporate Profit Tax	Flat rate – 10%
Withholding Tax	20% (for dividends, shares in profits, royalties, interest income, capital gains, lease payments for real estate and other assets)
Personal Income Tax	Salaries – 12% Other income – 10%
Annual Income Tax	10/15% (for annual income below or above 8 average annual salaries)
National Insurance Contributions	Pension and disability insurance – 11% Health insurance – 6.15% Unemployment insurance – 0.75%
Property Tax	Progressive rates ranging from 0.4% to 3%, plus a fixed amount

Figure 7: Principal Tax Rates in Serbia



Figure 8: Comparison of Standard VAT Rates

*VAT Exemptions in Free Zones* – Income generated through commercial activities in the Free Zones in Serbia is exempted from VAT. There are six Free Zones, currently operating in the country: Subotica, Novi Sad, Zrenjanin, Šabac, Kragujevac, and Pirot. Three more zones are being prepared in Niš, Smederevo, and Užice. Foreign companies can establish a privately owned Free Zone based on the project approved by the government.

**Corporate Income Tax**, paid at the uniform rate of 10%, is the second lowest in Europe and much lower than in other countries in the region, as it can be seen from Figure 9 ([15]). Non-residents are taxed only based on their income generated in Serbia. The investors can use various *tax incentives*:

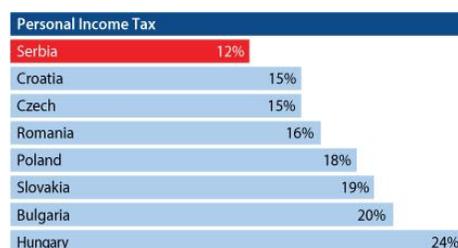
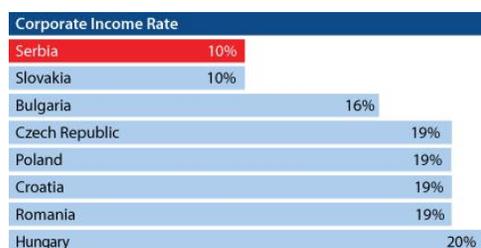
*Corporate Income Tax Holiday* – Companies are exempt from Corporate Income Tax for a period of ten years starting from the first year in which they report a taxable profit if they invest in fixed assets an amount exceeding approximately €8 million, or if throughout the investment period they employ at least 100 additional employees.

*Corporate Income Tax Credits* – The amount of tax payable can be reduced by 20% or by 80% of the amount invested in fixed assets for the respective tax period. This reduction cannot exceed 50% of the total tax liability for a single year. If not used entirely in the course of one year, this tax credit can be carried forward for a maximum period of five years.

*Corporate Income Tax Holiday for Concessions* – A five-year tax holiday is granted for the concession-related investments, from the day it has been completed. No corporate income tax is due if income is derived before the completion of the concession investment.

*Carrying Forward of Losses* – The tax loss stated in the tax return report can be carried forward and offset against future profits over a period of up to five years.

*Avoiding Double Taxation* – If a taxpayer already paid tax on the profit generated abroad, he is entitled to a Corporate Income Tax credit in Serbia to that already paid amount. The same right is enjoyed by a taxpayer who earns revenue and pays Personal Income Tax in another country, provided there is a Double Taxation Treaty with that country.



**Figure 9: Comparison of Corporate Income Tax Rates**    **Figure 10: Personal Income Tax Rates Compared**

**Withholding Tax** is not applied to dividend payments between Serbian entities. For non-residents of Serbia, a 20% withholding tax is calculated and paid on certain payments such as dividends, shares in profit, royalties, interest, capital gains, lease payments for real estate and other assets.

The **Personal Income Tax** rate is 12% for salaries, which is much lower than in the region (Figure 10).

The **Annual Income Tax** is taxed for non-Serbian citizens if their annual salary exceeds the amount of threefold the average annual salary in Serbia. The tax rate is 10% for the annual income below the amount of six times average annual salary in Serbia, and 15% for the annual income above the amount of six times average annual salary in Serbia. The taxable income is further reduced by 40% of an average annual salary for the taxpayer and by 15% of an average annual salary for each dependent member of the family. The total amount of deductions cannot exceed 50% of the taxable income.

The mandatory **Social Insurance Contributions** rates are: 11% for pension and disability insurance, 6.15% for health insurance, and 0.75% for unemployment insurance, calculated on the gross salary. The employer who hires certain categories of workers on a permanent basis is exempt from paying the Personal Income (Salary) Tax as well as Social Insurance Contributions over the periods of three or two years, depending on the category of workers hired:

*Other, non-tax incentives* for foreign investors include:

- *customs duty-free imports of raw materials and semi finished goods* for export oriented production, and this benefit can either be achieved by operating in one of the free zones in Serbia or by a permit from the Customs Office for outward processing production, but in both cases finished products must be 100% designated for exports;

- customs duty-free imports of equipment and machinery which represents the share of a foreign investor in the capital of a company in Serbia; and
- a wide array of *regional and local incentives*, available at the local level, varying in scope and size from one city to another – the major ones comprise the following: city construction land lease fee exemptions or deductions, including the option of paying in installments, with the prior consent of the Serbian Government; city construction land development fee relief such as fee exemptions or discounts for one-off payments; and other local fees exemptions or deductions (e.g. from the fee for displaying the company's name). Some personal exemptions are listed in Figure 11 ([17]).

3 years	For apprentices aged under 30 and registered as unemployed with the National Employment Service.
	For disabled persons.
2 years	For persons aged under 30 who have been registered as unemployed with the National Employment Service for more than 3 months.
	For persons aged 50 or older who have been registered as unemployed with the National Employment Service for more than 6 months and receive salary compensations.
	For persons aged between 45 and 50 (an 80% exemption).

**Figure 11: Exemptions from Personal Income Tax and Social Insurance Contributions**

## Significant Financial Incentives and Support for Foreign Investments

Investment incentives also include financial incentives, such as support schemes offered by the **National Employment Service**, encompassing three programs listed in Figure 12 ([18]), as well as SIEPA (Serbia Investment and Export Promotion Agency) grants, offered for Greenfield and Brownfield projects in all industries except for retail, tourism, hospitality, and agriculture. To date, 114 foreign and local companies have already been approved €47.3 million of non-refundable funds for the projects worth €635 million providing for 17,194 new jobs. This financial assistance by the Government of Serbia is shown in Figure 13 below.

For standard-scale Greenfield and Brownfield projects in the manufacturing and export-related services sectors, non-refundable state funds are offered in the range between €2,000 and €10,000 per new job created. For large investors, a special financial package is available: if a project's value exceeds €200 million, with the minimum of 1,000 new jobs created, the state may cover even 25% of the investment. Investments of over €50 million that create the minimum of 300 new jobs can be subsidized for 20% of the project's value.

				Financial Grants						
				Manufacturing and Export-Related Services		Manufacturing			Export-Related Services	
				Large-Scale Projects	Projects Realized in Devastated Regions and Regions of Special State Interest	Projects in Automotive, Electronics, IT Industries Realized in Regions of Special State Interest	Projects Realized in Other Regions	Projects Realized in Any Region		
									Grant Amount	25% of the total investment
The National Employment Service Grants				Minimum Investment Amount	€200 mn	€50 mn	€0.5 mn	€0.5 mn	€1 mn	€0.5 mn
Program	The Employment Subsidies Program	The Apprentice Program	The Re-training Program	Minimum N° of New Jobs Created	1,000	300	50	50	50	10
Grant Amount per Employee	€850-1,700	€170-210	€850							

**Figure 12: Employment Incentives**

**Figure 13: Government Grants**

For large-scale projects, the amount of non-refundable state funds is determined by the government, depending on the investment's importance, value, and term. In the case of standard-scale projects, state funds are awarded upon the scoring based on the following criteria: an investor's references, participation of domestic suppliers in the final product and the investment effect on local companies, investment sustainability, effects related to R&D, effects on human resources, environmental impact, the value of international turnover for investments in the services sector, imports substitution, effects on the development of the local community, and

municipal support related to deduction of local fees. Upon the project assessment, the funds for selected projects are paid out in four increments throughout the project's lifetime: the 1st increment – after concluding the contract for sale or lease of land; the 2nd increment – after obtaining the construction approval; the 3rd increment – after obtaining the right-to-use permit; and the 4th increment – after achieving full employment envisaged by the investment project ([19]).

One can **conclude** there are a lot of good reasons and true incentives to invest in Serbia.

## REFERENCES

- [1] [www.nationsencyclopedia.com/Europe/Serbia-and-Montenegro-FOREIGN-INVESTMENT.html](http://www.nationsencyclopedia.com/Europe/Serbia-and-Montenegro-FOREIGN-INVESTMENT.html)
- [2] [www.nbs.rs](http://www.nbs.rs)
- [3] [www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/strong\\_fdi\\_figures/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/strong_fdi_figures/)
- [4] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/why\\_serbia/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/why_serbia/)
- [5] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/liberalized\\_trade/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/liberalized_trade/)
- [6] <http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?enc=D2HYnr0G4Dhe4YcCJibOi4Yhl/9H8WeyGFU6T00Oh+s=>
- [7] [www.ustr.gov](http://www.ustr.gov)
- [8] <http://www.ceftatradeportal.com/>
- [9] [www.stabilitypact.org](http://www.stabilitypact.org)
- [10] <http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?enc=w3q9xC6VxljAgacY3nOd0GPD/1TkLIM5L37rBCS+2aQ=>
- [11] <http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?enc=EdyU9OuGnpdPTg3EXz/WP8KifIj+D1a7tzKwt1KssgM=>
- [12] <http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?enc=qOoqsxtwKtAGhWmLC54zKFqWApNLPat07zIvM5KRdXE=>
- [13] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/intellectual\\_capital/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/intellectual_capital/)
- [14] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/modern\\_infrastructure/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/modern_infrastructure/)
- [15] Ibid
- [16] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/competitive\\_taxes/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/competitive_taxes/)
- [18] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/investment\\_incentives/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/investment_incentives/)
- [19] [www.nsz.gov.rs](http://www.nsz.gov.rs)
- [20] [http://www.siepa.gov.rs/site/en/home/1/investing\\_in\\_serbia/investment\\_incentives/financial\\_incentives/](http://www.siepa.gov.rs/site/en/home/1/investing_in_serbia/investment_incentives/financial_incentives/)

# INFORMATION SOURCES AND DECISIONS FOR HOUSING PRODUCTS AND SERVICES: AN EXAMINATION IN THE EMERGING MARKET OF MONGOLIA

**Burmaa Jamiyuansuren , Ider University, Mongolia  
Dana-Nicoleta Lascu , University of Richmond, USA**

## ABSTRACT

*For over two decades, Mongolia has experienced an unprecedented economic, political, legal, and social transformation: since the demise of Communism in the 1990s, the process of transition to a market economy, privatization, reform, deregulation, and foreign direct investment have fully changed the Mongolian housing landscape, with the transformation most pronounced in Ulan Bator, the capital. This study assesses the Mongolian government's and the real estate industry's approach to providing and marketing housing for a rapidly increasing urban population in Ulan Bator, and evaluates related consumer aspirations. The study also examines the extent to which consumers seek information from various service providers and other sources in their housing search.*

## INTRODUCTION AND LITERATURE REVIEW

### Background

Housing policy is becoming an important consideration for the government of Mongolia in the process of adapting to a double-digit economic growth and the resulting population influx into the capital city in the past decade. The government and international development organizations have worked extensively, for the past six years, to improve the living conditions of the population by initiating several programs for developing the local housing market and by supporting private sector efforts through loans.

Mongolia's current growth has been unprecedented in its history. Its market economy is extremely vulnerable to volatility in global commodity prices, given the concentration of growth in mining and herding; the collapse in copper prices and the global financial crisis has deeply affected the country's economy in 2009, such that the International Monetary Fund had to step in to provide a \$224-million loan (IHS Global Insight, 2011). Today, however, Mongolia is on its way to a strong recovery. Its current economic growth is largely attributed to the construction of the Oyu Tolgoi copper and gold mine, the world's largest underdeveloped copper-gold project launched as a result of a joint investment by the Mongolian government and a British, Australian, and Canadian mining consortium, and to the herding of livestock, which represents the second largest share of domestic output, employing 30% of the labor force (IHS Global Insight, 2011).

Mongolia continues to receive substantial help from donor aid that is essential in the process of maintaining economic stability, especially as the country is often subject to severe weather conditions, which could create economic risks at any given time (IHS Global Insight, 2011). Its population is small, at 2.76 million, projected to be 2.85 in 2015 (IHS Global Insight, 2011) and its nominal GDP per capita is at \$2,546 in 2011, making it one of the world's poorest countries – ranked 166, just ahead of the West Bank; however, nominal GDP is projected to reach \$5,045 in 2015 (Gluckman 2011), placing it comfortably at the level of a middle-

income country. Mongolia's stock exchange, still the world's smallest, rose 125 percent in 2011, and conservative forecasts (by the International Monetary Fund) are for double-digit GDP growth rates, with less conservative ones predicting an overall economic output that would quadruple by 2013 (Gluckman 2011).

The Mongolian government is keeping a close watch on the country's rapid economic development, attempting to control inflation and to address negative growth outcomes. For example, the government has recently approved the Fiscal Responsibility Law, aimed to restrict rapid spending growth from mining revenues and to prevent excessive borrowing against future wealth (IHS Global Insight, 2011). It is also ensuring that the influx of new businesses and population to support these businesses are appropriately supplied with the necessary housing.

The next section addresses the builders' considerations for developing housing for the Mongolian population, their branding strategies, and their use of service providers to communicate their strategies to consumers. Following, we present a study where we address consumer aspirations and sources of information used in the process of their home purchase decision. Finally, we offer insights into strategies that the government and firms involved in housing development could use in the process of addressing the housing needs of working consumers.

## **A New Era of Consumer Spending**

In the early 1990s, Mongolia had just emerged from seven decades under the Soviet umbrella. Today, its capital city, Ulan Bator, looks very much like a Chinese boomtown, with exploding property prices, huge capital inflows, concerns about corruption, widening gaps in income disparity, and expensive automobiles (Gluckman 2011). Popular and expensive Western brands are invading the Mongolian landscape, many wooing the luxury consumer. For example, Louis Vuitton opened in the posh Central Tower in the proximity of Sukhbaatar Square; there, a glass cabinet holds a horse saddle encrusted in gems, and a crocodile purse priced at \$20,000 is within proximity of watches that are well over \$10,000 (Gluckman 2011). This is very much in contrast with Mongolia's standard of living, which is among the world's lowest – at least for now.

## **The Mongolian Housing Market**

Since the 1990s, when Mongolia transitioned from a planned economy to a market economy, the construction of new buildings has increased sharply and 3,725 families moved to new apartments in Ulan Bator (Battulga 2009). More and more individuals are moving to the city in search of better education and job prospects, and more and more need housing.

The Mongolian government currently has engaged in several projects aimed at providing solutions to the housing challenge. One such endeavor was setting up the Sustainable Development Tasks Force, and providing support for the "40,000 Family Housing Project" between 2004 and 2009; the Project helped build new apartments for families working for the government of Mongolia (Bayarsaihkan 2010).

Between the years 2000 and 2009, construction companies and private businesses have built from 680 to 8574 apartments annually (Bayarsaihkan 2010), many for investment purposes. According to the Population and Housing Census, 22.8 percent of the population owns housing units with plumbing, electricity, and separate bathrooms and kitchens; and yet, with all the construction, only 12,000 individuals have moved to these apartments, with the rest in dire need of new homes (Bayarsaihkan 2010). More than half of the total population of Mongolia lives in Ulan Bator. Here, the majority of residents live in the outskirts of the city in courtyard-type buildings known as ger or yurt, built on one level. They are comprised of 1 or 2 room houses with electricity, but with no plumbing and heating – they rely on coal for heating, which creates a high level of air pollution. It is a high priority for the Mongolian government to move the population from these court-yard-type buildings into high-rise apartments with central heating systems.

In addition to high-rise apartments, individuals who can afford it are also able to purchase single family two-story houses and townhouses. Many are able to purchase these homes and apartments with remittances from

family members working abroad – nearly one fifth of the labor force works abroad (Lee 1993) and sends remittances to facilitate the purchase of apartments or houses.

## Building the Builder Brand

When searching for an apartment, Mongolian consumers evaluate their prospective purchases on many of the same dimensions as Western buyers – prices, apartment style, neighborhood, number of rooms, and so on. The builder's reputation in particular is an important consideration. Builders are keen on finding available lots in the center of Ulan Bator, in the Tool River basin, and the Bogd Khan Mountain area, a protected park located in the Red Nature Book of Preserved Lands, a scenic area 15 miles from the center of Ulan Bator. There appears to be a hierarchy of builders, from the point of view of Mongolians, with the top-ranking construction companies from Japan, followed by Korean and then by Chinese companies.

Builders advertise their building projects on television, in weekly newspapers, and on billboards in the city center, and offer open houses to market their homes to prospective buyers. They also use real estate agencies to market new apartments, homes, and even districts. To differentiate their offerings, builders have created new communities marketed as "Japan town," "Marshal town," or "Digital town". Mongolian names often have references to traditions – for example, "Sun Rise town", "Krystal town," and "Rich Mongolian town." This is in sharp contrast to names under the socialist rule, where districts were designated using numbers, such as first, third and forty thousand neighborhood, to name a few.

In 2006, the "Japan town" district offered homes with a price of \$650 per square meter, with the kitchen installed and with built-in entertainment center furniture. Then, a competing Mongolian Construction Company followed suit to offer garages for cars to the first families who purchased. In 2009, builders also focused on creating playgrounds, sheds where the elderly could congregate, a more modern interior design, and so on. In creating these new living environments, builders largely ignored the middle class consumer. The government is keenly aware that low-income families are underserved when it comes to housing opportunities. As Table 1 indicates, prices for apartments in Ulan Bator have practically doubled in the last decade, making the purchase of an apartment a challenge for most middle-class families.

**Table 1:**  
**Number of Apartments and Prices in Ulan Bator**

Year	Number of Apartments Commissioned (by families)	Price per Square Meter (\$)
2000	978	\$300
2001	816	\$340
2002	1285	\$309
2003	2041	\$348
2004	2955	\$350
2005	2935	\$461
2006	5863	\$502
2007	4832	\$580
2008	4216	\$650
2009	4562	\$850

Source: National Statistics Committee Information, 2000-2009, *Construction Statistics for New Apartments*. Ulan Bator, Mongolia.

## METHOD

### Sampling and Procedure:

The data was collected in the capital city, Ulan Bator, using a street-intercept procedure. Fifty trained investigators were hired to collect data from the State Department Store, the Central Post Office, the South Grocery Market, the Sunday Market Department Store and the Bayunzurch Market. A total of 500 data collection instruments, written in Mongolian, were administered, and 450 were deemed as usable questionnaires. A total of 500 individuals were approached and 99.8 % agreed to complete the questionnaire; such a high response rate is explained by the fact that the respondents were keen for their opinions regarding housing to be widely known and disseminated: the present study was presented as an international survey and the respondents were informed that the aggregate responses in the study would be made known internationally, as well as locally.

## **Research Instrument/Operationalization of Variables**

The research instrument comprised of a survey questionnaire. The specific questions asked to collect the data on different operational variables and performance measures are described below. Respondents were first asked if they lived in a single-family house, an apartment, a ger or yurt with a yard, or a ger/yurt in someone else's yard. They were also asked the number of rooms in their dwelling and whether their home was in Ulaan Baatar City. Respondents had to indicate if they planned on buying a new home in the following three to five years. If so, they were asked about the number of rooms of the intended apartment and the price they were willing to pay using five categories, namely, \$250-\$500 per square meter, \$501-\$700 per square meter, \$701-\$900 per square meter, \$901-\$1,100 per square meter, or \$1,200-\$1,500\$ per square meter.

They were asked what sources of information they would likely consult for the apartment – friends, television advertisements, newspaper advertisements, street posters, or the services of a real estate firm. They were then asked to indicate the extent to which the following factors would influence their decision to buy an apartment using a 5-point semantic differential scale; the factors are: price, location, neighborhood, bank loan interest, reputation of the building company, apartment quality, construction and design of the apartment, structure and plan of the rooms, demand for apartments, and the supply of apartments. Respondents were also asked to indicate their age category, their gender, the number of family members, whether they lived in Ulan Bator, in a town in the provinces, or in the countryside. Finally, respondents had to indicate whether they worked for the state government, for a nonprofit organization, for a private employer, whether they owned their own business, if they were unemployed, or retired, or if they were students.

## **RESULTS AND DISCUSSION**

The respondents were evenly distributed with regard to age, with 137 (30.4%) under the age of 25, 165 (36.7%) between 26 and 35, 119 (26.4%) between 36 and 50, and 29 (6.4%) over the age of 51. In a relatively young country, where the average 21 and 70% of the population is under the age of 35 (www.mongoliatoday.com 2011), this distribution is deemed as appropriate. Of the total respondents, 176 (or 39.1%) are male, and 274 (or 60.9%) are female. Family size, defined as the number of family members living together, ranges between 1 and 11, with a mean of 3.86. With regard to employment, most respondents self identify as entrepreneurs or working in the private sector – see Table 2. A total of 431 respondents (95.8% of respondents) live in the capital city of Ulan Bator, with only 16 living in the provinces/village center and 3 living in the countryside.

The study attempted to identify if there were differences between respondents depending on whether their current dwelling was a single-family house, an apartment, a traditional home (ger or yurt) with a yard, or a ger or yurt in someone else's yard. We found that the type of dwelling did not significantly determine the sources of information individuals used to find housing. However, we did find that most respondents relied either on newspapers (197) or on television advertising (120) out of 442 valid respondents, rather than on friends or real estate services. Not surprisingly, real estate services are rarely used as information sources, as they constitute a new service in the market, and consumer are not used to consult them in the process of searching for housing.

**Table 2: Respondents' Employment Information**  
**Employment**

	Number	Percent
Government organization	40	8.9
Nongovernmental organization	58	12.9
Private sector	117	26.0
Entrepreneur/Business Owner	168	37.3
Unemployed	11	2.4
Retired	18	4.0
Student	38	8.4
Total	450	100.0

On the other hand, we found that one's current type of dwelling was an important determinant of the price of the apartment sought (Chi-Square=32.74,  $p < .01$ ). It also appears that price was more of a consideration for individuals living in apartments and those living in a ger/yurt in someone else's yard. Individuals living in a ger/yurt in someone else's yard have fewer financial resources than those owning a home or a ger/yurt with their own yard and thus perceived price as a more important consideration. Surprisingly, the reputation of the building company, the design and structure of the apartment, and the location were not related significantly to the type of dwelling owned.

The number of rooms one currently owned, however, appeared to be an important information variable, determining the source of information individuals consulted (Chi-Square=30.55,  $p < .05$ ). It appears that the more rooms individuals have, the more sources of information – other than friends – they are likely to consult, in particular, newspapers, television advertising, and real estate information. It is important to note that real estate services are more frequently considered for those who owned more rooms, compared to those who owned fewer rooms. Alternatively, the fewer number of rooms individuals had, the more they were likely to rely on information from friends for their housing decisions. Also, the more rooms individuals had, the less they considered price as an important variable (Chi-Square=100.33,  $p < .01$ ), and the more they considered the construction and design of the apartment (Chi-Square=47.87,  $p < .01$ ). Also, the fewer rooms one currently owned, the more important the mortgage interest charged by the banks (Chi-Square=37.86,  $p < .01$ ).

Surprisingly, there was no relationship between the number of rooms one had and the importance of the reputation of the builder. This suggests that there is, for the time being, a minimal concern with the builder brand in Mongolia. This is explained by the fact that there is substantial demand for housing and very limited supply. As such, the majority of Mongolian home purchasers are concerned with the availability of new homes, rather than with the added value that builder perception could potentially provide. As more builders compete for consumers and more building stock becomes available, the builder will increasingly become an important consideration.

## **MANAGERIAL IMPLICATIONS AND CONCLUSIONS**

The study presented herein attempted to offer insights into the housing market of Mongolia, and into the related services and sources of information. It attempted to illustrate how consumers approach information sources, related services, and decision making related to house ownership. An attempt was made to uncover the sources of information consulted in the process of purchasing a home – friends, television advertisements, newspaper advertisements, street poster, or consulting with real estate services. They were then asked to indicate the extent to which price, location, neighborhood, bank loan interest, reputation of the building company, apartment quality, construction, and the design of the apartment, the structure and plan of the rooms, the demand for apartments, and the supply of apartments influenced their decision to purchase an apartment.

The study found that the type of the current dwelling of the respondent and the number of rooms of the respective dwelling constituted important determinants of whether price was an important consideration in the consumer decision making. However, the type of dwelling that one had appeared to have only a minimal relationship to the sources an individual used for information on housing. On the other hand, the number of rooms one owned in his/her current dwelling appeared to determine the sources of information individuals consulted. That is, the more rooms individuals had in their current dwelling, the more sources of information –

other than friends – they were likely to consult. In particular, they were likely to consult newspapers, television advertising, and real estate services and information. Also, the more rooms individuals had in their current dwelling, the less they were likely to consider price as an important variable, and the more they appeared to take into consideration the construction and design of the apartment.

This finding is relevant, as buyers are more likely to pay attention to company communication in the form of television advertisements, magazine and newspaper ads, and billboards, and to publicity. These consumers are less likely to rely on price as a key decision variable. Rather, they are more likely to respond well to branding strategies that focus on company reputation and design.

An important finding of this exploratory study is that the reputation of the building company, although deemed important, did not particularly stand out as an important determinant of purchase in general. As the Mongolian market matures and consumers have more choices with regard to builders, the builder brand will clearly become an important consideration. Similarly, the respondents appeared not consider real estate services as important in their decision process. This too is an issue related to the fact that such services are relatively new in the Mongolian market and individuals have yet to learn that they provide an important service to consumers in their process of searching for a new home.

This was primarily an exploratory study of housing purchase behavior; future longitudinal studies or studies with post-hoc debriefing should attempt to capture more comprehensively the processes involved in the home purchasing decision-making process of the Mongolian consumer.

## REFERENCES

Battulga, J., “ Report of the Ministry of Roads, Transportation, Construction and Urban Development”, *Ulan Bator*, (2009).

Bayarsaihan, B., “ Report of the Apartment Finance Corporation at the Ministry of Roads, Transportation, Construction and Urban Development”, *Ulan Bator*, January, 2010.

Gluckman, Ron, “Welcome to Minegolia: How the Land of Genghis Khan Became a New Gold Rush San Francisco on the Steppe,” *Foreign Policy*, January/February, 2011.

IHS Global Insight, IHS Global Insight // Economic Forecasts, Industry Analysis, Financial Data and Consulting. Accessed on February 23, 2011.

Lee, Eddy, “Initiating Transition in a Low-Income Dualistic Economy: The Case of Mongolia,” *International Labour Review*, Vol. 132, No. 5/6, (1993): 623-638.

[www.mongoliatoday.com/info/country\\_briefs.html](http://www.mongoliatoday.com/info/country_briefs.html). Accessed on February 23, 2011.

# THE ROLE OF TECHNOLOGY POLICY IN LEVERAGING AFRICA GROWTH ACT BENEFITS TO THE COMMON MARKET OF EASTERN AND SOUTHERN AFRICAN MARKET

**Martin Kaggwa**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*To sustain benefits emanating from participation in the America's Africa Growth Act (AGOA) dispensation, the Common Market of Eastern and Southern Africa (COMESA) economies have to become competitive. However, competition policy rather than competitiveness has received more attention in regional trade discussions. This could be attributed, in part, to the assumption that an effective competition policy ultimately leads to competitiveness. Achievement of competitiveness is a complex process that cannot be achieved indirectly via a competition policy in isolation. Focussing on competitiveness brings to the fore the role of technology and nature of enabled investment in the assessment of current and future benefits of the AGOA dispensation. The pivotal role of technology in determining competitiveness is expounded and the fact that when it comes to competitiveness, investment is not homogeneous is highlighted. The paper recommends that COMESA should implement its trade policy, under which AGOA falls, in tandem with a technology policy. Otherwise benefits emanating from AGOA will be limited and short lived.*

## INTRODUCTION

Benefits from trade to a country's or regional economy are not contested. Nonetheless, for trade to effectively contribute to regional economic growth, it has to be sustained over a long period of time. Discretionary and time-bound interventions such as the Africa Growth Act (AGOA) can play an important role in triggering external trade, but they neither guarantee sustainability nor growth in the enabled trade. Sustainability and growth of trade depends largely on competitiveness, irrespective of preferential trade arrangement in place. Regional economies need to take deliberate steps to achieve global competitiveness within the period they are receiving preferential trade treatment. Competitiveness need not be sought in everything, but in niche products in which a region has dynamic advantage. The preferential treatment period should be used to test the quality of such products and acceptability in the developed country markets.

The Common Market of Eastern and South African market (COMESA) is one of the many regional groupings that are beneficiaries of AGOA. Under AGOA, beneficiary countries and regions are allowed to export products to the USA market duty free with few exceptions. Specific to the COMESA, there is debate on how to increase regional benefits emanating from participation in the AGOA dispensation and on how to sustain such benefits when the dispensation ends. The region recognises the need to achieve international competitiveness in its vision statement. However, competition policy rather than competitiveness has been the major focus of discussions. This could be attributed, in part, to the implicit assumption that competition policy ultimately lead to competitive markets, which in turn result into regional competitiveness (Nankunda, 2011). Although related, competitiveness and competition policy are different. Competitiveness looks at the process through which economic actors within a country or a region attain capabilities to produce goods and services that meet global standards at relatively lower prices. Competition policy on the other hand focuses on ensuring competition in domestic markets and the realisation of benefits of competitive markets for domestic consumers

and the economy as a whole. Achievement of competitiveness is a complex process that cannot be achieved indirectly via a competition policy in isolation.

In his State of Union address of January 2011, President Obama highlighted the importance of competitiveness in America's quest to overcome its economic challenges and to remain the world economic leader. He stressed that America had to acquire capacity to out-compete other countries in innovative ideas and entrepreneurship. Irrespective of America's noble intentions to support economic growth in the other regions of the world through interventions like AGOA, improving its own competitiveness has been set as its top priority.

If one party to AGOA dispensation has made competitiveness its priority it makes logical sense that the other parties involved, enhance their own efforts to achieve global competitiveness. For regional groupings in Africa like the COMESA to become active participants in global trade, they need to graduate from 'improvised competitiveness' to being globally competitiveness in their own right. Trade dispensations like AGOA should be used to support individual countries and regions to attain global competitiveness. There is a need to refocus on regional competitiveness and clearly articulate on how it relates to trade policy. What it means to be competitive? What does it take to be competitive? Can one look at trade policy in isolation of competitiveness? These are some the questions that need to be answered in COMESA's quest to get the best of AGOA.

## **COMPETITIVENESS, TECHNOLOGY AND TRADE**

Competitiveness refers to the ability of firms or industries within a country or region to increase in size, market share and profitability. It is the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining and expanding the real income of citizens (Clark and Guy, 2000). This definition takes cognisance of the welfare effects of increased productive activities as a region captures bigger market shares. Some other authors have linked the definition of competitiveness with an increase in per capita income and employment (Oughton, 1997). They argue that competitiveness is a product of increased productivity. To achieve it, output per each factor of production, including labour has to increase. Assuming perfect market conditions or at least market conditions that support a positive correlation between reward for factor inputs and productivity, wage rates payable will increase with productivity. Competitiveness will therefore lead to an increase in Gross Domestic Product (GDP) per capita and overall improvement in national welfare.

One cannot, however, talk about competitiveness without technology. Technology is a key determinant of production efficiency and subsequently for competitiveness. Technological advances, innovation and competitive advantage are connected in multidimensional relationships (Lengnick-Hall, 1992). Competitiveness depends on average production costs. Production costs are a function of price and non-price factors, some of which are the ability to adopt and use new technologies. Sustainable competitiveness depends on the ability of a region or production units within a region to offer comparative products to its competitors at lower prices on an open market. It requires that a region or industry is able to lower its production costs without sacrificing quality. Technology innovation offers one of the most practical ways to reduce production costs while at the same time maintaining or even increasing product quality.

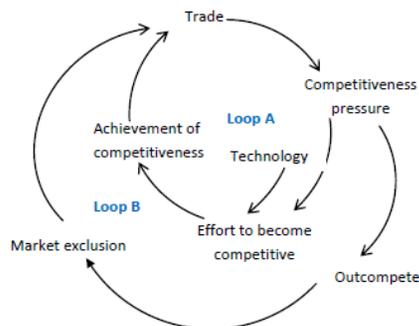
Technology determines the actual value of the physical resource endowment (Stumpf and Vermaak, 1996). Through its value adding, technology augments the value of regional resource base and enhances its competitiveness, holding other factors constant. Therefore, there is general agreement that countries seeking to enhance their international competitiveness, have to engage in domestic R&D and subsequent innovative activities (Wint 1998).

Based on the Chinese experience, Fan (2006) contends that development of innovative capability and self-developed technology are the key factors leading to domestic firms catching up with multinational corporations. She emphasises that domestic firms need to prioritise building innovative capabilities from the beginning in order to withstand competitive pressure from multinational companies as well as other domestic companies.

Ultimately, competitiveness, technology and trade are intertwined. Without competitiveness, trade cannot be sustained, and without technology, long run competitiveness is unlikely. Trade is an implicit indicator of competitiveness, while technological progress is subtle indicator of progress toward competitiveness.

Without technical ability, competitiveness pressure is likely to lead to outcompeting of domestic firms; ultimately overall reduction in their participation in international trade (Figure 1-Loop B). Advocates of competition policy tend to focus on how trade leads to competitiveness pressure in the local market, motivating efforts to achieve competitiveness, and subsequently increase in trade (Figure 1- Loop A). They however, overlook the role of technology, if the sequence captured by Loop A is to be realised.

Figure 1: Trade and competitiveness causal loop map



Trade performance data indicates that most of the COMESA countries have been experiencing increasing trade deficit despite the AGOA dispensation implying that there has been limited progress towards global competitiveness in the region at least in the short run. A part from the DR Congo, which is a mineral rich country, trade balance has been consistently deteriorating among COMESA countries since 2000 (Table 1).

Table 1: Trade balance for selected COMESA countries 2000-2008  
(Million US dollars)

Country/Year	2000	2005	2006	2007	2008
Burundi		-11.9	-15.3	-15.5	-21.6
Comoros		-21.0	-22.2	-24.7	-32.1
D R Congo	13.9	14.3	17.5	12.6	13.8
Djibouti	-31.6	-33.6	-36.5	-48.9	-51.9
Ethiopia	-1.7	-22.7	-23.7	-20.2	-19.8
Kenya	-10.0	-11.4	-14.5	-15.7	-18.6
Madagascar	0.0	-11.7	-9.7	-13.6	-19.8
Rwanda	-9.2	-9.2	-9.6	-8.4	-9.2
Tanzania	-6.9	-9.3	-13.6	-15.7	-16.7
Uganda	-7.4	-7.3	-9.3	-6.4	-8.1

Source: African Statistical Year Book 2010

## COMPETITIVENESS AND INVESTMENT

When it comes to competitiveness, investment is not homogenous. It is the investment in R&D and innovation related activities, rather machinery and equipment, which has a greater likelihood to lead to competitiveness. Research and development can be broadly defined as a formal improvement-driven undertaking to discover new knowledge about products, processes and services. It comprises of the bulk of creative systematic activities undertaken to increase a stock of knowledge and the subsequent use of this knowledge to devise new application (Frankema and Lindblad, 2006). In the 21 century, knowledge-based economies are most progressive and competitive.

Investment R&D has a powerful positive correlation with industrial profitability, product quality, return to investment, hence overall competitiveness (Merrifield, 1989). Activities related to R&D generate knowledge, which is a factor of production, as such an indirect input in the neo-classical production function (Özçelik and Taymaz, 2004).

The current conventional thinking is that the link between R&D and competitiveness is via its effect on technological development and subsequent innovation. Innovation, technological advances and country competitive advantage happen to be connected by complex multidimensional relationships (Lengnick-Hall, 1992). The logic applied here is that competitiveness depends on average production costs. Production costs are a function of price and non-price factors, some of which are R&D capabilities and the ability to adopt and use new technologies. Overtime, non-price factors have become more important in the reduction of production costs as well as in contributing to overall output increase.

In the appraisal of how AGOA has contributed to the attraction of investment in the COMESA, it is therefore useful to consider the nature of enabled investment as this has a bearing on the competitiveness objective. Regional investment data indicates that overall FDI as a percentage of COMESA countries' GDP has been on increase (Table. 2):

Table 2: FDI for selected COMESA countries – 2001-2008 (US per capital)

Country/Year	2001	2005	2006	2007	2008
Burundi	21.1	49.3	56.7	60.6	63.0
Comoros	48.8	63.9	48.6	68.9	56.4
D R Congo	4.7	30.0	34.2	19.8	25.7
Djibouti	75.4	91.9	140.3	134.8	142.3
Ethiopia	16.3	25.6	25.6	32.6	41.2
Kenya	14.5	21.0	25.6	35.0	35.1
Madagascar	23.2	51.8	41.8	48.1	44.0
Rwanda	36.7	64.2	63.9	76.4	95.7
Tanzania	36.3	38.4	45.8	68.3	54.9
Uganda	32.6	41.5	52.4	56.7	52.3

Source: African Statistical Year Book 2010

Table 2 does not, however, identify the specific form of investment enabled. As such, it is not particularly useful in making a qualified statement on how the increased investment was supporting the regional competitiveness objective. Given the regional deteriorating trade balance, it is likely that most of investment was not competitiveness enhancing.

## COMPETITIVENESS AND AGOA

From the preceding discussion, a number of questions need to be answered as regards COMESA's competitiveness and the AGOA dispensation. What does AGOA offer the region by way of technology acquisition as an important pre-requisite of competitiveness? How relevant is this technology to competitiveness effort of respective countries? Is there local capacity to man the technology? Is there alternative local technology that could be used independently or supplemented with imported technology?

In number of policy documents and discussion forums on AGOA, competitiveness is mentioned but without divulging into it in detail. Lack of production capacity in Africa to produce competitive goods and services due to supply side constraints and low levels of research and development on continent were some of the constraining factors for efficient performance highlighted at 8th AGOA Forum held in Nairobi in 2009. These two factors are related to long term competitiveness. In the AGOA Acceleration Act of 2004, the USA

undertook to take deliberate steps to build trading capacity among beneficiary countries, through studies to identify potential sectors of growth, identify barriers to expected growth and subsequently provide technical assistance to each country to overcome such barriers. This support has taken the form of seconding policy advisors to African country governments. These advisory services fall far short of what is required to make African economies competitive and stand on their own in the long term. The previous Structural Adjustment Programmes (SAPS) the brainchild of IMF and the World Bank had many policy advisors dispatched to African countries but many of these countries still have the same development challenges.

The African Global Competitiveness Initiative (AGCI) which provided 200 million USD to improve competitiveness of Africa countries and build trade capacity focussed on providing technical assistance that advances competitiveness and support of to activities that contribute to this objective. Given the complexity and national effort required to put a country on a competitive path, AGCI scope also falls short of what African countries need to be propelled to global competitiveness.

Under AGOA Acceleration Act of 2004, the Secretary of Commerce was to continuously monitor surges in imports from beneficiary countries in Africa with a possibility to recommend withdraw of duty free consideration when imports reach a particular threshold. By implication, African countries were only to benefit from the AGOA up to a point. Countries and regional groupings were not expected to increase their trade capacity with the USA infinitely. Beyond a particular point, countries were expected to compete at equal terms with imports from other non-AGOA beneficiary countries. To have significant effect on economic growth of African countries, external trade should be significant and inclusive of large sections of a countries' population. Such significant trade is less likely to be supported by the AGOA conditions that restrict duty-free trade after some point. Thus, it is imperative that countries or regions be competitive in their own right if they are to reap benefits of external trade.

It is also notable that the major export, under AGOA, has been oil from Nigeria and Angola. Oil is a non-renewable resource whose export cannot be sustained indefinitely. Moreover, its exploitation has significant negative effect on the environment of the exporting country which is often discounted when quantifying benefits there from. Export performance under AGOA seems to indicate that for a country to significantly benefit from the dispensation, it has to be exporting a natural resource. Specific to oil, given its global demand, it is less likely that a special incentive was required for its export to developed countries. Unlike a number of agricultural products in many African countries, there has always been a demand for oil in the developed countries' markets. In other words international competitiveness of oil is not in question but COMESA is not predominantly oil exporting economy.

In all, in order to sustain benefits of the AGOA to the COMESA, a strong link between the dispensation and regional competitiveness has to be forged recognising the complexity of putting any economy on a competitiveness trajectory.

## **CONCLUSION AND RECOMMENDATION**

Trade without competitiveness is superficial, unsustainable and a charity. This is contrary to the COMESA's vision of creating an integrated regional economic community that is internationally competitive and that has improved living conditions of its people. As long preferential trade arrangements with the region, such as AGOA, do not explicitly support regional competitiveness, benefits there from will remain limited and their long term impact on region development will be insignificant.

A valuable criterion for judging usefulness of any preferential trade agreement between COMESA and the external world should be how such a dispensation supports regional progress to global competitiveness. Assessment of the value of AGOA to COMESA should not be limited to regional trade performance within the dispensation period. It should include evaluation of how trade will be affected post AGOA period. Will the region be able to sustain the enabled trade or will it be compelled to ask for extension of the dispensation? Will the region seek for new preferential treatment altogether? These are some of the key questions that COMESA development strategists need to reflect on. Attainment of competitiveness is at the centre of all these questions. In this regard, issues pertaining to nature of investment, technology acquisition and management, human

resource and indigenous knowledge need to be on the agenda of discussions on how to improve AGOA benefits to the region. These are key determining factors for COMESA's progress to global competitiveness and subsequently sustaining regional benefits from AGOA. These factors lie more in the domain technology rather than trade policy. Hence, the recommendation that the COMESA region should consider implementing trade policy, under which AGOA literally falls, in tandem with a technology policy.

## REFERENCES

Clark, J & Guy, K. "Innovation and competitiveness," *Technology Analysis & Strategic Management*, Vol. 10, No. 3 (2000): 364-394.

Fan, P. "Catching up through developing innovation capability: evidence from China Telecom-equipment industry," *Technovation*, Vol.26, No. 2 (2006):359-368.

Frankema, E & Lindblad, J.T. "Technological development and economic growth in Indonesia and Thailand since 1950," *ASEAN Economic Bulletin*, Vol.23, No.3 (2006):303-324.

Lengnick-Hall, C. "Innovation and competitive advantage: What we know and what we need to know," *Journal of Management*, Vol. 18, No. 2 (1992): 399-129.

Merrifield, B. "The overriding importance of R&D as it relates to industrial competitiveness," *Journal of Engineering and Technological Management*, Vol.6, No.1 (1989): 71-79

Nankunda, J. *Trade liberalisation and competition policy in the regional context: The case of Common Market for Eastern and Southern Africa*. COMESA Researchers' Series, Lusaka, Zambia, 2010.

Oughton, C. "Competitiveness policy in the 1990s," *The Economic Journal*, Vol. 107, No.444 (1997):1486-1503.

Özçelik, E & Taymaz, E. "Does innovation matter for international competitiveness in developing countries? The case of Turkish manufacturing industries," *Research Policy*, Vol.33, No.9 (2004): 409-424.

Stumpf, W.E & Vermaak, A.P. "The role of technology in reconstructing South Africa's economy towards global competitiveness," *International Journal of Pressure Vessels and Piping*, Vol.66, No. 1 (1996): 8-16.

Wint, G.W. "The role of government in enhancing the competitiveness of developing economies," *International Journal of Public Sector Management*, Vol.11, No.4 (1998):281-299.

# ANALYSIS OF ALTERNATIVE ROYALTY STRATEGIES FOR A BOT PROJECT FROM A NEGOTIATION PERSPECTIVE

Chao-Chung Kang, Providence University, Taiwan  
Cheng-Min Feng, National Chiao Tung University, Taiwan

## ABSTRACT

*This study constructs the royalty negotiation model via bi-level programming problem and develops the algorithm for the BLP. The factors of concession rate, learning effect, and time value have been taken into the algorithm to reflect authentic negotiation process. This paper presents a case study to simulate the negotiation behavior for two parties and discusses about alternative royalty strategies. Results reveal that the two parties acquire the best the concession negotiation at the sixth negotiation, and the operational revenue-based royalty model is preferable for the government; while, the operational output-based royalty model is preferable for the concessionaire.*

## INTRODUCTION

The Build, Operate and Transfer (BOT) approach is one of the public-private financing structures for many public infrastructure project methods. The BOT concept is that the private sector obtains a granted concession for building and operating a specific project independently at its own cost or expense and in turns the concessionaire can receive the revenue from the BOT project to cover the expenditure cost during the concession period; however, the ownership of the project must be returned to the public sector once it is completed (Yang and Meng, 2000). The BOT scheme shows higher efficiency in construction and operation than the government executing one does; hence, many public infrastructure projects, including transportation infrastructures, energy, park, and environment projects, have been undertaken by the BOT approach in many developed and developing countries. For example, the Eurotunnel project which is a cross-English Channel link between the United Kingdom and France; the Euro Disneyland project in Paris; the 80 km elevated toll expressway in metropolitan Bangkok in Thailand (Walker and Smith, 1996).

In practice, the legal framework, the concession agreement or contract will be set up or signed for two parties to clear the mechanism for adjusting the third parties' actions, reserving of the government, etc. Especially, the BOT concession contract is a project financing agreement which can be allocated risks and returns among the parties. Thus, construction firm can bear the construction risks or competition risk; operator can bear the operation risks and so on. An example is that the Treaty of Canterbury signed the Channel Tunnel project between the government of France and UK. Another examples are in Taiwan; many infrastructure projects, including the High Speed Rail Project (HSRBOT) and Taipei Port Container Logistic BOT Project, have also been carried out using the BOT approach according to the Act for Facilitation of Private Participation in Infrastructure Projects (AFPPPIP) enacted by the Ministry of Transportation and Communications (MOTC). The royalty which the concessionaire pays the government for operating a project during the concession period is one of the cost expenditure items of project discount cash flow for a BOT project. Some important items, including toll price determine, concession period, royalty and so on, should be written in the BOT agreement through the negotiation by both private and public parties. Obviously, it can be regarded as revenue sharing scheme through a bargaining process for a good royalty determination method between the government and private sectors. There are many royalty computation methods that the government or private sector can adopt (Chiou and Lan, 2006), such as pre-tax profit-based royalty, total revenue-based royalty, lump sum royalty,

patronage-based royalty, operational output-based and so on, For instance, the levied lump-sum royalty is NT\$ 30 billion which is calculated according to the fixed royalty method of the 101 Skyscraper BOT Project in 1998. The other case, the levied royalty is US\$ 10 Million based on the fixed royalty method for the Malaysia north-south highway BOT project.

As for royalty formulas, some studies constructed them using mathematical programming, simulation, or financial engineering methods. For example, Chiou and Lan (2006) developed many royalty models based on pre-tax profit, total revenue, and patronage, etc. using mathematical programming to determine royalty for a BOT project. Kang et al. (2004, 2007) constructed a financial decision-making model for describing the royalty relation between government investment and private investment using mathematical programming. The contributions of Kang et al. (2004, 2007) for analyzing the royalty amounts for BOT projects are beneficial for both the government and private sectors. Most previous studies, however, ignored methods for investigating determinative royalty amount from the viewpoint of the bargaining.

In recent years, some studies have adopted the game theory or BLP (Bi-level programming) approaches to determine the price, the operational output level, or to identify the concession period of a BOT project. For example, Yang and Meng (2000) explored the toll scheme of highway networks using BLP under the BOT mechanism. Xing and Wu (2001) used BLP to construct the Stackelberg Game Model for determining the price and production output of a power utility in a BOT project. Shen et al. (2007) used the Bargaining Game theory to identify the concession period of a BOT project. The authors proposed a BOT concession model to identify a specific concession period which takes account of the bargaining behavior of the two parties engaged in a BOT contract. Additionally, Kang, Feng and Kuo (2008) also employed a royalty model using the BLP approach to determine the royalty for a BOT project. Their proposed royalty model is based on the total revenue of a BOT project; whereas, the other royalty computation methods have not been further investigated. It is a worthy investigating issue to clarify which royalty method suits government and which royalty model suits private sectors. The purpose of this paper is to determine the royalty amount and to compare alternative royalty strategies from the negotiation viewpoint. The remaining part of the paper is structured as follows: Section 2 constructs three royalty negotiation models and a solution algorithm. Finally, a discussion of findings is presented and conclusions are drawn

## METHODOLOGY

Assumptions for developing the model were made as follows:

- (1). This study assumes that the lump-sum royalty, operational revenue-based royalty, and operational output-based royalty methods can be adopted by both parties to determine the royalty amount for a BOT project; and assumes that the three models are independent.
- (2). Two parties, the government and the private investor, establish contractual relationship with in a BOT contract through appropriate negotiations conducted with rational behaviors. Rational behavior means that both parties will calculate and adequately compare all the possible outcomes for protecting their own interests and profit making objectives.
- (3). The two parties are both entitled to the same full and frank disclosure of relevant information in regards to the BOT project concerned. Furthermore, the parties should endeavor to ensure they communicate to each other clearly and effectively.

### Concept of financing BOT project

The concept of financing projects proposed by Kang et al. (2004) was utilized to describe the annual royalty relationship between the government investment and private investment. The concept is shown in Figure 1.

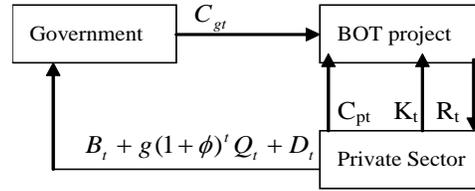


Fig.1 Concept of annual royalty of BOT projects, the operational output-based case

Figure 1 indicates that the fund resource for both construction and operation in a BOT project comes from the concessionaire and the government. The construction cost of the project comprises  $C_{gt}$  and  $C_{pt}$ ; where  $C_{gt}$  and  $C_{pt}$  represent the government investment cost and the private investment cost at time  $t$  during the construction period, respectively; and  $K_t$  is the nominal operation cost at time  $t$  during the operation period. The concessionaire pays  $B_t + g(1 + \phi)^t Q_t + D_t$  to the government according to the operational output and affiliated business income, where  $B_t$  is the land use rent at time  $t$ ,  $Q_t$  is the operational output at time  $t$ , and  $D_t$  is the tax at time  $t$ . The  $B_t + g(1 + \phi)^t Q_t + D_t$  term in Fig. 1 is the sum of the land use rent, royalty, and tax. Let  $g$  be the proportion of the operational output of BOT project during the operating period, and  $\phi$  is the annual growth rate of  $g$ . As shown by the  $g(1 + \phi)^t Q_t$  term, the royalty amount variation depends on variables  $g$ ,  $Q_t$ ,  $\phi$  or  $t$  change. It will increase as  $g$ ,  $Q_t$ ,  $\phi$  or  $t$  increases. As seen in Figure 1, there exists a causal relationship among royalty, government investment, private sector investment, and government finance recovery ratio in cash flow for a BOT project. The government finance recovery ratio was defined as “the government income divided by the government investment cost; the government income includes royalty, land-use rent, and tax to cover its investment cost” by Kang, Feng, and Huang (2007). In their perspective, government can use this ratio to replace the traditional evaluation index, such as Net Present Value (NPV), for assessing the recover ability in finance project. From this point, if the royalty change beside the land-used rent and tax, then it will be a huge effect in government finance recovery ratio and net income for government and private sectors, respectively.

Similarly, we use the concept of Figure 1 to illustrate the relationships among royalty, government investment and private investment for the operational revenue-based royalty and the lump-sum royalty.

## The Model

Following the concepts of Figures 1, the royalty amount could be computed by three ways: first, royalty is based on the operational output of the BOT project; second, royalty is based on the operational revenue of the BOT project; and third, royalty is the lump-sum fee of the BOT project. Three royalty models are described as follow:

- A. Model I (the operational output-based royalty model): Royalty depends on the operational output of the project; the annual nominal royalty computed based on  $g(1 + \phi)^t Q_t$ . Variable  $g$  through the negotiation for the two parties can be obtained.
- B. Model II (the operational revenue-based royalty model): Royalty depends on the operational revenue of the project; the annual nominal royalty is computed based on  $\theta(1 + \alpha)^t R_t$ . Variable  $\theta$  through the negotiation for the two parties is determined and then the royalty also can be obtained.
- C. Model III (the lump-sum royalty model): Royalty is lump sum franchise fee of the project; the annual nominal royalty is computed based on  $F(1 + \beta)^t$ . Once the variable  $F$  is determined through the negotiation for the two parties, the lump-sum royalty is obtained.

When the concession period changes, price regulation, price flexible, or price adjustment schemes of output will result in revenue changes for private sector during the operation period. In general, the price cap scheme and the minimum guarantee output of production or operation will be signed or bargained in the BOT contract in order to improve the efficiency or reduce uncertain operation factors for private sectors. Considering the factors of concession period of a project and minimum guarantee output scheme from government will result in huge

variation in the operational revenue although operational revenue is an output function; the operational revenue-based and operational-output based models in this paper should investigate the royalty and negotiation behavior for two parties. In order to develop the royalty negotiation model for the operational output-based case, this study assumes that the concession period of a BOT project is made up of both the construction period ( $t = 0 \sim n$ ) and the operation period ( $t = n+1 \sim N$ ). We also assume that the government doesn't offer affiliated business income, joint-development income, subsidies to the private sector, and the salvage value of the fixed asset of the BOT project is not considered. After the concession period expires, the facilities of the BOT project should be returned to the government unconditionally. Moreover, we assume that the government investment is totally capitalized by debt and the planning cost of government is not considered. And we also assume that the royalty is not tax-deductible. The capital cost of BOT project is evaluated by the Weighted Average Cost of Capital (WACC) method. As seen in Figure 1, there exists a causal relationship among royalty, government investment, private sector investment, and government finance recovery ratio in cash flow for BOT project. The government finance recovery ratio was defined as (Kang et al., 2004, 2007)

$$\Pi_{g,Q}(k) = \frac{1}{C_g} [r_g + g_u(k) \times f_{g,Q}] \quad (1)$$

Where  $r_g = \sum_{t=0}^N \frac{B_t + D_t}{(1+i)^t}$ ;  $f_{g,Q} = \sum_{t=h}^N \frac{(1+\phi)^{t-h} Q_t}{(1+i)^t}$ , which is a discount factor of the operational output-based royalty

model for the project;  $P_C = \frac{C_p}{C} = \frac{C_p}{C_g + C_p}$ ;  $P_C$  stands for the rate of concessionaire's investment cost;  $C$  is the

sum of present value of construction cost which is discounted to the first year of the construction period;  $C_g$  is the sum of present value of construction cost financed by government investment, and the cost is discounted to the first year of the construction period;  $C_p$  is the sum of present value of construction cost financed by private investment, and the cost is discounted to the first year of the construction period; and  $i$  is the interest rate of government bonds.  $g_u(k)$  represents  $g$  value which regards the proportion of the operational output of BOT project during the operating period at the  $k$  negotiation of the government; that is,  $g_u(k)$  is a decision variable of the upper level programming problem at the  $k$  negotiation. Equation (1) represents the government finance recovery ratio  $\Pi_{g,Q}(k)$  at the  $k^{th}$  negotiation. There exists a positive relationship between  $\Pi_{g,Q}(k)$  and  $(r_g + g_u(k) \times f_{g,Q})$ . That is, the more the royalty, tax, and land-use rent for the host utilities is, the higher the  $\Pi_{g,Q}(k)$  is. Thus,  $\Pi_{g,Q}(k)$  goes up when variables of  $r_g$ ,  $g_u(k)$ , and  $f_{g,Q}$  increase. Conversely,  $\Pi_{g,Q}(k)$  decreases as  $P_C$  increases or variables of  $r_g$ ,  $g_u(k)$ , and  $f_{g,Q}$  decrease. Furthermore, let  $\Pi_{p,Q}(k)$  be the profit index of the

concessionaire:  $\Pi_{p,Q}(k) = \frac{N_I - g_l(k) \times f_{p,Q}}{C_p}$ . Where  $N_I = \sum_{t=n+1}^N \frac{R_t - C_t - B_t - D_t}{(1+d)^t}$ ,  $N_I$  is the total revenue of the BOT

project, which includes operation revenue and non-operation revenue;  $g_l(k)$  represents  $g$  value which regards the proportion of the operational output of BOT project during the operating period the at the  $k$  negotiation of the private sectors;  $g_l(k)$  is also a decision variable of the lower level programming problem at the  $k$  negotiation. Additionally,  $f_{p,Q} = \sum_{t=h}^N \frac{(1+\phi)^{t-h} Q_t}{(1+d)^t}$ ,  $d$  is the risk-adjusted discount ratio after tax of the concessionaire

and let  $d > i$ ; it can be estimated by the WACC with corporate tax as  $d = d_B \times (1 - T_c) \times \left( \frac{B}{S+B} \right) + d_S \times \left( \frac{S}{S+B} \right)$ . Where

$d_B$  is the cost of long-term debt of the BOT project for the private firm;  $d_S$  is the cost of equity of the BOT project for the private firm;  $B$  is the market value of the debt of the BOT project for the private firm;  $T_c$  is the marginal tax ratio of the BOT project; and  $S$  is the market value of the equity of the BOT project for the private firm. The  $\Pi_{g,Q}(k)$  is net operation income minus royalty at the  $k^{th}$  negotiation, and the denominator of  $\Pi_{g,Q}(k)$  is the investment cost of the concessionaire for a project during the construct period.  $\Pi_{g,Q}(k)$  stands for the profitability of private sector at the  $k^{th}$  negotiation. It indicates that the concessionaire pursues its maximum financial profit at the  $k^{th}$  negotiation if the private sector is a rational decision-maker.

Following Equation (1), the government finance recovery ratios for the operational revenue-based model and the lump-sum royalty model can be defined as Equations (3):

$$\Pi_{g,R}(k) = \frac{1}{C_g} [r_g + \theta_u(k) \times f_{g,R}] \text{ and } \Pi_{g,F}(k) = \frac{1}{C_g} [r_g + F_u(k) \times f_{g,F}] \quad (3)$$

Equations (3) represents the  $\Pi_{g,R}(k)$  and  $\Pi_{g,F}(k)$  at the  $k^{\text{th}}$  negotiation. Thus, both of  $\Pi_{g,R}(\cdot)$  and  $\Pi_{g,F}(\cdot)$  are functions of  $k$ . Eq. (1) implies that the more royalty, tax, and land-use rent the host utilities acquire, the higher the government finance recovery ratio is. In addition, we defined the profit index of the concessionaire for the operational revenue-based royalty model and the lump-sum royalty model:

$$\Pi_{p,R}(k) = \frac{N_I - \theta_\ell(k) \times f_{p,R}}{C_p} \text{ and } \Pi_{p,F}(k) = \frac{N_I - F_\ell(k) \times f_{p,F}}{C_p} \quad (4)$$

Where  $f_{p,R} = \sum_{t=h}^N \frac{(1+\alpha)^{t-h} R_t}{(1+d)^t}$  and  $f_{p,F} = \sum_{t=h}^N \frac{(1+\beta)^{t-h}}{(1+d)^t}$  are the discount factor of the operational revenue-based

royalty model and lump-sum royalty models, respectively. Both of  $\theta_\ell$  and  $F_\ell$  are function of  $k$ . According to Wen and Hsu (1991), the BLP is a stackelberg game associated with leader and follower conception. This model can illustrate a sequential decision for two players who pursue their own maximized aims which subject to another decision-making strategy. The host utility can be regarded as the higher-level problem of BLP because the royalty was first announced by the government in the BOT tender document. Then, the private sector will negotiate with the government about the royalty. Hence, the private sector can be regarded as the lower-level problem of the BLP. The higher-level problem and the lower-level problem were formulated as

Model I: The operational output-based royalty model

[Higher-level problem]:  $Max_{\{g_u(k)\}} \Pi_{g,Q}(k) = \frac{1}{C_g} [r_g + g_u(k) \times f_{g,Q}]$

s.t.  $g_u(k) \times f_{g,Q} + C \times \Pi_{G0} \times P_C \geq C \times \Pi_{G0} - r_g$ ;  $g_u(k) \leq (N_I - P_C \times C) / f_{p,Q}$ ;  $g_u(k) \geq V_\ell(k)$   $g_u(k) \leq W_u(k)$  (5)

[Lower-level problem]:  $Max_{\{g_\ell(k)\}} \Pi_{p,Q}(k) = \frac{N_I - g_\ell(k) \times f_{p,Q}}{C_p}$

s.t.  $g_\ell(k) \times f_{p,Q} + C \times \Pi_{G0} \times P_C \geq C \times \Pi_{G0} - r_g$ ;  $g_\ell(k) \leq (N_I - P_C \times C) / f_{p,Q}$ ;  $g_\ell(k) \geq V_\ell(k)$ ;  $g_\ell(k) \leq W_u(k)$  (6)

Where  $V_\ell(k)$  is the lower bound value of feasible solution at the  $k^{\text{th}}$  negotiation for the lower-level problem;  $W_u(k)$  is the upper bound value of feasible solution at the  $k^{\text{th}}$  negotiation for the higher-level problem;  $g_\ell(k)$  and  $g_u(k)$  are decision variables of the BLP problem. Both definitions of  $g_\ell(k)$  and  $g_u(k)$  are defined as those of Eqs. (5) and (6). The objective function of the higher-level problem illustrates that the host utility maximizes his financial recovery rate for joining a BOT project. It means that the more royalty the government collects, the higher the  $\Pi_{g,Q}(k)$  index is. Constraints of the higher-level problem shows that the host utility should collect the above minimum royalty level from the concessionaire to meet the minimum financial recovery rate  $\Pi_{G0}$ . Moreover, let  $\Pi_{G0}$  be a constant value.  $g_u(k) \geq V_\ell(k)$  and  $g_u(k) \leq W_u(k)$  are the upper and lower bounded solutions for the higher-level problem, respectively. The objective function of the lower-level problem illustrates that the private sector hopes to reduce the royalty, and to maximize its profit in each negotiation. Constraints in the lower-level problem meanings that are the same as those of constraints; and  $g_\ell(k) \geq V_\ell(k)$  and  $g_\ell(k) \leq W_u(k)$  are the upper and lower bounded solutions for the lower-level problem, respectively. Following the concept of BLP of the model I, we formulate the BLP problems for model II and model III, respectively. And the BLP problem for the model II was formulated as

Model II: The operational revenue-based model

[Higher-level problem]:  $Max_{\{\theta_u(k)\}} \Pi_{g,R}(k) = \frac{1}{C_g} [r_g + \theta_u(k) \times f_{g,R}]$

s.t.  $\theta_u(k) \times f_{g,R} + C \times \Pi_{G0} \times P_C \geq C \times \Pi_{G0} - r_g$ ;  $\theta_u(k) \leq (N_I - P_C \times C) / f_{p,R}$ ;  $\theta_u(k) \geq V_\ell(k)$ ;  $\theta_u(k) \leq W_u(k)$  (7)

[Lower-level problem]:  $Max_{\{\theta_\ell(k)\}} \Pi_{p,R}(k) = \frac{N_I - \theta_\ell(k) \times f_{p,R}}{C_p}$

s.t.  $\theta_\ell(k) \times f_{p,R} + C \times \Pi_{G0} \times P_C \geq C \times \Pi_{G0} - r_g$ ;  $\theta_\ell(k) \leq (N_I - P_C \times C) / f_{p,R}$ ;  $\theta_\ell(k) \geq V_\ell(k)$ ;  $\theta_\ell(k) \leq W_u(k)$  (8)

Model III: the lump-sum royalty model

The BLP problem for the lump-sum royalty model was formulated as:

[Higher-level problem]: 
$$\begin{aligned} \text{Max}_{\{F_u(k)\}} \Pi_{g,F}(k) &= \frac{1}{C_g} [r_g + F_u(k) \times f_{g,F}] \\ \text{s.t. } F_u(k) \times f_{g,F} + C \times \Pi_{G0} \times P_C &\geq C \times \Pi_{G0} - r_g; F_u(k) \leq (N_I - P_C \times C) / f_{p,F}; F_u(k) \geq V_\ell(k); F_u(k) \leq W_u(k) \end{aligned} \quad (9)$$

[Lower-level problem]: 
$$\begin{aligned} \text{Max}_{\{F_\ell(k)\}} \Pi_{p,F}(k) &= \frac{N_I - F_\ell(k) \times f_{p,F}}{C_p} \\ \text{s.t. } F_\ell(k) \times f_{g,F} + C \times \Pi_{G0} \times P_C &\geq C \times \Pi_{G0} - r_g; F_\ell(k) \leq (N_I - P_C \times C) / f_{p,F}; F_\ell(k) \geq V_\ell(k); F_\ell(k) \leq W_u(k) \end{aligned} \quad (10)$$

The decision variables of the model II are  $\theta_\ell(k)$  and  $\theta_u(k)$ ; while both of  $F_\ell(k)$  and  $F_u(k)$  are decision variables for the model III.

## Algorithm for BLP

Many algorithms for the BLP problem including the vertex enumeration or the Kuhn-Tucker transformation approach have been proposed for finding the optimal solution (Wen and Hsu, 1991). The vertex enumeration approach involves the simplex algorithm for finding the feasible solution for the higher-level problem of the BLP problem, while the Kuhn-Tucker transformation approach converts the objective function of the lower-level problem into constraints of the higher-level problem. However, to find the comprisal solution for operational output-based royalty model, we develop the heuristic algorithm for the BLP problem. The steps of the heuristic algorithm are shown below:

Step 0: Let  $k = 0$  and  $k = k + 1$ ; Step 1: Find the feasible solution for the higher-level problem; Step 2: Find the feasible solution for the lower-level problem; Step 3: Converge the test for these feasible solutions for the BLP problem; If all of solutions converge, then it is the comprisal solution; otherwise, go to Step 4. In this Step, we set the convergence test with which the differences in royalty expected by the government and that the private sector is willing to pay is smaller than a tolerance of error tolerated. The condition is defined as:

$$\left| \frac{\theta_u(k) - \theta_\ell(k)}{\theta_\ell(k)} \right| \leq \delta \quad \text{and} \quad \left| \frac{\theta_u(k) - \theta_\ell(k)}{\theta_u(k)} \right| \leq \delta \quad (11)$$

where  $\delta$  is the tolerated error; and we assumed  $\delta = 0.01$ . If the solutions of BLP satisfy the convergence test condition, then the royalty negotiation is ceased. In addition, Eq. (11) was replaced by (12) and (13) for the operational output-based royalty and the lump-sum royalty model, respectively.

$$\left| \frac{g_u(k) * f_g - g_\ell(k) * f_p}{g_\ell(k) * f_p} \right| \leq \delta \quad \text{and} \quad \left| \frac{g_u(k) * f_g - g_\ell(k) * f_p}{g_u(k) * f_g} \right| \leq \delta \quad (12)$$

$$\left| \frac{F_u(k) - F_\ell(k)}{F_\ell(k)} \right| \leq \delta \quad \text{and} \quad \left| \frac{F_u(k) - F_\ell(k)}{F_u(k)} \right| \leq \delta \quad (13)$$

Step 4: Set initial concession rates for two parties, and let  $k \neq 0$ . Substitute concession rates into Eq(40), (41) and (42), and find  $V_\ell(k+1)$  and  $W_u(k+1)$ . Step 5: Find the concession rates at the next negotiation,  $r_u(k+1)$ ,  $r_\ell(k+1)$  and find  $g_\ell(k+1)$  and  $g_u(k+1)$ . Step 6: Repeat Step 0 to Step 5. The solution of the BLP problem will be obtained if convergence test of solution holds, if not, there is no solution, and stop the algorithm.

Although Chen and Chang (2000), Xing and Wu (2001), Yang and Meng (2000) utilized the bi-level programming model for determining the price (or toll) and the capacity using different algorithms under the BOT scheme, they do not explore the effect of learning effect, concession rate and time value discount of player changes. Nevertheless, these factors which are regarded as factors of bargaining cost, addressed by Cross (1965), are very important impact factors for the bargaining process. Thus, these factors of a bargaining cost have incorporated into the BOT bargaining model studies (Shen, et al., 2007; Lin and Chaing, 2005). Following the concept of Cross (1965), we defined the concession rate of the government and the private firm, respectively. The concession rate for both parties were shown in Eqs. (14).

$$r_u(k) = \frac{(buvr_\ell(k-1) + (ab(1 - \frac{v}{2})(1 + \frac{u}{2}) - uv)r_u(k-1))}{(ab(1 + \frac{u}{2})(1 + \frac{v}{2}) - uv)}; \quad r_\ell(k) = \frac{(auvr_u(k-1) + (ab(1 - \frac{u}{2})(1 + \frac{v}{2}) - uv)r_\ell(k-1))}{(ab(1 + \frac{u}{2})(1 + \frac{v}{2}) - uv)} \quad (14)$$

Where  $r_u(k)$  and  $r_\ell(k)$  are concession rates at the  $k^{\text{th}}$  negotiation for higher-level and lower-level programming problems, respectively; similarly,  $r_u(k-1)$  and  $r_\ell(k-1)$  are the concession rates at the  $(k-1)^{\text{th}}$  negotiation. Variables of  $a$  and  $b$  are the time value discounts of the higher-level and lower-level programming problems,

respectively. Let  $a$  and  $b$  be constant values. Let  $\mu$  and  $\nu$  be the learning rates for higher-level and lower-level programming problems, respectively. And we also assume that  $\mu$  and  $\nu$  are constant. Equation (39) describes that the concession rate at the  $k^{\text{th}}$  negotiation for the higher-level programming problems was affected by  $r_\ell(k-1)$ ,  $r_u(k-1)$ ,  $u$ ,  $v$ ,  $a$ , and  $b$ . Similarly,  $r_\ell(k)$  in Eq. (40) was affected by  $r_\ell(k-1)$ ,  $r_u(k-1)$ ,  $u$ ,  $v$ ,  $a$ , and  $b$ . Obviously, it implies that royalty negotiation of the host utility or concessionaire was reflected by the concession rate of two parties. Then, we substituted Eqs.(15) and (16) and modified  $W_u(k+1)$  and  $V_\ell(k+1)$  of higher-level and the lower-level programming, respectively.

$$W_u(k+1) = W_u(k) - W_u(k) \times r_u(k); V_\ell(k+1) = V_\ell(k) + V_\ell(k) \times r_u(k) \quad (15)$$

$$W_u(k+1) = W_u(k) - W_u(k) \times r_\ell(k); V_\ell(k+1) = V_\ell(k) + V_\ell(k) \times r_\ell(k) \quad (16)$$

Where  $W_u(k)$  and  $V_\ell(k)$  are the upper and lower bounded value at the  $k^{\text{th}}$  negotiation for higher-level and the lower-level programming, respectively. And  $W_u(k+1)$  and  $V_\ell(k+1)$  are the upper and lower bounded value at the  $(k+1)^{\text{th}}$  negotiation, respectively.

## CONCLUSION AND SUGGESTIONS

Chiou and Lan (2006) did not explore royalty determination from a negotiation perspective, even though they analyzed many royalty computation methods via mathematical programming. Additionally, they did not identify which royalty models are preferable for governments and private sector firms. The contributions of this study differ from those of Chiou and Lan (2006). This work constructs three novel royalty negotiation models—the lump-sum royalty, operating revenue-based royalty, and operational output-based royalty—using the BLP approach from a negotiation perspective, and develops a novel heuristic algorithm to solve the BLP problem for governments and the private sector. Concession rate, learning rate, and the time value discount rate for both parties are incorporated into this heuristic algorithm. These negotiation factors are very important variables, as demonstrated by the case study. These factors were not considered by Chiou and Lan (2006). The proposed royalty negotiation models can be utilized to explain negotiation behavior. Concession rate, learning rate, and the time value discount rate of two parties impact the heuristic algorithm for solving the BLP problem. However, studies must survey data for the time value discount, concession rate, and learning rate of two parties in each negotiation when royalty negotiation models are utilized to investigate royalty determination in real BOT projects.

The following issues can be explored in future studies. (1) Some assumptions of the operational output-based royalty model this model can be released. Although concession rate, learning rate, and the time value discount rate of two parties for solving the BLP problem are given to simplify analysis, these factors can be reexamined in future studies. Researchers can survey data for these factors via a questionnaire. (2) Other studies can utilize this analytical framework to investigate other royalty strategies, such as a mixed royalty method combining two or more royalty strategies. Additionally, multiple issues in the bargaining model and multi-level programming problem can be addressed in future research to explore multi-party negotiation issues for BOT projects. (3) The Rubinstein bargaining model can be used to analyze different royalty strategies for two parties because the BLP problem.

## REFERENCES

- Chang, L. M. and Chen, P. H., “BOT Financial Model: Taiwan High Speed Rail Case”, *Journal of Construction Engineering and Management*, No. 127, Vol. 3 (2001): 214-222.
- Chen A., Subprasom, K., and Chootinan, P., “Assessing Financial Feasibility of a Build-Operate-Transfer Project under Uncertain Demand”, *Transportation Research Record*, No. 1771 (2002): 124-131.
- Chiou, Y. C. and Lan, L. W., “The Royalty Models for Transport Infrastructure BOT Projects”, *Transpormetrica*, Vol.2, No.3 (2006): 175-197.
- Cross, J. G., “A Theory of the Bargaining Process”, *The America Economic Review*, Vol. 55, No. 1 (1965): 67-

Kang, C. C., Feng, C. M., and Haider A. Khan, "Risk Assessment for Build-operate-transfer Projects: a Dynamic Multi-objective Programming Approach", *Computers & Operations Research*, No. 32, Iss. 7 (2005): 1633-1654.

Kang, C. C., Feng, C. M., and Huang, S. C., "A New Financial Engineering Model for Analyzing the Royalty of BOT Projects: The Taiwan Case", Proceedings of the *IEEE International Conference on Industrial Engineering and Engineering Management*, Singapore, (2007): 277- 281.

Kang, C. C., Feng, C. M., and Huang, S. C., "The New Finance Model of BOT Projects", *Journal of the Eastern Asia Society for Transportation Studies*, Vol. 5 (2003): 2920-2931.

Lin, Y. S. and Chaing, Y. H., "A Study of Nonlinear Negotiation Model for Build-Operate-Transfer Infrastructure Projects-the Case of Negative Utility Resource Distribution", *Journal of the Chinese Institute of Transportation*, Vol. 17, No. 1, (2005): 27-64 (in Chinese).

Liu, Y. H. and Stephen, M. H., "Characterizing an Optimal Solution to the Linear Bi-level Programming Problem", *European Journal of Operational Research*, Vol. 73, No. 1, (1994): 164-166.

Rubinstein, A., "Perfect Equilibrium in a Bargaining Model", *Econometrica*, Vol. 50, No. 1, (1982): 92-109.

Shen, L. Y., Bao, H. J., and Lu, W. S., "Using Bargaining-Game Theory for Negotiating Concession Period for BOT-Type Contract", *Journal of Construction Engineering and Management*, Vol. 133, No. 5, (2007): 385-392.

Terms of Reference (TOR) of "Concessions of the Container Terminal in Taipei Port" issued by Keelung Harbor Bureau in 2000, MOTC.

Walker, C. and Smith, A. J., *Privatized Infrastructure: the Build Operate Transfer Approach*, Thomas Telford publication, 1995.

Wen, U. P. and Hsu, S. T., "Linear Bi-level Programming Problem—A Review", *Journal of the Operational Research Society*, Vol. 42, No. 2, (1991):125-135.

Xing, W. and Wu, F. F., "A Game-Theoretical Model of Private Power Production", *Electrical Power and Energy System*, Vol. 23, (2001): 213-21.

Yang, H. and Meng, Q., "Highway Pricing and Capacity in A Road Network Under A Build-Operate-Transfer Scheme", *Transportation Research Part A*, Vol. 34, (2000): 207-222.

# AN INVARIANCE ANALYSIS OF THE UTAUT MODEL

**Myung Soo Kang, Hansung University, Republic of Korea**  
**Il Im, Yonsei University, Republic of Korea**  
**Seongtae Hong, Sangmyung University, Republic of Korea**

## ABSTRACT

*A recently proposed model in the area of technology adoption, “Unified Theory on Acceptance and Use of Technology (UTAUT)” integrates eight theories on technology adoption and provides a comprehensive view of the factors related to users' adoption behavior. In this study, invariance of the measures of the UTAUT model is tested in three different dimensions – countries, technologies, and gender. The data were collected from two countries (Korea and the U.S.) for two technologies (Internet banking and MP3 players). The results show that the UTAUT model is robust across different conditions overall. However, the results show that in order to apply the UTAUT model to different conditions and groups, especially when cross-country or cross-technology comparisons are conducted, the possible differences due to measurement non-invariance should be taken into account.*

## INTRODUCTION

Adoption of technology has been one of the most important topics in the Information Systems field. The technology acceptance model (TAM), theory of reasoned action (TRA), theory of planned behavior (TPB), and other theories have been used to explain users' behavior with regard to technology adoption. Recently, a unified model of technology adoption was proposed by Venkatesh et al. (Venkatesh et al. 2003). The model, “Unified Theory on Acceptance and Use of Technology (UTAUT),” integrates eight theories on technology adoption and provides a comprehensive view of the factors related to users' adoption behavior. The original UTAUT model consists of four main constructs – performance expectancy, effort expectancy, social influence, and facilitating conditions – and four moderating variables – gender, age, experience, and voluntariness of use.

One main reason for studying technology acceptance is to compare behaviors across various conditions – technologies, user groups, and occasions. In order to be able to compare technology acceptance precisely across different conditions, the measures of the model must be invariant across those conditions (Deng et al. 2008; Steinmetz et al. 2009). Otherwise, it is difficult to determine whether the differences, if there are any, exist because of the conditions being compared or because of differences in the measurements (Lai et al. 2005). Invariance analysis is a statistical method to test reliability and validity of measurement instruments across individuals, groups, and contexts using multi-group confirmatory factor analysis (Billiet 2002; Doll et al. 1998; Jöreskog et al. 1993; Klenke 1992).

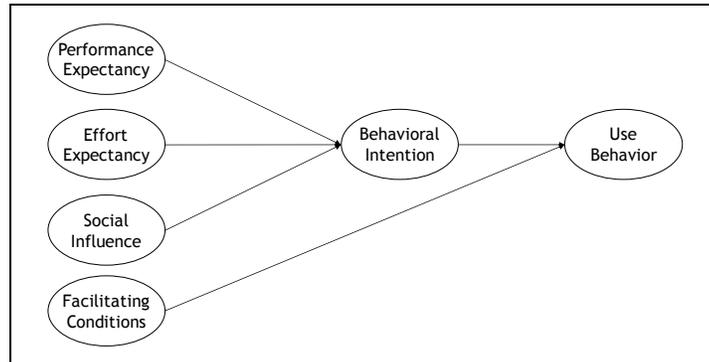
Invariance of TAM measurements has been tested in past studies (Lai et al. 2005), while invariance of the UTAUT model, to the best of our knowledge, has not been rigorously tested yet. Only a few studies have tested the validity of the measurement instruments of the UTAUT across countries (Oshlyansky et al. 2007), but a full-range invariance analysis has still not been performed. In this study, invariance of the measures of the UTAUT model is tested in three different dimensions – countries, technologies, and gender.

# THE UTAUT MODEL

The main constructs of the UTAUT model are performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), behavioral intention (BI), and use behavior (UB). The relationships of these constructs and their measurement instruments are shown in Figure 1.

Although invariance analysis can be conducted on any constructs of the UTAUT model, the main focus of this study lies on the four independent constructs – PE, EE, SI, and FC, because the two dependent constructs, BI and UB, have been repeatedly tested in previous TAM studies and the moderating variables are not of main interest in most studies on technology adoption.

**Figure 1. The UTAUT Model**



## HYPOTHESIS DEVELOPMENT

There can be various conditions under which the UTAUT model is tested. In this study, three conditions that are thought to be compared frequently are considered – culture (country), technology, and gender. Data from two countries (the U.S. and Korea) on two different technologies (MP3 players and Internet banking) were collected and invariance analyses on the three dimensions were conducted. The hypotheses for the invariance test were developed as follows:

### H1 – Invariance across countries

- H1-1: The Performance Expectancy instrument is invariant across U.S. and Korean samples
- H1-2: The Effort Expectancy instrument is invariant across U.S. and Korean samples
- H1-3: The Social Influence instrument is invariant across U.S. and Korean samples
- H1-4: The Facilitating Conditions instrument is invariant across U.S. and Korean samples

### H2 – Invariance across technologies (Internet banking and MP3 players)

- H2-1: The Performance Expectancy instrument is invariant across both technologies
- H2-2: The Effort Expectancy instrument is invariant across both technologies
- H2-3: The Social Influence instrument is invariant across both technologies
- H2-4: The Facilitating Conditions instrument is invariant across both technologies

### H3 – Invariance across gender

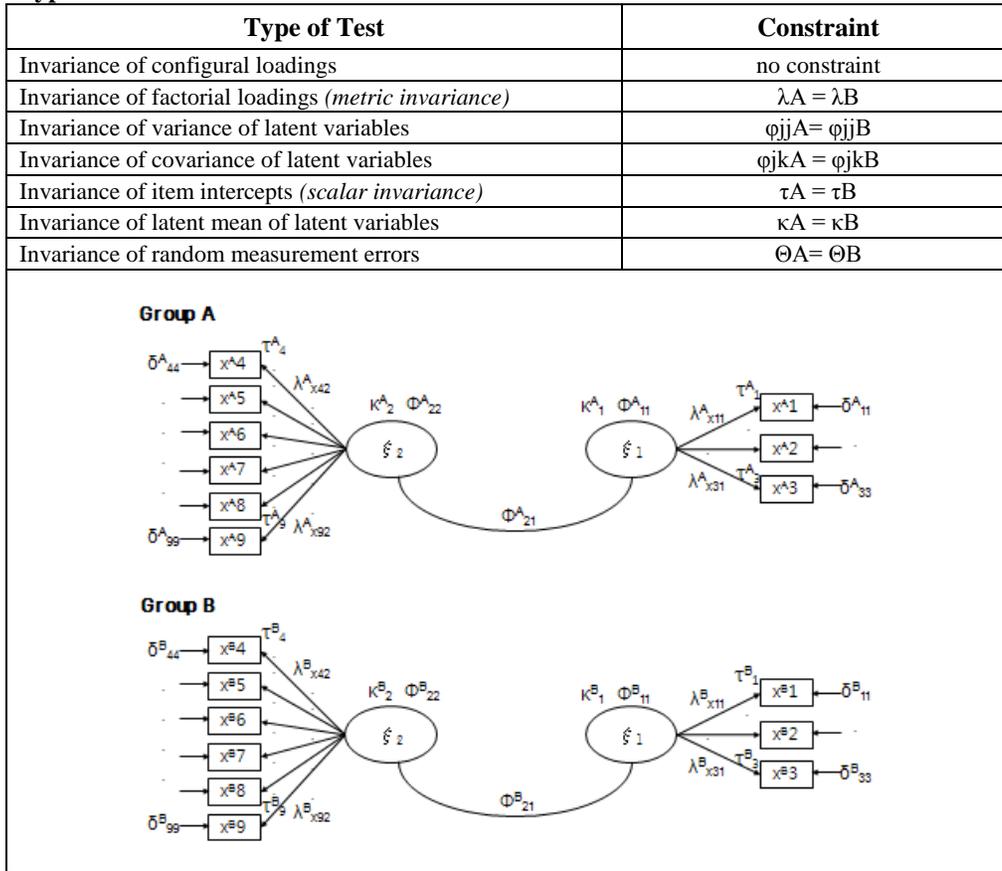
- H3-1: The Performance Expectancy instrument is invariant across genders.
- H3-2: The Effort Expectancy instrument is invariant across genders.
- H3-3: The Social Influence instrument is invariant across genders.
- H3-4: The Facilitating Conditions instrument is invariant across genders.

## INVARIANCE ANALYSIS

There are several conceptual definitions of and methods for invariance analysis. In many studies invariance analysis is also referred to as measurement invariance analysis (Deng et al. 2008; Lai et al. 2005; Steinmetz et al. 2009). Measurement invariance analysis refers to testing if the same measurement can be used across different groups, which includes invariance of measurement parameters such as factor loadings and

measurement errors, response biases, and the relationship between observed mean and latent mean (Deng et al. 2008; Lai et al. 2005; Steinmetz et al. 2009).

**Figure 2. Types of Invariance Test**



Among the studies about invariance analysis, those that test six or seven possible sources of invariance (Steinmetz et al. 2009) are most comprehensive. Other studies employ simpler approaches that test only a few sources depending on their main focus. The most comprehensive seven-step approach covers the seven dimensions of invariance:

1. Invariance of configural loadings (configural invariance)
2. Invariance of factorial loadings (metric invariance)
3. Invariance of variance of latent variables
4. Invariance of covariance of latent variables
5. Invariance of item intercepts (scalar invariance)
6. Invariance of latent mean of latent variables
7. Invariance of random measurement errors

Configural invariance analysis assesses whether same pattern of factor loadings exists across different groups (Murray et al. 2007). It implies the equal number of factors in each group and the equal pattern of fixed and free parameters (Steinmetz et al. 2009). Metric invariance analysis assesses whether the factor loadings are identical for each scale item across groups. It implies equal factor loadings across groups (Murray et al. 2007). Factor variance invariance and error variance invariance analysis examine whether the factor loadings and error variances are identical for each scale item across groups (Murray et al. 2007). Invariance of factor variance is assumed when groups have the same variances in their respective latent variables (Steinmetz et al. 2009). Factor covariance invariance analysis assesses whether the correlations among factors are equal (Murray et al. 2007). Invariance of factor covariance implies equality of the associations among the latent variables (Steinmetz et al. 2009). Scalar invariance (item intercept invariance) analysis examines whether there is consistency between

cross-group differences in latent versus observed means by imposing equal intercept constraints (Murray et al. 2007). Scalar invariance addresses the question whether there is consistency between cross-group differences in latent means and cross-group differences in observed means (Steenkamp et al. 1998). Different types of invariance tests are summarized in Figure 2. Among these, the most basic and common things tested in the majority of invariance analysis studies are configural invariance and metric invariance.

## Data

The data were collected from two countries (Korea and the U.S.) for two technologies (Internet banking and MP3 players). The two technologies were chosen because they represent different types of technologies – an online service and a physical good. The initial questionnaire was developed based on the original UTAUT model (Venkatesh et al. 2003). The questionnaire was refined through two rounds of pilots. The first pilot was to validate the questionnaire items. The questionnaire was reviewed by two experts to check the content validity. In the second round, the questionnaire was administered to participants in order to analyze the statistical reliability and validity.

The respondents to the main survey were undergraduate students and part-time MBA students in a university on the East coast in the U.S. and undergraduate students and office workers in Korea. Since most part-time MBA students are working full-time, the two samples from the U.S. and Korea are compatible in terms of background and job experience. Among the 660 distributed questionnaires, a total of 550 responses were collected. A total of 501 responses were used for the final analysis after invalid responses were removed. Among the 501 respondents, 363 were from Korea and 138 were from the U.S., and 250 were on Internet banking, while 251 were on MP3 players. Female (253) and male (248) respondents were almost the same in number.

## Analysis

For the invariance analysis in this study, the method commonly used in previous studies (Lai et al. 2005) is employed. Before the main analysis, the validity and reliability of the dataset were tested. A confirmatory factor analysis (CFA) was conducted and all constructs have Cronbach's alpha greater than 0.7 except for FC. In the main invariance analysis, thus, an item from FC (fc3) was deleted according to this reliability test result.

## Invariance of Configural Loadings

The first step of invariance analysis is running the model to sub-groups and check configural loadings invariance. The analysis results are summarized in Table 1. The statistics for the entire sample were acceptable ( $\chi^2 = 505.150$ , GFI = 0.876, RMR = 0.085, CFI = 0.919, RMSEA = 0.100).

Table 1 also shows that the indices of model fit across groups (country, technology, and gender) are similar. This implies that the configurations of the model (number of factors and their structures) across groups are compatible, which indicates that configural invariance exists. Configural invariance is the basis of other types of invariance.

**Table 1. Invariance of Configural Loadings**

Dimensions	Subgroups	$\chi^2$	df	P	RMR	TLI	CFI	RMSEA
	Entire Sample	505.15	84	0.000	0.08	0.90	0.92	0.10
Nationality	Korea (n=363)	431.33	84	0.000	0.08	0.88	0.91	0.11
	U.S. (n=138)	158.56	84	0.000	0.08	0.92	0.93	0.08
	Stacked Model	589.88	168	0.000	0.08	0.89	0.91	0.07
Type of Technology	Internet Banking (n=250)	304.01	84	0.000	0.08	0.89	0.91	0.10
	MP3 Players (n=251)	310.01	84	0.000	0.09	0.89	0.92	0.10
	Stacked Model	614.02	168	0.000	0.08	0.89	0.91	0.07
Gender	Female (n=253)	323.13	84	0.000	0.09	0.88	0.90	0.11
	Male (n=248)	297.08	84	0.000	0.09	0.90	0.92	0.10
	Stacked Model	620.21	168	0.000	0.09	0.89	0.91	0.07

## Invariance of Factorial Loadings

The next step is to test invariance of factorial loadings. As Table 2 shows, the factor loadings across nationality and gender are invariant, while those for technology type are not ( $p = 0.000$ ). In the table, the rows labeled as “2” show the results of the invariance analysis on entire constructs, and the rows labeled as “2.1”, “2.2” and so on show the results of invariance analysis on individual constructs. From the table, we can see that the sources of difference were PE ( $p = 0.001$ ) and SI ( $p = 0.001$ ).

**Table 2. Invariance of Factorial Loadings**

Group	Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	P	RMR	TLI	CFI	RMSEA
Nationality	Default Model	589.88	168				0.08	0.89	0.91	0.07
	2 (all factor loadings constrained)	599.59	179	9.71	11	0.556	0.08	0.90	0.91	0.07
	2.1 (only PE is constrained)	593.42	171	3.54	3	0.316	0.08	0.89	0.91	0.07
	2.2 (only EE is constrained)	590.17	171	0.29	3	0.962	0.08	0.89	0.91	0.07
	2.3 (only SI is constrained)	593.85	171	3.97	3	0.265	0.08	0.89	0.91	0.07
	2.4 (only FC is constrained)	591.80	170	1.93	2	0.382	0.08	0.89	0.91	0.07
Type of Technology	Default Model	614.02	168				0.08	0.89	0.91	0.07
	2 (all factor loadings constrained)	655.72	179	41.69	11	0.000	0.10	0.89	0.91	0.07
	2.1 (only PE is constrained)	629.74	171	15.72	3	0.001	0.09	0.89	0.91	0.07
	2.2 (only EE is constrained)	617.86	171	3.84	3	0.279	0.09	0.89	0.91	0.07
	2.3 (only SI is constrained)	630.84	171	16.81	3	0.001	0.09	0.89	0.91	0.07
	2.4 (only FC is constrained)	619.14	170	5.11	2	0.077	0.09	0.89	0.91	0.07
Gender	Default Model	620.21	168				0.09	0.89	0.91	0.07
	2 (all factor loadings constrained)	628.76	179	8.55	11	0.865	0.09	0.90	0.91	0.07
	2.1 (only PE is constrained)	623.52	171	3.31	3	0.769	0.09	0.89	0.91	0.07
	2.2 (only EE is constrained)	621.38	171	1.18	3	0.416	0.09	0.89	0.91	0.07
	2.3 (only SI is constrained)	623.70	171	3.49	3	0.743	0.09	0.89	0.91	0.07
	2.4 (only FC is constrained)	620.75	170	0.54	2	0.973	0.09	0.89	0.91	0.07

## Invariance of Variance-Covariance of Latent Variables

The invariance of variance-covariance of latent variables was tested as summarized in Table 3. The results show that there is invariance of the variance and covariance of latent variables across technology type and gender. However, there are differences across countries. Covariances among constructs are related to the constructs’ meaning or validity. Therefore, unequal covariances imply inequality of construct meanings (Steinmetz et al. 2009). The analysis of individual constructs shows that the sources of difference across countries were EE and FC.

## Invariance of Item Intercepts and Mean of Latent Variables

In the invariance tests discussed above, model 2 (factor loadings constrained) was used as a reference model. Model 2, however, cannot be compared with model 6 in Table 4 because they are not nested models. Therefore, AIC is tested instead of RMSEA. Most applications of structural equation modeling focus on the covariance part of the model. In such cases, the model assumes zero indicator intercepts and zero latent means. Therefore, scalar invariance and invariance of latent means are tested only when the researcher is interested in comparing means and intercepts across groups (Steinmetz et al. 2009). That is why invariance of intercepts and mean of latent variables is thought to be relatively less important than other types of invariance.

**Table 3. Invariance of Variance-Covariance of Latent Variables**

Group	Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	P	RMR	TLI	CFI	RMSEA
Nationality	2 (all factor loadings constrained)	599.59	179				0.08	0.90	0.91	0.07
	4 (variance is constrained)	622.42	183	22.83	4	0.000	0.11	0.90	0.91	0.07
	4.1 (only PE is constrained)	599.70	180	0.11	1	0.745	0.08	0.90	0.91	0.07
	4.2 (only EE is constrained)	611.35	180	11.76	1	0.001	0.10	0.90	0.91	0.07
	4.3 (only SI is constrained)	601.69	180	2.10	1	0.148	0.08	0.90	0.91	0.07
	4.4 (only FC is constrained)	614.21	180	14.62	1	0.000	0.09	0.90	0.91	0.07
	5 (covariance is constrained)	637.32	185	37.73	6	0.000	0.15	0.89	0.91	0.07
Type of	2 (all factor loadings constrained)	655.72	179				0.10	0.89	0.91	0.07

Technology	4 (variance is constrained)	657.54	183	1.83	4	0.767	0.10	0.90	0.91	0.07
	4.1 (only PE is constrained)	655.75	180	0.03	1	0.863	0.10	0.89	0.91	0.07
	4.2 (only EE is constrained)	657.28	180	1.57	1	0.211	0.10	0.89	0.91	0.07
	4.3 (only SI is constrained)	655.88	180	0.16	1	0.688	0.10	0.89	0.91	0.07
	4.4 (only FC is constrained)	655.93	180	0.22	1	0.641	0.10	0.89	0.91	0.07
	5 (covariance is constrained)	663.33	185	7.62	6	0.267	0.10	0.90	0.91	0.07
Gender	2 (all factor loadings constrained)	628.76	179				0.09	0.90	0.91	0.07
	4 (variance is constrained)	631.30	183	2.54	4	0.638	0.09	0.90	0.91	0.07
	4.1 (only PE is constrained)	628.86	180	0.10	1	0.756	0.09	0.90	0.91	0.07
	4.2 (only EE is constrained)	631.03	180	2.27	1	0.132	0.09	0.90	0.91	0.07
	4.3 (only SI is constrained)	628.78	180	0.01	1	0.909	0.09	0.90	0.91	0.07
	4.4 (only FC is constrained)	629.17	180	0.40	1	0.526	0.09	0.90	0.91	0.07
	5 (covariance is constrained)	655.73	185	26.96	6	0.000	0.11	0.90	0.91	0.07

**Table 4. Invariance of Item Intercepts and Mean of Latent Variables**

Group	Model	$\chi^2$	Df	$\Delta\chi^2$	$\Delta df$	P	TLI	CFI	AIC
Nationality	6 (intercept is constrained)	746.13	190				0.88	0.90	955.94
	6.1 (only PE is constrained)	756.22	191	10.09	1	0.001	0.87	0.90	1005.56
	6.2 (only EE is constrained)	849.17	191	103.05	1	0.000	0.85	0.88	957.03
	6.3 (only SI is constrained)	751.15	191	5.02	1	0.025	0.88	0.90	972.53
	6.4 (only FC is constrained)	910.46	191	164.33	1	0.000	0.84	0.87	956.79
	7 (intercept and mean are constrained)	924.46	194	178.33	4	0.000	0.84	0.87	1003.92
	2 (all factor loadings constrained)	599.59	179				0.90	0.93	837.72
Type of Technology	7 (intercept and mean are constrained)	924.46	194	324.87	15	0.000	0.84	0.87	1003.92
	6 (intercept is constrained)	795.94	190				0.86	0.89	955.94
	6.1 (only PE is constrained)	847.56	191	51.62	1	0.000	0.85	0.88	1005.56
	6.2 (only EE is constrained)	799.03	191	3.09	1	0.079	0.86	0.89	957.03
	6.3 (only SI is constrained)	814.53	191	18.59	1	0.000	0.86	0.89	972.53
	6.4 (only FC is constrained)	798.79	191	2.85	1	0.091	0.86	0.89	956.79
	7 (intercept and mean are constrained)	851.92	194	55.99	4	0.000	0.85	0.88	1003.92
2 (all factor loadings constrained)	655.72	179				0.88	0.91	837.72	
Gender	7 (intercept and mean are constrained)	851.92	194	196.21	15	0.000	0.85	0.88	1003.92
	6 (intercept is constrained)	649.11	190				0.89	0.92	809.11
	6.1 (only PE is constrained)	662.43	191	13.33	1	0.000	0.89	0.91	820.43
	6.2 (only EE is constrained)	671.14	191	22.04	1	0.000	0.89	0.91	829.14
	6.3 (only SI is constrained)	653.25	191	4.14	1	0.042	0.89	0.91	811.25
	6.4 (only FC is constrained)	700.62	191	51.52	1	0.000	0.88	0.91	858.62
	7 (intercept and mean are constrained)	703.06	194	53.95	4	0.000	0.88	0.91	855.06
2 (all factor loadings constrained)	628.76	179				0.89	0.92	810.76	
	7 (intercept and mean are constrained)	703.06	194	74.30	15	0.000	0.88	0.91	855.06

## Invariance of Random Measurement Errors

If the factor loadings and variances of the latent variables have been shown to be equal, then the error variances are equivalent to the reliability of the indicators (Steinmetz et al. 2009). In order to test invariance of random measurement errors, model 2 (factor loadings constrained) and model 3 (model 2 + error variances constrained) were compared. The test results in Table 5 show that there is non-invariance (difference) across all sub-groups. Examination of individual constructs shows that the sources of difference were EE and FC for nationality, PE and FC for technology type, and EE, SI, and FC for gender.

**Table 5. Invariance of Random Measurement Errors**

Group	Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	P	RMR	TLI	CFI	RMSEA
Nationality	2 (all factor loadings constrained)	599.59	179				0.08	0.90	0.91	0.07
	3 (factor loadings and error variances constrained)	648.36	194	48.77	15	0.000	0.08	0.90	0.91	0.07
	3.1 (only PE is constrained)	606.26	183	6.67	4	0.154	0.08	0.90	0.91	0.07
	3.2 (only EE is constrained)	625.66	183	26.07	4	0.000	0.08	0.90	0.91	0.07

	3.3 (only SI is constrained)	601.69	183	2.10	4	0.717	0.08	0.90	0.91	0.07
	3.4 (only FC is constrained)	613.44	182	13.85	3	0.003	0.08	0.90	0.91	0.07
Type of Technology	2 (all factor loadings constrained)	655.72	179				0.10	0.89	0.91	0.07
	3 (factor loadings and error variances constrained)	706.31	194	50.60	15	0.000	0.10	0.89	0.90	0.07
	3.1 (only PE is constrained)	684.10	183	28.38	4	0.000	0.10	0.89	0.90	0.07
	3.2 (only EE is constrained)	656.41	183	0.69	4	0.952	0.10	0.90	0.91	0.07
	3.3 (only SI is constrained)	659.29	183	3.57	4	0.467	0.10	0.90	0.91	0.07
	3.4 (only FC is constrained)	673.71	182	17.99	3	0.000	0.10	0.89	0.91	0.07
Gender	2 (all factor loadings constrained)	628.76	179				0.09	0.90	0.91	0.07
	3 (factor loadings and error variances constrained)	702.37	194	73.61	15	0.000	0.09	0.89	0.90	0.07
	3.1 (only PE is constrained)	630.96	183	2.20	4	0.700	0.09	0.90	0.91	0.07
	3.2 (only EE is constrained)	671.81	183	43.05	4	0.000	0.09	0.89	0.91	0.07
	3.3 (only SI is constrained)	640.61	183	11.85	4	0.019	0.09	0.90	0.91	0.07
	3.4 (only FC is constrained)	645.37	182	16.61	3	0.001	0.09	0.90	0.91	0.07

## Summary and Discussion

Overall, the UTAUT model is invariant across countries, technologies, and gender in most dimensions of invariance. The most important ones, configural loadings invariance and factorial loadings invariance, were proved to exist except for technology type in the category of factorial invariance. However, some differences exist in other dimensions of invariance. Most notable is the non-invariance across countries, probably because cultural differences have profound impacts on the responses. The difference probably comes from various sources such as psychometrical disagreement and wording. The sources of non-invariance need to be investigated further.

## CONCLUSIONS

This paper tests invariance of the UTAUT model across two countries, two technologies, and gender. Invariance of a model is critical when the model is to be applied to different conditions and groups. This study showed that the UTAUT model is robust across different conditions overall. However, some dimensions of the model differ across sub-groups. In order to apply the UTAUT model to different conditions and groups, especially when cross-country or cross-technology comparisons are conducted, the possible differences due to measurement non-invariance should be taken into account. This study has limitations due to the nature of the data and research methods, and future extensions are recommended. First, although the data sample is fairly large, further study is desirable with a larger dataset. Second, this study only tested the existence of invariance and did not investigate the causes of differences. Further study on the causes of the differences would provide valuable information about applying the UTAUT model.

## REFERENCES

- Al-Gahtani, S.S., Hubona, G.S., and Wang, J. "Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT," *Information & Management* (44:8) 2007, pp 681-691.
- Anderson, J.E., Schwager, P.H., and Kerns, R.L. "The driver s for acceptance of tablet PCs by faculty in a college of business," *Journal of Information Systems Education* (17:4) 2006, pp 429-440.
- Bandyopadhyay, K. "The effect of culture on user acceptance of information technology," *Communications of the AIS* (19) 2007, pp 522-543.
- Billiet, J. "Cross-cultural equivalence with structural equation modeling," in: *Cross-Cultural Survey Methods*, P.P. Mohler (ed.), John Wiley & Sons Inc., New Jersey, 2002, pp. 247-264.
- Deng, X., Doll, W.J., Al-Gahtani, S.S., Larsen, T.J., Pearson, J.M., and Raghunathan, T.S. "A cross-cultural analysis of the end-user computing satisfaction instrument: A multi-group invariance analysis," *Information & Management* (45:4) 2008, pp 211-220.

Doll, W.J., Hendrickson, A., and Deng, X. "Using Davis's Perceived Usefulness and Ease-of-Use Instruments for Decision Making: A Confirmatory and Multigroup Invariance Analysis," *Decision Sciences* (29:4), Fall 1998, pp 839-869.

Jöreskog, K.G., and Sörbom, D. *LISREL8 User's Reference Guide* Science Software, Chicago, 1993.

Klenke, K. "Construct measurement in management information systems: A review and critique of user satisfaction and user involvement instruments," *INFOR* (34:4) 1992, pp 325-348.

Lai, V.S., and Li, H. "Technology acceptance model for internet banking: An invariance analysis," *Information & Management* (42) 2005, pp 373-386.

Lin, C.-P., and Anol, B. "Learning online social support: An investigation of network information technology based on UTAUT," *CyberPsychology & Behavior* (11:3) 2008, pp 268-272.

Murray, J.Y., Gao, G.Y., Kotabe, M., and Zhou, N. "Assessing measurement invariance of export market orientation: A study of Chinese and Non-Chinese firms in China," *Journal of International Marketing* (14:4) 2007, pp 41-62.

Oshlyansky, L., Cairns, P., and Thimbleby, H. "Validating the Unified Theory of Acceptance and Use of Technology (UTAUT) tool cross-culturally," The 21st BCS HCI Group Conference, British Computer Society, Lancaster University, UK, 2007.

Steenkamp, J.-B.E.M., and Baumgartner, H. "Assessing measurement invariance in cross-national consumer-research," *Journal of Consumer Research* (25), June 1998, pp 78-90.

Steinmetz, H., Schmidt, P., Tina-Booh, A., Wiczorek, S., and Schwartz, S.H. "Testing measurement invariance using multigroup CFA: Differences between educational groups in human values measurement," *Quality and Quantity* (43:4) 2009, pp 599-616.

Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D. "User acceptance of information technology: Toward a unified view," *MIS Quarterly* (27:3), September 2003, pp 425-478.

Wang, Y.-S., and Ying-Wei Shih "Why do people use information kiosks?: A validation of the Unified Theory of Acceptance and Use of Technology," *Government Information Quarterly* (26:1) 2009, pp 158-165.

# LEADING MULTICULTURAL WORK GROUPS FOLLOWERS' ATTRIBUTIONS AND PERCEPTIONS IN AN INTERCULTURAL SETTING

**Helmut Kasper, Jürgen Mühlbacher, Georg Kodydek and Stefan Schilcher  
Wu, Vienna University of Economics and Business, Austria**

## ABSTRACT

*This paper contributes to implicit leadership theories in intercultural settings. We investigate general assumptions of cultural differences within leadership perceptions and followers' attributions of multinational work groups. We intent to understand challenges in an intercultural, task-related setting with students from different countries. Moreover, this study was conducted in an experimental class setting at WU (Vienna University of Economics and Business) in which international students work together over the course of a semester in a senior-level management class. Participants were 26 business students with different national and cultural backgrounds and a fairly even gender split.*

*Participants' attributions, perceptions personality dimensions were assessed following a 10-item short version of the Big Five Inventory (Rammstedt & John, 2007) and a modified version of the Performance-Maintenance (PM) theory (Chong & Thomas, 1997). Results are discussed with relation to leadership and team effectiveness, and cross-cultural differences. The paper also highlights implications of these findings for future research, teaching and development in the field.*

## INTRODUCTION

Many companies operate internationally and hire people from different countries to benefit from diverse backgrounds, different views and positions (House, Hanges, Javidan, Dorfman & Gupta, 2004). Diverse work groups and teams are becoming widespread and the challenge is to successfully lead diversity. For this reason, recruiters want the best talented graduates and professionals for their companies. The global business environment demands high professional young leaders who can lead multinational work groups and teams in multicultural organizations. So, the dealing with diversity, especially a diverse workforce, has played a prominent role in recent years (Pless & Maak, 2004). Potential applicants need to have several competences and have to be internationally oriented (Breaugh & Starke, 2000). Research considers intercultural competence as an important condition for the success of internationally operating companies. In any case, it can be identified as a strategic organizational competence for organizations (Bartel-Radic, 2006). So, finding an internationally oriented and multicultural educated staff is a major challenge for globally operating firms. "Given the fact that diversity is essentially about cultural norms and values, appropriate reflection work becomes a fundamental task to create a truly inclusive work environment where people from diverse backgrounds feel respected and recognized." (Pless & Maak, 2004: 129)

At the same time is argued that working in a multicultural team is a mandatory demand and even an indispensable competence for young professionals (Mühlbacher, 2007). Thereby, young people face two major challenges. Firstly, they need to persist in multicultural environments and be able to perform at the highest stage. Thus, graduates have to speak several languages and need to be able to adapt to fundamental intercultural differences quickly (Welch, Welch & Piekkari, 2005). Secondly and even more challenging than working in a multicultural team is the leadership of a diverse team. Students and young professionals need to inherit

leadership responsibility and develop cultural sensitivity for international settings to effectively perform global leadership tasks and activities. Young leaders need to focus on the implications of cultural differences for a variety of issues (Javidan, Dorfman, Howell & Hanges, 2010). “Identifying the characteristics within people’s leadership schemas is thought to be important because the content of leadership schemas dictates who is perceived as a leader and who is not.” (Javidan, Dorfman, Howell & Hanges, 2010: 340)

Although some negative aspects of culturally diverse teams are discussed occasionally (Stevens, Plaut & Sanchez-Burks, 2008) the positive potential of multicultural teams with their positive dynamics and outcomes are an important factor of a company (Stahl, Mäkelä, Zander, & Maznevski, 2010). The advantages of diversity-based work groups with people from different nations and culturally imprinted differing perspectives, interpretations and approaches are the different approaches and views that are developed and often integrated in the organizational culture after a certain time (Bachmann, 2006). The challenge of cultural differences could lead to unique and potentially valuable capabilities, foster learning and innovation. Cultural diversity contributes significantly to organizational outcomes – especially within globally operating firms (Stahl, Mäkelä, Zander & Maznevski, 2010).

Multicultural work groups and teams vary in terms of diversity along a range of dimensions such as nationality, ethnicity, or religion (Zander & Butler, 2010). In order to lead multicultural teams effectively, leaders need to know the cultures with which they interact and also appreciate their group and teams members’ personalities, conflict behavior, and life experiences. An understanding of communication processes that are necessary to develop high-performance work groups and teams is an important factor and needs to be developed in an organizational context (Matveev & Nelson, 2004). Reaching a high level of team effectiveness and team performance is an important objective of every leader. Hence, a successful and strong leader who can lead a multicultural team has to have the appropriate skills and competences which need to be developed at an early stage (Mühlbacher, 2007). “Cultural groups may vary in their conceptions of the most important characteristics of effective leadership.” (Den Hartog, House, Hanges & Ruiz-Quintanilla, 1999: 225) Hence, the performance of a leader in some cultures will vary accordingly. Some strong decisive actions will be regarded as a successful leadership, whereas a democratic approach will be preferred in other cultures. Moreover, the leader behaviors and characteristics will be perceived unequally in different cultures (Den Hartog, House, Hanges & Ruiz-Quintanilla, 1999).

## **IMPLICIT LEADERSHIP THEORIES**

Leadership is one of the most discussed research topics in social sciences (DeRue, Nahrgang, Wellman, & Humphrey, 2011). Many researchers have noted that there is no consistently agreed-upon definition of “leadership”, and no clear understanding of the boundaries of this important topic (Dickson, Den Hartog & Mitchelson, 2003). In this paper, we focus on the implicit leadership theories (ILT) and concentrate on the eyes of the followers (Holmberg & Åkerblom, 2006). In a social influence process of implicit leadership theories, a leader and a follower are involved (Foti, Knee & Backert, 2008). This leadership approach is “a means of understanding leader perceptions and attributions, as well as a source of error in measurement of leader behavior.” (Keller, 1999: 589) The focus in this paper is on the follower’s cognitive mechanisms that mediate the influence process. “Several factors are important to the leadership perception process – specifically, the cognitive knowledge structures of followers, the context in which leader behaviors are embedded, and multiple pieces of information occurring simultaneously and over time.” (Foti, Knee & Backert, 2008: 178) Interactions between leaders and followers in the workplace can be influenced by the implicit leadership theories. Especially graduates’ and young professionals’ leadership expectations provide a basis for interpreting the behavior of others and a foundation for generating behavior. It often happens that the expectation and perceptions of the leader and the follower completely differ from each other (Keller, 2003). An important influence of a leader perception is the degree of fit between the leader’s behaviors and their own implicit leadership theory which is the basis for the labeling of individuals at the same time (Holmberg & Åkerblom, 2006).

Followers categorize a leadership style and compare their attributes with the attributes of the “prototypical leader” within their schema. For a consideration of being a leader it is important that a follower’s attributes match between leader prototype (Javidan, Dorfman, Howell & Hanges, 2010). Based on the attributes

of the followers the leader will be seen as a person with ability to motivate and direct others (Konst, Vonk & Van der Vlist, 1999). The ethnic identity of leaders and followers are further important factors and can influence the effective interaction between the two groups – especially in an intercultural setting (Chong & Thomas, 1997). The national diversity is a substantial influence of a person's ethnic identity and can be defined as the distribution and number of team members' national backgrounds and it reflects the trend toward globalization. The international work groups we analyzed during our experiment experience differences in communication styles and patterns, different norms about information sharing and group effectiveness (Dahlin, Weingart & Hinds, 2005).

In our study we mainly focus on the intercultural differences in the perceptions of the followers to their leaders in an experimental setting. We concentrated on two different groups, participants from Europe and North America in one group and people from Asian countries in another. In this paper, we use the term "Confucian Asian countries" following the term of the GLOBE study (Gupta & Hanges, 2004). Our goal was to find reasons and answers for the following research question: *"How does the national culture of leaders influence the perceptions of followers in multicultural teams?"*

## METHODOLOGY

In our study we analyzed the perceptions of students concerning their leaders during a group task in an experimental setting. Participants were 26 undergraduate students. The sample ( $N = 24$ , 8 male and 16 female; mean age = 25,58 years) represented twelve countries. Moreover, two additional students were selected as leaders in this experiment. These leaders had the same cultural background and spoke fluent English.

At the beginning of the study we divided the participating students into two multicultural work groups. One group was dominated by members of Western countries such as countries of the European Union and North America. The others consisted of a significant group of people who were mainly nationals of Confucian Asian countries. Basically, Gupta & Hanges (2004) indicate China, Hong Kong, Japan, Singapore, South Korea, and Taiwan as a country cluster identified as Confucian Asia.

Two instructors observed the two work groups in two separate rooms. The task was handed over by the observers. The assignment was to design and produce greeting cards within 60 minutes. The leadership style and the working process were not specified by the instructors. After 60 minutes the leaders of the work group handed over the output of the group to the instructor. Afterwards the participants were asked to complete a survey asking them to identify the leader of the group and to rank their own personal view of their group performance.

The questionnaire consisted of 31 items containing personality and implicit leadership theory measures. All items in this questionnaire were rated on a five-point Likert-scale, ranging from "disagree strongly" (response score = 1) to "agree strongly" (response score = 5). Demographic information regarding age, sex, and nationality was also collected. The first ten items were based on the BFI-10 of Rammstedt and John (2007). With the Big Five dimensions (BFI-10) we focused on certain basic aspects of personality structure. With the BFI-10 we concentrated on personal assessments and ratings of the participants to explore possible differences of the multicultural group members in an intercultural setting. We emphasize that the Big Five dimensions do not imply to reduce personality differences to five traits (Benet-Martínez & John, 1998). Every dimension (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) includes a number of specific personality characteristics and the Big Five dimensions represent personality at the broadest level of abstraction." (Benet-Martínez & John, 1998: 730)

The participants were asked to respond to questions concerning their leadership perceptions and about their satisfaction adapted from Chong & Thomas, 1997. The 21 items based on a modified version of the Performance-Maintenance (PM) theory developed by Misumi & Peterson (1985) and Smith, Misumi, Tayeb, Peterson & Bond (1989) and were adapted for our experiment and research context. We have two reasons for using this theory for measuring leadership perceptions in an intercultural context. First, in contrast to traditional U.S. leadership theories, the PM theory refers to leadership behavior as experienced by followers. Second, the impact of contingencies, as the nature of the task, employee tenure, and demographic variables etc., is assumed to be reflected in the follower responses to the questionnaire. Consequently, the results that are reported are not

being compared to an absolute level of leadership but are relative to the levels the employee perceives as necessary, given the personal and situational context. In brief, in this theory the leader is not in the center of attention, but the followers and the external conditions are. Therefore, this theory is more than adequate for a study regarding different cultural perceptions of leadership by followers (Chong & Thomas, 1997).

The PM theory consists of two main dimensions: (1) The performance dimension (P), which covers behavior directed toward achieving group goals and can be subdivided into (1a) pressure-type leadership behavior and (1b) planning-type leadership behavior and (2) the maintenance (M) dimension. The maintenance dimension refers to behavior directed at group maintenance and preservation. As the focus is placed on the perception of leadership behavior by the followers, the results regarding the two dimensions are not to be seen as an additive function. For example, a high scale value regarding pressure-type leadership may create resistance among followers. However, in combination with a high scale value regarding the maintenance dimension of leadership, the pressure-type leadership behavior may be interpreted as being part of the leader's support in facing external threats (Chong & Thomas, 1997).

## RESULTS

Our first step was the analysis of the Big Five Inventory (BFI-10). Regarding the Big Five Inventory a similar self-evaluation of the participants of both culture groups was observed. It offered interesting self-ratings by the followers and was a great fit for the needs and intentions of this study. The results of the first part did not show significant differences within the own ratings of the students. Moreover, the participants of both groups rated themselves all about the same.

The analysis of the second part consisted of the items that outline leadership perceptions and satisfaction with the leader. As regards the perception of the leader, there were no significant differences of the maintenance dimension (2) and the planning type leadership behavior (1b). Results about performance and maintenance dimensions are indicated in Figure 2 below. However, the perception of the pressure type leadership behavior (1a) was significantly different. This result matches without a doubt with the observations of the instructors. Despite the competitive character of the experiment, in the Confucian Asian dominated group no hurry was observed by the experiment supervisor. Furthermore, the final products lacked in quantity as well in quantity compared to the Western dominated group. Consequently, the Western leader of the Confucian Asian dominated group must have failed to put pressure on his followers.

**Figure 1. Analysis of Performance and Maintenance dimensions**

Dimension	Country	Mean	T-Test	Sign.
(1) Performance Dimension				
(1a) Pressure Type	Western	33.68	2.07	0.05
	Confucian Asian	28.37		
(1b) Planning Type	Western	32.31	1.28	0.21
	Confucian Asian	29.00		
(2) Maintenance Dimension				
(2) Maintenance Dimension	Western	38.12	1.15	0.26
	Confucian Asian	35.50		

The significant items of our analysis about pressure type factors are indicated below in Figure 2. The findings of the survey showed a significantly different perception between the groups of the leader's ability to give instructions and orders (Item 27). Furthermore, in contrast to the Western group, the Confucian Asian dominated group stated that their leader failed to set clear deadlines (Item 25). Moreover, the Confucian Asian dominated group noted that their leader failed to make them work to the max (Item 23). We argue that low ratings of the perceived pressure-type leadership behavior were caused by the language barrier. As the leader of this group spoke fluent English, he showed a strong tendency to speak quickly and use complex sentence structure and advanced vocabulary. As a result he failed to adapt to the English level of his followers. Consequently, the Confucian Asian participants started to form small subgroups to discuss the meaning of the

given instructions/orders using their own mother tongue. This led to the situation that the leader found himself many times excluded from the group and failed to stress out the competitive character of the setting and to set clear deadlines (Hackman & Wageman, 2005).

**Figure 2. Significant Pressure Type Factors**

	Item:	Country	Mean	T-Test	Sign.
Pressure Type	The leader of the task				
	23....makes me work to the max.	Western	3.87	2.64	0.02
		Confucian Asian	2.75		
	25. ... sets clear deadlines	Western	3.68	2.05	0.05
		Confucian Asian	2.62		
	27. ...gives instructions/orders	Western	4.31	2.24	0.04
		Confucian Asian	3.50		

## CONCLUSION AND MANAGEMENT IMPLICATIONS

After interpreting the results of this study we can answer our research question. The significant differences of the items “treats members as equal”, “makes me work to the max.”, “sets clear deadlines”, and “gives instructions/orders” that we identified with the PM theory, showed obvious differences in the perceptions of followers with different backgrounds. The participants from Western countries evaluated the leadership style and performance differently than the Confucian Asian students. The different nationalities led to varied attributions and perceptions of the leaders in this experiment.

This experiment highlights the impact of cultural differences on intercultural interactions between leaders and followers. We analyzed that the international followers indicated different perceptions of the leadership styles. Based on the results, we argue that the national culture of leaders affects attributes and perceptions of followers significantly. We underline this finding by reference to the behaviors of leaders that are learned and developed in their own culture. Setting clear deadlines, giving instructions and motivate people to work to the maximum is often part of a leadership style that is observed in a specific culture. Differences of leadership styles and leader performances can vary enormously. As mentioned before, strong decisive instructions and decisions will be regarded as successful leadership. In other cultures and nations this approach will be assessed negatively (Den Hartog, House, Hanges & Ruiz-Quintanilla, 1999).

Young people need to experience the responsibility for a group of people as soon as possible after their job entry. The international direction of companies leads to multinational personnel with different cultural backgrounds. On the one hand, organizations have to support the understanding and sensitizing of cultural differences by offering preliminaries, coaching, and team development trainings. Otherwise, young leaders have to understand the important cultural values and aspects and consider them accordingly to assess the attitudes of their followers. We also recommend the general assessment of successful leaders of specific nations and cultures someone works with. It gives you the chance to understand the fundamental perceptions of your followers of a certain culture and nation.

## LIMITATIONS AND FUTURE DIRECTIONS

This experiment was a pre-test for an upcoming experiment. The results and the observations lead to an interesting approach in implicit leadership studies and the perceptions of followers in an intercultural context. For a more extensive study it is important to specify clear variables and operational measures for an effective experimental setting. We also suggest including a team perspective with a focus on team effectiveness and personal contributions to the success of the team. In our upcoming experiment, the study groups need to be more comparable and stable at the same time. Hence, the number of the persons of the participating countries needs to be the same in order to guarantee a similar approach. One limitation of our study is a relatively small data

sample. A larger sample gives more details and provides more data to make stronger claims in this field. We also consider the effects of more intensive observations.

## REFERENCES

- Bachmann, A.S. "Melting pot or tossed salad? Implications for designing effective multicultural workgroups." *Management International Review*, Vol. 46, No. 6, (2006): 721-747
- Bartel-Radic, A. "Intercultural learning in global teams." *Management International Review*, Vol. 46, No. 6, (2006): 647-677
- Benet-Martínez, V. & John, O.P. "Los cinco grandes across cultures and ethnic groups: Multitrait multimethod analyses of the Big Five in Spanish and English." *Journal of Personality and Social Psychology*, Vol. 75, No. 3, (1998): 729-750
- Breaugh, J.A. & Starke, M. "Research on employee recruitment: So many studies, so many remaining questions." *Journal of Management*, Vol. 26, (2000): 405-434
- Chong, L.M.A. & Thomas, D.C. "Leadership perceptions in cross-cultural context: Pakeha and pacific islanders in New Zealand" *Leadership Quarterly*, Vol. 8, No. 3, (1997): 275-293
- Dahlin, K.B., Weingart, L.R. & Hinds, P.J. "Team diversity and information use." *The Academy of Management Journal*, Vol. 48, No. 6, (2005): 1107-1123
- Den Hartog, D.H., House, R.J., Hanges, P.J. and Ruiz-Quintanilla, S.A. "Culture specific and cross-culturally generalizable implicit leadership theories: Are attributes of charismatic/transformational leadership universally endorsed?" *Leadership Quarterly*, Vol. 10, (1999): 219-256
- DeRue, D.S., Nahrgang, J.D., Wellman, N. & Humphrey, S.E. "Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity." *Personnel Psychology*, Vol. 64, (2011): 7-52
- Dickson, M.W., Den Hartog, D.N. & Mitchelson, J.K. "Research on leadership in a cross-cultural context: Making progress, and raising new questions." *Leadership Quarterly*, Vol. 14, (2003): 729-769
- Foti, R.J., Knee Jr., R.E. & Backert, R.S.G. "Multi-level implications of framing leadership perceptions as a dynamic process." *Leadership Quarterly*, Vol. 19, (2008): 178-194
- Gupta, V. & Hanges, P.J. "Regional and climate clustering of societal cultures." In R.J. House, P.J. Hanges, M. Javidan, P.W. Dorfman, & V. Gupta (Eds.), *Culture, Leadership, and Organizations. The GLOBE study of 62 societies* (pp. 178-218). Thousand Oaks, CA: Sage Publications, 2004
- Hackman, J.R. & Wageman, R. "A theory of team coaching." *Academy of Management Review*, Vol. 30, No. 2, (2005): 269-287
- Holmberg, I. & Åkerblom, S. "Modelling leadership – Implicit leadership theories in Sweden." *Scandinavian Journal of Management*, Vol. 22, (2006): 307-329
- House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., and Gupta, V. (Eds.), *Culture, Leadership, and Organizations. The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage Publications, 2004
- Javidan, M., Dorfman, P.W., Howell, J.P. & Hanges, P.J. "Leadership and cultural context. A theoretical and empirical examination based on project GLOBE." In N. Nohria & R. Khurana (Eds.), *Handbook of leadership theory and practice. An HBS centennial colloquium on advancing leadership* (pp. 335-376). Boston, MA: Harvard Business Press, 2010

Keller, T. "Images of the familiar: Individual differences and implicit leadership theories." *Leadership Quarterly*, Vol. 10, (1999): 589-607

Keller, T. "Parental images as a guide to leadership sensemaking: An attachment perspective on implicit leadership theories." *Leadership Quarterly*, Vol. 14, (2003): 141-160

Konst, D., Vonk, R. & Van der Vlist, R. "Inferences about causes and consequences of behaviors of leaders and followers." *Journal of Organizational Behavior*, Vol. 20, (1999): 261-271

Matveev, A.V. & Nelson, P.E. "Cross cultural communication competence and multicultural team performance. Perceptions of American and Russian managers." *International Journal of Cross Cultural Management*, Vol. 4, No. 2, (2004): 253-270

Misumi, J. & Peterson, M.F. "The Performance-Maintenance (PM) theory of leadership: Review of a Japanese research program." *Administrative Science Quarterly*, Vol. 30, (1985): 198-223

Muehlbacher, J., *Kompetenzmanagement als Grundlage strategischer Wettbewerbsvorteile*. Vienna: Linde Verlag, 2007

Pless, N.M. & Maak, R. "Building an inclusive diversity culture: Principles, processes and practice." *Journal of Business Ethics*, Vol. 54, (2004): 129-147

Rammstedt, B. & John, O.P. "Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German." *Journal of Research in Personality*, Vol. 41, (2007): 203-212

Smith, P.B., Misumi, J., Tayeb, M., Peterson, M. & Bond, M. "On the generality of leadership style measures across cultures." *Journal of Occupational Psychology*, Vol. 62, (1989): 97-109

Stahl, G.K., Mäkelä, K., Zander, L., & Maznevski, M.L. "A look at the bright side of multicultural team diversity." *Scandinavian Journal of Management*, Vol. 26, (2010): 439-447

Stevens, F.G., Plaut, V.C., & Sanchez-Burks, J. "Unlocking the benefits of diversity. All-inclusive multiculturalism and positive organizational change." *The Journal of Applied Behavioral Science*, Vol. 44, No. 1, (2008): 116-133

Welch, D.E., Welch, L. & Piekkari, R. "Speaking in tongues. The importance of language in international management processes." *International Studies of Management and Organization*, Vol. 35, No. 1, (2005): 10-27

Zander, L. & Butler, C.L. "Leadership modes: Success strategies for multicultural teams" *Scandinavian Journal of Management*, Vol. 26, (2010): 258-267

# **AN EVALUATION OF MOBILE PHONE USAGE FOR EDUCATIONAL PURPOSES AND ITS IMPACT IN SOUTH AFRICAN PRIMARY SCHOOLS: PERSPECTIVES FROM THE USERS**

**Tumo Kele, Tshwane University of Technology, South Africa  
Phumzile Mlambo-Ngcuka, Umlambo Foundation, South Africa**

## **ABSTRACT**

*Cell phones are now equipped with access to internet, functionality which was initially limited to only desk-top and laptop computers. Due to this technological advancement, there are many learning benefits that could be derived from mobile phones in developing countries where access to information is scarce mainly in the rural areas. Since learning can take place at any location, time and circumstances, using cellular phones as a form of reaching certain target users can be beneficial. The greatest benefit could be derived from cell phone's mobility, portability and personalisation. Dr. LOLS, a mobile learning project designed to assist primary school teachers and learners to ease the communication link about life orientation and life skills was piloted and implemented in South Africa in year 2010. This paper examined the degree of Dr. LOLS' usefulness to both the teachers and learners. For this paper, researchers interviewed teachers and learners from four provinces in the country including students training to be teachers at one urban university. As a result of Dr. LOLS' implementation in schools, teachers and learners approved this newly established way of interaction as an efficient educational support system.*

## **INTRODUCTION**

It is now almost a decade since mobile devices have been equipped with technological advancements to access internet. To mention but a few, laptops, iPads and cellular phones can now enable users to access internet from almost anywhere in many parts of South Africa. There is a growing trend of research initiatives on cell phone usage in South Africa and other underdeveloped countries (Donner, 2008). Most of these studies focus on the better use mobile devices to disseminate educational information (Kreutzer, 2009). Also, a statistic of 72% of learners between the ages of 15-24 years owning cell phones was reported by Kreutzer (2009). This finding could be supported by a wide visibility of learners carrying cell phones at schools and presumably everywhere they go. It is therefore imperative that teachers view cell phones from a positive perspective and exploit the benefits they can provide to learning (Sharples, 2003). As the literature above suggest, usage of cell phones could be important in delivering knowledge, especially in subjects where learners feel afraid to ask their teachers. In this study, life orientation and life skills was taken as an exemplary subject where learners could be afraid to ask about sensitive life issues.

With this background in mind, researchers' assessment of the acceptability and importance of Dr Life Orientation and Life Skills (LOLS) to its users became the aim of this study. Life Orientation and Life Skills is a subject taught throughout the schooling years in South Africa with its content designed to prepare learners for meaningful and successful living. The project, Dr LOLS, uses the chat platform, MXit, to tutor learners in the area of life orientation and life skills. Through Dr LOLS, e-tutorials were set where teachers and learners were involved. Learners sent questions and teachers answered, both groups were sitting in remote locations and used their cell phones equipped with enabling software to communicate.

Citing Traxter (2005), Scanon, Jones and Waycott (2005) define mobile learning as *any educational provision where the sole or dominant technologies are handheld or palmtop devices*. It is with this premise that this paper considers Dr LOLS a platform where knowledge is made available to learners through the use of their cell phone and exploitation of the most popular social network, MXit. Almost the same as Scanon et al., (2005), researchers' approach to this paper was not on the technology itself, but on the knowledge being made available to learner everywhere they are through technology. As Traxler (2009) accedes, in many parts of southern Africa mobile learning is used to alleviate challenges of infrastructure, poverty and scarcity.

Through interviews, researchers investigated opinions of teachers and learners who use Dr LOLS as one of the means to relay life orientation and life skills subject content to learners. They further assisted in assessing the project's effectiveness in developing knowledge about the subject content. These interviews allowed researchers to gauge teachers and learners' perceptions and acceptance of cell phone technology in education and its assistance in the effective delivery of knowledge. Additionally, they brought awareness of the difficulties experienced by users for possible future effective implementation of strategies of facilitating the adoption and utilisation of information communications technology (ICT) by educational administrators in the country (Jebeile, 2003).

## **LIFE ORIENTATION AND LIFE SKILLS AS A SUBJECT**

Life orientation and life skills (LOLS) is a compulsory subject in South Africa for grades R to grade 12 (National Curriculum Statement, 2010). LOLS teachers are assigned the role of exposing learners to life skills that will give them a good orientation to life (Senge, 2007). It is not a subject that is taken seriously by both learners and teachers. However the increase in social challenges faced by young people, who include growing number of children who have no adult care givers and a growing number of child headed households (Bloch, 2009), the relevance of the subject is increasing.

Schools are increasingly expecting LOLS teachers to play an important role in guiding learners who are facing challenging situations. The topics that are part of the learning areas in the in the LOLS curriculum include, decision making, nutrition, peer pressure, bullying (including cyber bullying), physical fitness, sexuality, substance abuse and reproductive health ( Jordaan, Steyn, Sithole, 2005) all of which are relevant for the learner's development.

## **OVERVIEW AND OBJECTIVES OF Dr LOLS M-LEARNING PROJECT**

M-learning is ubiquitous which makes learning flexible for the learner and teacher. It is made possible by small portable devices (Kukulska-Hulme & Traxler, 2005) with and without the internet. The internet enabled devices such as the mobile phones and hand held computers make it possible to learn and teach any time anywhere, and to be taught by teachers located anywhere in the world. Learners can also learn to be self directed in their learning (Sharples 2003). In Dr LOLS there was a combination of self directed tutors and teachers facilitated learning with the guidance given in the tutorials followed up in class. That took the exercise of mobile learning from possibly being informal to formal e-learning that could be assessed by tutors and the teachers.

The Dr LOLS project has been established for the purpose of addressing problems identified by the researcher and for testing the assumptions thereof. The identified problems and assumptions are as follows; the teaching of LOLS is poor and most teachers have little interest in the subject whose immediate relevance is not so clear to them. In general teachers fear technology and have limited ICT skills (Taylor, 2001), which means they cannot use technology to make learning and teaching more interesting. They miss a unique moment to transmit ICT competencies to learners, which are an essential 21<sup>st</sup> century life skill, and they are also unable to take advantage of the learner's interest, excitement attraction to technology (Buston & Nussbaum, 2007). Whereas ICT literate teachers could see the opportunity presented by web enabled mobile phones that are available to the poor schools (Ford, 2009). Using m-learning could also help the teachers overcome their fear of

technology and to acquire and improve their ICT skills in a continuous professional development context (Lennon & Mauer, 2003).

The format of the Dr LOLS tutorials is one-on-one question and answer, done through instant messages between learners and educators from mobile phones and computers respectively. A 'Chat Call Center and Teach online (C3TO)' platform, owned by Center for Scientific and Industrial Research (CSIR) facilitates the interactions. The learners used web enabled phones that have an instant messaging program called MXit and the tutors connect using computers that have the internet. Both learners and teachers crossed the digital divide in the process. The wide availability of web enabled mobile phones to learners creates an instant possibility for e-learning for a large number of learners in South African public schools. LOLS is the subject, the online mobile tutorial is what makes the tutorial happen in real time.

The tutorials were conducted in the four schools in the provinces of Kwa-Zulu Natal, Eastern Cape, Limpopo, and Gauteng by tutors made up of teachers and principals of the participating schools, university teacher's trainees, and experienced LOLS experts and online tutors. Thirty five tutors, sixteen of whom were teachers and principals and two hundred and twenty two learners were recruited for the study. Initially the tutorials were for two hours, fortnightly and after four months into the program the demand grew increasing the tutorials to two hours every week. The interactive nature of action research and workshops provided occasion to review and adjust the program creating the iterations as direct by the research participants.

In the tutorials learners asked wide ranging questions beyond what is in the LOLS curriculum they expected instant answers, which placed pressure on the tutors to improve their ICT skills and their knowledge of LOLS. The tutors had to search for information on and off the internet and built a community of practice amongst themselves in particular to support one another the teachers (Wenger, White & Smith, 2009).

Through m-learning Dr LOLS provided a scalable platform because the system has no limit in the number of tutors it can accommodate, recruiting tutors who are teachers or volunteers needs to be managed. It is also cost effective because it used existing resources mostly, provided professional development for teachers without requiring much movement outside the school. Even with only 26% ownership of phones by learners there was universal access, learners shared phones worked in groups and took turns to chat and learn in line, they brought phones from home and the researcher was also able to find sponsorship for the schools. Through mobile learning it was possible to introduce affordable e-learning to both learners and teachers (Butcher, 2009). However it is doubtful whether a program of this nature is possible without a degree of project management from with the school, district or external facilitation similar to that provided by the researcher in the absence of fully enabling policy environment and resource limitations.

## **DESCRIPTION OF THE EVALUATION OF THE PROJECT**

The study to assess the efficiency and effectiveness of Dr LOLS's usage of cell phone to deliver subject content was conducted among eight teachers, one student teacher at an urban university, five learners. These participants were selected randomly from four Dr LOLS participating schools which are located in four provinces in South Africa. After teachers and learners were selected, they were interviewed separately to give their personal assessment about Dr LOLS. The evaluation of Dr LOLS was done at two stages:

- i) The usefulness and efficiency stage: at this stage, the usefulness of cell phones and Dr LOLS m-learning project was evaluated.
- ii) The usability or difficulties stage: at this stage, the usability and friendliness of the Dr LOLS m-learning project was evaluated.

A sample of the questions that were asked to both the teachers and learners are the following:

- i) Did Dr LOLS help you in your teaching and learning?
- ii) What do you think the learners have learnt that they could not do before?
- iii) Do you see any development in the manner in which learners understand the taught material?
- iv) What have you learned about mobile phones and computers through this project?

- v) What problems have you encountered with Dr LOLS?

## ASSESSMENT RESULTS

Below the researchers present responses obtained from the teachers and learners who took part in the study. The learners and teachers had both similar and different experiences.

### Teachers

On the involvement of additional tutors teachers felt that was positive contribution by the project, one teacher explained “Through Dr LOLS, there are more teachers assisting learners so they get knowledge from various sources, there is a significant improvement in correct English usage among learners; this is noticeable when they debate because they will refer to a source they got from Dr LOLS”. Teachers also appreciated what they had learnt from other tutors both content and about technology.

Teachers also found that they and the learners together learnt to search for information from the internet. Teachers used the skill to research and to do lesson plans which they were proud to share on line with other tutors in power point format.

There were also teachers motivated to acquire ICT skills in order to cope with the demands of tutoring and they also got help from the learners especially in relation to use the cell phones. ‘They even helped me (the teacher) though I had cell phone long before them’. The desire to learn and improve technology usage was demonstrated by teachers demand and requests for help to improve their computer literacy, that was organised halfway into the program as the teachers wanted it given urgent attention. They had overcome the fear of technology and now wanted to learn more and to become better tutors. During tutoring learners pressured tutors to do better and coached the teachers on the technology especially use of mobile phones. While the teachers helped learners with content and guided them through assignments. From the data logs it was shown that learners would demand of tutors to be faster, which placed positive pressure on the tutors.

Another teacher said ‘I was even encouraged to buy myself a laptop to log on to internet, before I had to make use of internet café’. She further made an observation that she also realised it is important to be organised as a tutor and teacher. Other teachers also emphasized the importance organizing reference documents to have within reach when needed during tutorials. Additionally, they appreciated the importance of not misplacing their passwords and to understand the netiquette of online learning.

Another principal observed that ‘educators who are involved with Dr LOLS can better handle technology than they use to.’

One university teacher trainee said ‘As university students, we are always looking for chances to interact with learners and this has just been an amazing opportunity because with our workload we don’t always have time to go out to schools. Dr LOLS brought the interaction opportunity home because I can get in touch with learners in my room, in my car and at the university itself, because everybody has MXit in their phone. It (MXit) can be such a negative thing (referring to cyber crimes associated with MXit) but Dr LOLS made it positive’. All the tutors said they made it their duty to always advise and warn the learners about internet safety I the interviews with learners they confirmed that this was important advise that they got from Dr LOLS as they had not appreciated the importance of protecting their personal information.

Another said ‘As we look back at this project from where we started, we can confidently say that this project was not only a huge success, but that it was also significant in our own personal lives as well as in the lives of the learners that we tutored, as we changed our view of educating completely’ this referring to one-on-one tutorial and a learner directed lesson, in which the teachers had to teach what the learners wanted to hear and not what the teacher prepared’. We realized that one can, and should use technology to make a difference in the lives of our learners. We are in fact living in the 21<sup>st</sup> Century where technology has become a big part of our lives,” this referring to realisation that the mobile phone is a computer and a library that is their handbags and pockets. (<http://blogs.up.ac.za/jtk-2010/index.php?blog=180>, accessed 20 April 2011).

‘We did not only help the learners with formal academic work, but we could also guide them with more personal issues which they are facing. It feels good knowing that the learners take the advice and that we did in fact make a difference in some of their lives’. Many teachers were pleased at how much learners felt free to talk about things they never raised in class because they were very personal and embarrassing. Learners also shared their experience and benefits of Dr LOLS when they were offline in class which enabled the teachers to assess the interest of the learner. From the teachers perspective the surge in the interest in LOLS as a subject proved that mobile learning made learning more interesting to the learners.

Teachers said they learnt to use the internet for research and to prepare lessons. They could also direct learners to get information from their mobile phones. Their communications skills also improved according to the principals. One principal remarked on the confidence gained by LOLS teachers and an enhanced grasp of the LOLS subject. The impact of mobile learning was to change LOLS from being an ignored subject to an exciting subject learners could not wait to have teachers explained. The LOLS teachers did not only use m-learning to teach LOLS, they introduced it in all their subjects. They also shared their m-learning skills with other teachers and continue to do so in the post research Dr LOLS program that the four schools have decided to continue with.

## **Learners**

The direct responses from the interviews with learners were ‘I learned how to download information using my cell phone and *not* to give out personal details over the phone and how to protect myself from getting HIV.’

Another said ‘I learnt about careers that were not known to me before’. While the other attests that ‘I learnt career and personal development and about myself. Also, I learnt not to give my personal information to strangers’.

Like teachers, learners learnt to use the internet for learning from the mobile phones. They were already involved with MXit chat, unlike their teachers most of whom had never experienced chatting online. They found some of the tutors too slow and unable to keep up. During the tutorials they demanded tutors to respond faster. From reviewing the data logs it showed that the learners would say, in demand ‘faster, faster Dr LOLS. Are you there?’ This was a tipping point for teachers who realised they needed to improve their ability to interact online and meet or exceed the expectations of their learners. The use of mobile learning caused other teachers who were not in Dr LOLS to also develop interest in the mobile learning and to want to learn from Dr LOLS, since their learners were expecting all teachers to use m-learning.

Learners took upon themselves to organize phones from their parents mostly mothers where there were not enough phones. They enjoyed working in groups they said the small screen did not bother them.

They also indicated that they especially liked online learning as it enable them to be anonymous and that Dr LOLS ‘listened’ patiently to their issues and gave advise without judging them. They did not get into trouble for asking ‘naughty’ questions one learner said.

As most learners had no prior experience or easy access to computers they felt m-learning helped them not get an opportunity to experience what others got from computers and learn more about computers. They also felt their learnt grammar and spelling from Dr LOLS, they especially liked it when Dr LOLS them online homework which they could share with their teachers.

Most appreciated being advised not to give personal details to strangers online not even Dr LOLS which they had not generally consider as a serious risk. Dr LOLS helped them appreciate the risks and cyber crime.

## **LIMITATIONS**

The interruptions caused by the systems failure was by far the greater limitation that both learners and teachers pointed out. Though for most times it worked perfectly. Systems failure mostly emanated from the CSIR platform, poor reception and network and very rarely from MXit.

Tutors were particularly frustrated and disappointed by the system when it failed to allocate learners equitably to all tutors. In some sessions some tutors would be handling as many as five learners while others got nothing for the whole session.

All the schools needed assistance to get sponsorship for airtime and handsets which fortunately was not insurmountable. Without that help some learners would have been left out.

Given the dangers of internet, schools were concerned about possible negative impact of mobile learning. All the schools had policies that forbid bringing and use of mobile phones in schools which had to be adjusted to accommodate Dr LOLS. It also forced a rethink of the policy to enable measured use of mobile phones in schools for learning purposes. In the adjusted policies the concerns were not ignored..

The field of m-learning is still new and the study did not have as many lessons to draw from. There is a growing interest in developing countries on the usage of mobile technology and wireless to overcome problems of limited infrastructure, South Africa is one of countries with that growing interest. The policy environment still needs to improve. The demonstration of what can be done with wireless technology is encouraging.

Some of the problems which were stated by teachers and tutors were the following:  
The learners often use words that tutors had difficulty understanding which is typical sms or chat language. ‘This cause us (teachers) not to always understand clearly what the learners were saying’ eg “school is skewl,” “emotions is mtns” and use of expressions like ‘OMG for Oh my God’. Teachers were keen not to interrupt the flow of discussions by correcting spelling or asking for clarifications and to “appear unprofessional and unknowledgeable if we were to ask them all the time what they are saying”. Tutors did not wish to lose time on spelling and grammar and risk losing time and the interest of the learners on whose terms the one-on-one tutoring is meant to be. The social network is a social platform and it comes with its own informal manner of interactions tutors learnt.

A common frustration of tutors was not being able to follow up and to find closure on issues where learners needed a follow up. The tutors were not supposed to know the learners name or school and therefore could not take matters further.

The use of technology does not make up for underlying weaknesses such as grasp of content grammar etc and that was recognised by all tutors and the weaknesses were identified. An online program has more value when it exceeds expectations and at least does no harm at the very least.

## CONCLUSIONS

Mobile phones have filled in a technology gap in grade sevens of this resource constraint schools. The schools have inadequate ICT infrastructure and general ICT illiterate teachers. With the introduction of m-learning to the Life Orientation and Life Skills grade 7 classes; the challenge of inadequate infrastructure was significantly addressed by the use of mobile technology. Connectivity became possible and technology enhanced learning and teaching became possible. Even more important was overcoming the fear of technology by the teachers. They have since taken it upon themselves to acquire and improve their ICT skills including acquiring computers for themselves buying or getting the schools to buy them computers.

Both learners and teachers were able to e-learn and e-teach. Teachers learnt to teach online and acquired ICT literacy in process under the pressure of having to provide answers in real time. Learners taught teachers to use some of the applications on the mobile phones, and they also learnt from the answers given by tutors, and the assignments given in class which directed them to content.

Contrary to Danesh, Inkpen, Lau, Shu and Booth’s (2001:390) assertions that mobile learning was designed for adult public use in the work setting, this study proved that mobile technology could play a role in primary school education. Teacher skills were also improved and the Life Orientation and Life Skills as a subject were taught innovatively. Therefore, mobile learning can happen independently, anywhere, anytime, including the classroom. Mobile learning which is guided by the teacher has a better chance of addressing curriculum needs whose learning value can be assessed.

## REFERENCES

- Butcher, N: 2009, 'Evaluation of the Imfundo Yami/Yethu Project', Neil Butcher & Associates
- Danesh, A, Inkpen, K, Lau, F, Shu, K & K. Booth: 2001, 'Geney: designing a collaborative activity for the palm handheld computer', Conference on human factors in computing systems, Seattle, USA: 388-395
- Donner, J: 2008, 'Research approaches to mobile use in the developing world: A review of the literature', The Information Society, 24(3):140 – 159
- Ford, M: 2009, 'Mobi-Led:History experience and way forward' Meraka Institute CSIR Centre
- Jebeile, S: 2003, 'The diffusion of e-learning innovations in an Australian Secondary College: Strategies and tactics for educational leaders', The Innovation Journal, 8(4):124
- Jordaan, Steyn, Sithole: 2009, 'Life Orientation Grade 7', Kagiso Education Cape Town
- Kukulka-Hulme, A. & J. Traxler: 2005, 'Mobile Learning', Routledge USA & Canada
- Kreutzer, T: 2009, 'Internet and online media usage on mobile phones among low-income urban youth, Conference of the International Communication Association (ICA), Chicago, 20-21 May, 2009:1- 24
- Senge, P: 2007, 'Schools that learn', Nicholas Brealey Publishing London & Boston
- Scanlon, E., Jones, A., and J. Waycott: 2005, 'Mobile technologies: prospects for their use in learning in informal science settings', Journal of Interactive Media in Education, (25):1-17
- Sharples, M: 2003, 'Disruptive device: Mobile technologies for conversational learning', International Journal of Continuing Engineering Education Lifelong Learning, 12(5/6):504-520
- Wenger, E. White, N. & J. Smith: 2009, 'Digital Habitats', Stewarding technology for communities, C.P. Square
- Taylor, M: 2001, 'The moment of complexity', University of Chicago Press
- Traxler, J: 2009, 'The evolution of mobile teaching and learning', Informal Science Press

# WESTERN HUMAN RESOURCE MANAGEMENT SYSTEMS INTO ISLAMIC PUBLIC SERVICES: ARE THEY APPROPRIATE?

Nasser Mohammed Al Khalifa  
London Metropolitan University, United Kingdom

## ABSTRACT

*Throughout the Muslim World, countries seeking to improve governance often employ management systems developed in the West. This includes Human Resource Management (HRM). But people are the bearers of culture and cultural differences will most likely affect practices that involve people management. Consequently studies of international effects show significant differences when transferring HRM from one cultural setting to another. These often result in failure. This paper evaluates the theoretical underpinning of national culture and HRM and questions how appropriate it is to use systems developed almost exclusively in Western cultures and implant them into Islamic States.*

## INTRODUCTION

Visit or even better, work in any country around the world and you will soon notice cultural differences between your country and the country you are visiting. People from Islamic countries will certainly notice a difference in social attitudes between their own country and those in the West. Islam is a system of beliefs that permeates not only religious practice but also all daily life with a series of rules that govern society and all its members. As a result, the effects of Islamic teaching are far greater on daily and working life than is true in non-Muslim states. Significantly, and unlike most Western societies, Islam does not recognize differences between religious institutions and the state. Visitors may conform to local customs, but what goes on in their heads remains a private, well-constructed constant (Lewis, 2006). This is because, while part of superficial public behaviour is cultural in origin, they can usually be adopted without prejudice to a person's own core beliefs, although there may be exceptions.

If one accepts this proposition, then the same must be true of management styles and practices. While an organisation may adopt the superficial aspects of a management style developed in a culturally different country there will be aspects, perhaps significant ones, of practice and theory which will be unacceptable. Furthermore, it may not be simply unacceptable, but actively damaging to the local national culture, especially when taking place in public services. For public services occupy a special place in national culture that is not shared by private organisations. Ackroyd (1995) for example, argues that "*systems of public services are part of the social structure of advanced societies*". Edgar Schein (2010: 32) observe that though the essence of the group's culture is its pattern of shared assumptions, culture will also manifested itself at all levels. These will include observe all artefacts and shared, espoused values, norms and rules of behaviour. Many of these emanate from public services.

Often new management systems are introduced as part of government reforms. One of the most significant was the introduction of the New Public Management (NPM) reforms first developed in the United Kingdom (UK) in the early 1980s (Hood, 1991). When adopted by other advanced economic countries, predominantly OECD members, NPM has been relatively successful. Despite this, there is considerable national diversity between models of NPM used. This is particularly the case when one observes the differences between governance as one travels from north to south in the European Union. Consequently, European governments have formulated a "*contextual paradigm*" which is quite different from the "*universalistic paradigm*" of US management systems (Sotirakou and Zeppou, 2005).

NPM has since been exported worldwide often under pressure or tutelage from large-scale public organisations such as the OECD, World Bank and IMF. But when applied to countries where existing systems of government and social customs are very different from those in OECD countries, the literature shows that NPM has been far less successful, though as Monavvarian (2004) and Siddiquee (2006) both observe; differences between countries makes it difficult, if not impossible to extract some common criteria to assess the reform efforts. Siddiquee (2006) suggests by way of example that English-speaking and French-speaking countries in Africa have quite different systems of government while Arab countries have quite different needs based on their Islamic heritage. Sementelli (2007) suggests that governing bodies bear “*family resemblances*” to the religious and social institutions with which they co-exist. Furthermore, even ASEAN bloc countries differ substantially in public sector capacity and performance despite being located in the same geographic area (Zhang, 2003).

Unsurprisingly, the area of management most exposed to national culture is Human Resource Management (HRM) because it involves people, the carriers of culture. All governments have traditionally employed large numbers of workers in the public sector and so new HRM systems are often the first major reform when developing or improving government services. Yet lack of enthusiasm and resistant to change may be attributed to the reforms colliding with institutional norms and rules as a result of ambiguity of culture or when they threaten establish identities of the members of the organisation (Berg, 2006). As Turner and Hulme (1997: 2) observe:

*"Management systems, administrative techniques and organisational designs are not neutral value-free phenomena. Thus administrative reform and innovation and not simply a matter of installing some piece of managerial technology which has proved effective elsewhere"*

This paper will show the marked differences in national culture based on highly-validated findings of Hofstede (1980; Hofstede and Hofstede, 2005), correlated with work by Trompenaars and Hampden-Turner (1997), Lewis (Lewis, 2006) and others and how they could affect the introduction of Western developed HRM systems, especially in the public services, and possibly lead to further resistance against Westernisation.

## **CROSS-CULTURAL HRM**

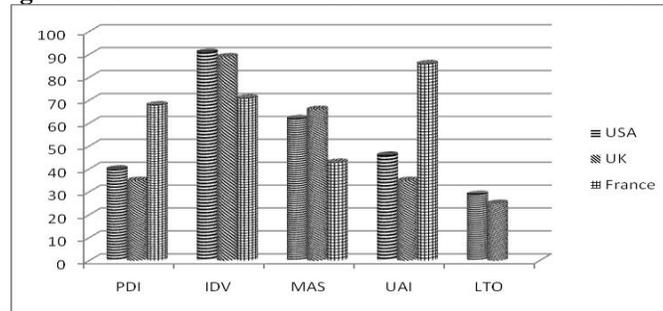
HRM emerged as being identifiably different sometime in the mid-1980s. Early models included the Harvard Model by Beer *et al* (1984) and that of Fobrum, Tichy and Devanna (1984). The principles of HRM were soon imported into the UK from the USA, but even so cultural dissimilarities meant that new models were needed and developed by Hendry, Pettigrew and Sparrow (1990) with their Warwick model, Storey (1992) and Guest (1989; 1997). It was soon held that HRM should reflect prevailing beliefs and attitudes held in society about employees and the response of employees to public policy (Bratton and Gold, 1999: 6). As the paradigm spread to other advanced economic countries, significant variations were needed because of different cultural outlooks on employment. Australia and New Zealand developed approximately along the same lines as the UK with their predominantly Anglo-Saxon cultures, with broadly similar welfare oriented traditions. These were unlike the strongly managerialist USA with its functional focus (Teo and Crawford, 2005; Sheehan, 2005; Schick, 1998).

Continental Europe also had different cultural traditions and models unlike those of either the UK or America emerged as organisations conceptually modified HRM during their adoption (Brewster, 1995; Brewster, 2005; Brewster, 2007; Claus, 2003; Mayrhofer and Brewster, 2005; Rizov and Croucher, 2008). **The cultural differences may be seen in figure 1.**

With the differences between national cultures in mind, and bearing in mind that any organisational culture also has a strong national culture content (Schein, 2010: 14-16), it seems illogical to assume that any management theory developed in one culture should apply equally to all other cultures. If one considers the stages of development, socio-cultural and socio-economic differences and inherent capacity of administrative systems within any country, it is difficult to see how a 'one size fits all' approach can be successful. This is particularly the case with the most human-oriented management theories of all - those concerned with HRM. The academic literature is full of references to problems caused when different cultures meet in societal or

organisational settings, whether this is because of cross-cultural factors, diversity of the workforce, multiculturalism or the transnational transfer of knowledge and systems.

**Figure 2: Cultural Differences between Advanced Economies**



Data Source: Hofstede and Hofstede (2005)

## COMPARATIVE MODELS OF NATIONAL CULTURE

The study of national cultures has largely taken place over the last 60 years. One of the earliest proponents was Clyde Kluckhohn (1951; Kroeber and Kluckhohn, 1952) who developed theories of cultural understanding and communication based on his Values Orientation Theory. Later Edward Hall (1959: 186-87) described how the "Silent Language" of culture influenced all individuals without their active knowledge. He suggested that culture is communication and communication is culture and that culture was not one thing, but many. Importantly he defined that "*There is no experienced independent of culture against which culture can be measured*". In other words experience is something that people project to the outside world and that they gain in a culturally determined form, as they will from learning management techniques developed in other cultures. Clifford Geertz added to knowledge with his description of culture as

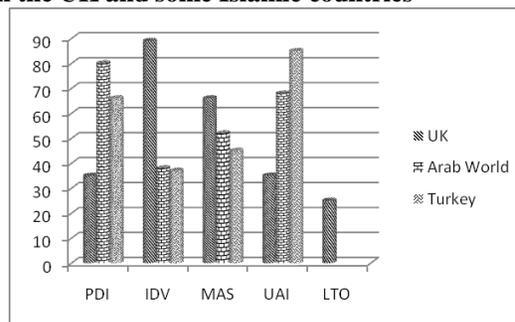
*"a system of inherited conceptions expressed in symbolic forms by means of which people communicate, perpetuate, and develop their knowledge about an attitude toward life"* (1973: 89).

One of the most important works to emerge on the subject was that written by Geert Hofstede, a social anthropologist (Hofstede, 1980). This is one of the most widely tested works on the subject of culture, and although it has shortcomings, researchers have found its principles and findings valid in over wide variety of contexts and settings. Hofstede's main contribution was to define culture in a way that one culture could be compared to another. To do this he studied managers from 72 countries and developed a framework of four 'dimensions' which he named; 'individualism/collectivism' (IDV), 'power distance' (PDI), 'uncertainty avoidance' (UAI), and 'masculinity/femininity'(MAS). Later, working with Michael Bond he added a fifth, long-term/short-term orientation (LTO) (Hofstede and Bond, 1988). The importance of Hofstede's work is that each of the dimensions may be described numerically. While Hofstede's work has been criticised for reducing culture to overly simplistic assessment and failing to see that culture changes over time (Fracchia and Lewontin, 1999) it has nevertheless endured considerable research and scrutiny and remains an extremely useful measure for comparing one culture to another (Kirkman, Lowe and Gibson, 2006). However it must be accepted that there are variations within cultures - clearly not everyone is the same. Yet as a general measure, Hofstede remains valid. One advantage of reducing culture to numeric terms is that it avoids cultural relativism by removing any sense of moral judgement (Hofstede and Hofstede, 2005: 5-6). The principles used by Hofstede were adopted in another major study, the GLOBE Project (House et al., 2004). Instead of the five measures of national culture proposed by Hofstede, the GLOBE Project proposed nine. Some were directly related to those devised by Hofstede, and others differed. GLOBE's measures were 'power distance', 'uncertainty avoidance', 'humane orientation', 'collectivism I' (institutional collectivism), 'collectivism II' (in-group collectivism), 'assertiveness', 'gender egalitarianism', 'future orientation', and 'performance orientation' (Chhokar, Brodbeck and House, 2007: 30).

Just as there were differences between the UK, the USA and continental Europe, Figures 2 and 3 show there are even more significant differences between countries where most HRM theories developed, and Islamic

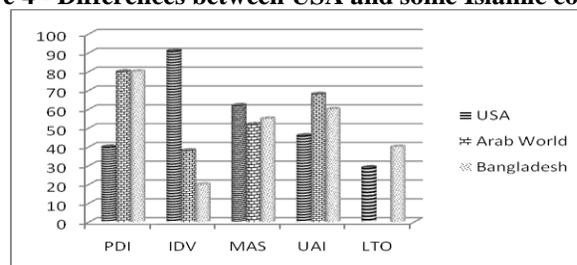
countries. In this case, the ‘Arab World’ used research from several countries including Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia and the UAE. Here the masculinity index (MAS) is 52. In Western terms, women in the Arab World have noticeably different rights. The closeness of this dimension shows that the influence of Islam rather than individual cultures has most effect on this measure. Significant differences can be seen in all dimensions, although LTO was not measured for the region in Hofstede related research. The GLOBE Project shows a wide variation between LTO in the West and Muslim Countries (Chhokar, Brodbeck and House, 2007: 322). In Hofstede, there is a large difference between power distance (PDI), individualism/collectivism (IDV) and uncertainty avoidance (UAI). PDI indicates that strongly hierarchical system of both society and organisations is preferred. There is a striking difference between the ‘individualist’ UK and ‘collectivist’ Islamic countries. In collectivist societies this shows itself as a close long-term attachment to the member group, often family or tribe and loyalty to the group and its representatives is paramount in such collectivist countries. This often means that all the rules are put to one side for the sake of the group. High uncertainty indexes show that Islamic societies have a low level of tolerance for uncertainty. These are often compensated for by strict rules, laws, and policies to keep things under control. This inhibits change and makes society risk averse. These may be seen in contrast to both the US and UK cultures where PDI and UAI are much lower, and individualism is much higher. Each of these has fundamental effects on HRM.

**Figure 3 - Differences between the UK and some Islamic countries**



Data Source: Hofstede and Hofstede (2005)

**Figure 4 - Differences between USA and some Islamic countries**



Data Source: Hofstede and Hofstede (2005)

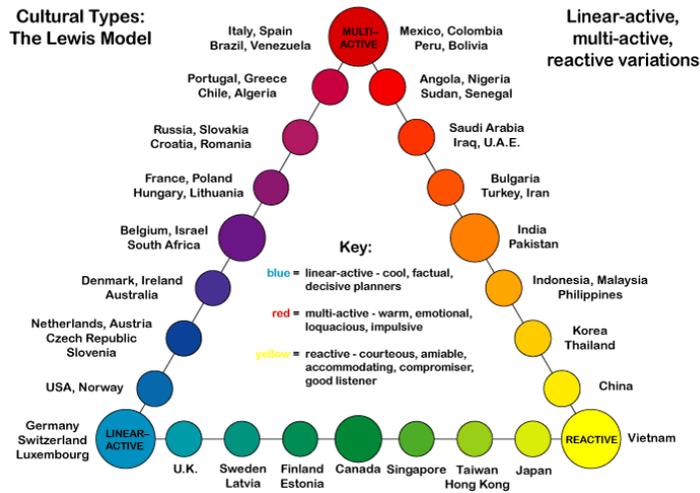
Where Hofstede (1980: 21) described culture as "the collective programming of the mind which distinguishes the members of one human group from another" Trompenaars and Hampden Turner (1997) took a different approach, though again building partly on the work of Hofstede. Instead they define culture as "*the way in which a group of people solves problems and reconciles dilemmas* (1997:6). Like many other culture researchers such as Edgar Schein (2010: 24; 1985: 9; 1992) , (Rousseau, 1990) Wilhelms, Shaki and Hsiao (2009) and Hofstede (Hofstede and Hofstede, 2005: 10-11) they noted that culture comes in layers. Trompenaars and Hampden Turner (1997:21-22) defined these as 'explicit products', the outer layer; 'norms and values'; and 'basic assumptions', the inner core. They went on to define culture in various dimensions. These were 'relationships and rules', 'individualism/communitarianism', 'affective/neutral', 'specific/diffuse', 'according of status', 'time orientation', 'orientation to nature' and 'individual/corporate' cultures. Just as with Hofstede, they measured each aspect of culture numerically and were able to compare one group of countries with another, showing marked differences between cultures in different combinations.

Richard Lewis (2006: 30-32) took a different approach from either Hofstede or Trompenaars. He pictured culture is a triangle bounded by three points - 'linear-active', 'reactive' and 'multi-active'. He saw each country resting at some point on a continuum between two of these three points (see Figure 1). Linear-active

cultures tend to concentrate hard on one thing and do it within the scheduled time period. In contrast, multi-active cultures are very flexible and believe they get more done than linear-active cultures. In such cultures people are not very interested in schedule is punctuality and consider reality to be more important than man-made appointments. Reactive (or listening) cultures rarely initiate action or discussion but prefer to listen to establish the other's position first, then reactively reformulate their own. Both linear-active and reactive cultures are introverted, whereas multi-active culture is extroverted.

In the Richard Lewis model (Fig.4), most Islamic countries are to be found on the multi-active/reactive axis. In contrast most Western, theory-originating countries are clustered around the linear active node.

**Figure 5 - The Richard Lewis Model of Cultural Difference**



Source: Lewis (2006) Rear Cover

## CONCLUSIONS

Whichever model is used, either of the three described, or that described by the GLOBE Project, or in many other descriptions Islamic countries stand culturally well apart from the countries of the West from where main HRM theory has been developed. Further analysis of Hofstede indices of all the predominantly-Muslim countries shows strong correlation between PDI, IDV and UAI. MAS is more variable and may be affected by other factors individual to countries involved. Taken together, the factors suggest that leaders have much more power and individual authority than in the West. They often enforced this power and authority with the use of rules and regulations – fundamentally important in HRM.

Power Distance (PDI) starts in family life. In Islamic countries children are far more obedient to what their parents and older children and respectful parents is seen as a basic virtue. This is far less true in the west and yet these are values carry through school into working life and so effects the way people must be managed. In Western HRM, there is a strong, underlying thread of total equality between employees, and to some extent between employees and their managers. This strong sense of equality covers many aspects including gender and nationality. Yet in large PDI cultures organisation centralised as much power as possible in a few hands and subordinate expect to be told what to do. This leads to strong hierarchical structures unlike the flatter structures found in Western management.

Individualist cultures (IDV) expect employees to act according to their own interest and so work is organised in such a way that this self-interest and the interest of the employer coincide. People are employed on their merits rather than who they are in an individualist culture. In public services, the use of family ties in relationships is strongly discouraged and often banned altogether. In contrast in the collectivist culture the employer never high as just an individual, but rather a member of a specific group. Employees are expected to put the interests of the group first, rather than their own. Thus in an individualist organisation management entails the management of individuals, while in Islamic collectivist cultures management is the management of

groups. Almost all Islamic countries are collectivist cultures, and almost all the countries where HRM theory develops are individualist.

Uncertainty Avoidance (UAI) is a subjective experience. In Muslim cultures, Islam provides a strong integrated framework for private, public and working life in a way missing in other societies. On the other hand, Islamic cultures tend to have a higher score for the UAI dimension. This leads to more intense feelings and people are more likely to express their positive and negative emotions. One of the important effects of higher UAI is the likelihood that employees will wish to stay much longer within an organisation and again, this affects HRM practice. High UAI societies are much more likely to rely on laws and regulations passed down from the top, unlike the much more laissez-faire attitudes found among Western managers and employees. This insistent on rules and regulations may have a negative side when those rules become ritualised. In which case, organisations can become inconsistent or even dysfunctional. While high UAI cultures may put much more emphasis on formal qualifications, lower UAI societies have an equally strong belief in common sense and generalism with far greater tolerance for ambiguity. This often makes high UAI cultures more innovative but less likely to go on to develop new services and ways of doing things.

One saw that historically, considerable problems arose when trying to transfer HRM practice even to closely related cultural groups such as the USA and UK and considerable adaption and the development of new models was necessary. The problems grew even worse when trying to transfer HRM to continental Europe. Such are the differences between the foundations of HRM which is strongly linked to culture that it seems illogical to expect that Western HRM practices would seamlessly transfer to Islamic countries. It clearly will not. There are several obvious differences between the two sets of countries that are shown in Figures 2-4. The difference in IDV alone is sufficient to signal a completely different type of society. Individualism is often regarded as the characteristic of a society which welcomes change takes risk, while collectivist (or communitarian) societies are normally far more in favour of traditional societies (Trompenaars and Hampden-Turner, 1997: 52). In other words Muslims have a completely and measurably different world-view from those in the West (Lewis, 2006: 400). This extends to how each sees the difference between what is right and what is wrong, what is logical and what is illogical and hence what is acceptable and what is unacceptable.

For the reasons described above, it is not surprising that throughout the Muslim world there is a growing resistance to Westernisation and particularly Americanisation of local cultures. This is because of the inherent inconsistency of the two cultures. This has often been brought about because of Western economic hegemony or military power, or the spread of the Coca-Cola and McDonald's type of cultural artefacts. It may be brought about by the apparent show of arrogance by the Americans, the British and other Europeans. Neal and Finlay (2008) describe American Hegemony and Business Education in the Arab World and the propagation of HRM theory and practice is a manifestation of this. This is because essentially, Western HRM was built on entirely different cultural foundations and traditions than those found in all Islamic countries. So managers and executives should approach implanting HRM with some considerable caution. Until a truly Islamic Model of HRM is developed, they must fully recognise the cultural, organisational and societal implications of using Western models.

## REFERENCES

Ackroyd, Stephen. "From public administration to public sector management: understanding contemporary change in British public services." *International Journal of Public Sector Management* 8.2 (1995): 19-32

Beer, Michael, *et al.* *Managing Human Assets*. New York: The Free Press, 1984.

Berg, Anne Marie. "Transforming public services – transforming the public servant?" *International Journal of Public Sector Management* 19.6 (2006): 556-68.

Bratton, John, and Gold, Jeffrey. *Human Resources Management*. 2nd ed. Basingstoke, UK: Palgrave, 1999.

Brewster, Chris. "A European perspective on HRM." *European J. International Management* 1.3 (2007): 239-59.

---. "European Human Resource Management: Researching Developments over Time." *Management Revue* 16.1 (2005): 36-27.

---. "Towards a 'European' model of human resource management." *Journal of International Business Studies* 26 (1995): 1-21.

Chhokar, Jagdeep S, Brodbeck, Felix C, and House, Robert J, eds. *Culture and Leadership Across the World: The GLOBE Book of In-Depth Studies of 25 Societies*. 1162 ed. New York, NY: Laurence Earlbaum Associates, 2007.

Claus, Lisbeth. "Similarities and differences in human resource management in the European Union " *Thunderbird International Business Review* 45.6 (2003): 729-55.

Fobrum, C J, Tichy, N M, and Devanna, M.A. *Strategic Human Resource Management*. New York, NY: Wiley, 1984.

Fracchia, Joseph, and Lewontin, R. C. "Does Culture Evolve?" *History and Theory* 38.4 (1999): 52-78.

Geertz, Clifford, ed. *The Interpretation of Cultures: Selected Essays*. New York, NY: Basic Books, 1973.

Guest, David. "HRM: implications for industrial relations." *New Perspectives on Human Resource Management*. Ed. Storey, J. London: Routledge, 1989.

---. "Human resource management and performance: a review and research agenda." *The International Journal of Human Resource Management* 8.3 (1997): 263-76.

Hall, Edward T. *The Silent Language* New York, NY: Doubleday (Random House), 1959.

Hendry, C, Pettigrew, A M, and Sparrow, P R. "Human resource management: an agenda for the 1990s." *International Journal of Human Resource Management* 1.1 (1990): 17-43.

Hofstede, Geert. *Culture's Consequences: International Differences in Work Related Values*. Beverly Hills, CA: Sage, 1980.

Hofstede, Geert, and Bond, Michael H. "The Confucian Connection: From cultural roots to economic growth." *Organization Dynamics* 16.4 (1988): 4-21.

Hofstede, Geert, and Hofstede, Gert Jan. *Culture and Organizations: Software of the Mind*. 2nd ed. New York, NY: McGraw Hill, 2005.

Hood, Christopher. "A Public Management for All Seasons?" *Public Administration* 69.1 (1991): 3-19.

House, Robert J, *et al.*, eds. *Culture, Leadership, and Organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage Publications, 2004.

Kirkman, Bradley L, Lowe, Kevin B, and Gibson, Cristina B. "A quarter century of Culture's Consequences: a review of empirical research incorporating Hofstede's cultural values framework." *Journal of International Business Studies* 37.3 (2006): 285-318.

Kluckholn, Clyde K M. "The study of culture." *The policy sciences*. Eds. Lerner, D and H D Lasswel. Stanford, CA: Stamford University Press, 1951.

Kroeber, A L, and Kluckholn, Clyde K M. *Culture: A Critical Review of Concepts and Definitions*. New York, NY: Vintage Books (Random House), 1952.

- Lewis, Richard D. *When Cultures Collide: Leading Across Cultures*. 3rd ed. Boston, MA: Nicholas Brearley, 2006.
- Mayrhofer, Wolfgang, and Brewster, Chris. "European Human Resource Management: Researching Developments over Time." *Management Review* 16.1 (2005): 36-62.
- Monavvarian, Abbas. "Analysis of the perceived degree of success of reform efforts: reform agents' perceptions." *Journal of Management Development* 23.6 (2004): 579-95.
- Neal, Mark, and Finlay, Jim L. "American Hegemony and Business Education in the Arab World." *Journal of Management Education* 32.1 (2008): 38-83.
- Rizov, Marian, and Croucher, Richard. "Human Resource Management and Performance in European Firms." *Cambridge Journal of Economics* 33.2 (2008): 253-72.
- Rousseau, Denise M. "Assessing organisational culture: the case the multiple methods." *Organisational climate and culture*. Ed. Schneider, B. San Francisco, CAA: Jossey Bass, 1990. 153-92.
- Schein, Edgar H. *Organizational culture and leadership*. 4th ed. San Francisco: Jossey-- Bass., 2010.
- . *Organizational culture and leadership*. San Francisco: Jossey-- Bass., 1985.
- . *Organizational culture and leadership*. 2nd ed. San Francisco: Jossey-- Bass., 1992.
- Schick, A. "Why Most Developing Countries Should Not Try New Zealand Reforms." *The World Bank Research Observer* 13.1 (1998): 123-31.
- Sementelli, Aurthur J "Authority, Domination, and the Administrative State." *Administrative Theory & Praxis* 29.1 (2007): 115-31.
- Sheehan, Cathy. "A model for HRM strategic integration." *Personnel Review* 34.2 (2005): 192-209.
- Siddiquee, Noore Alam. "Public management reform in Malaysia: Recent initiatives and experiences." *International Journal of Public Sector Management* 19.4 (2006): 339-58.
- Sotirakou, Tatiana, and Zeppou, Mary. "How to align Greek Civil Service with European Union public sector management policies: A demanding role for HR managers in the contemporary public administration context." *International Journal of Public Sector Management* 18.1 (2005): 54 - 82.
- Storey, John. *Development in the management of human resources*. Oxford: Blackwell, 1992.
- Teo, Stephen T T, and Crawford, John. "Indicators of Strategic HRM Effectiveness: A Case Study of an Australian Public Sector Agency During Commercialization." *Public Personnel Management* 34.1 (2005): 1-16.
- Trompenaars, Fons, and Hampden-Turner, Charles. *Riding the Waves of Culture: Understanding Cultural Diversity in Business*. 2nd ed. London: Nicholas Brealey, 1997.
- Turner, Mark, and Hulme, David. *Governance, Administration & Development: making the state work*. Basingstoke, UK: Palgrave, 1997.
- Wilhelms, Ralf W, Shaki, Mohammed K, and Hsiao, Cheng-Fu. "How we communicate about cultures: A review of systems for classifying cultures, and a proposed model for standardization." *Competitiveness Review* 19.2 (2009): 96-105.
- Zhang, Miao. "Transferring human resource management across national boundaries." *Employee Relations* 25.6 (2003): 613-26.

# **CORPORATE SOCIAL RESPONSIBILITY REPORTING IN THE SOUTH AFRICAN HOSPITALITY INDUSTRY**

**Carina Kleynhans  
Tshwane University of Technology, South Africa**

## **ABSTRACT**

*Corporate social responsibility (CSR) and ethics are much debated and important management issues. However in the South African Hospitality industry these issues have not been addressed. This paper sets out to determine what Hospitality-related South African companies report on their CSR activities. Content analyses of annual reports of six companies were conducted. Socially responsible activities relating to charities were undertaken by most of the companies and large sums of money were spent on community involvement. All the companies reported sound environmental practices such as water and energy saving. The study identified various CSR activities in and opened up avenues for further research.*

## **INTRODUCTION**

Corporate social responsibility (CSR) and ethics are much-debated, important management issues, because of the magnitude and influence of modern organizations on society. However, in South Africa these issues have not been addressed extensively.

Actions of organizations do not merely have a significant impact on their daily business, but they can influence individuals, communities, the environment, countries and the whole world. Ethics, CSR and corporate governance should guide organizations towards being responsible citizens of the world (Holcomb *et al.*, 2010). Although research has been conducted in the management in general, very few studies have been carried out on CSR activities internally in hospitality and tourism companies. Hospitality-related CSR studies have focused mainly on environmental issues (Holcomb *et al.*, 2010).

The author's literature review reveals that, to date, no empirical study on CSR activities in the Hospitality industry in South Africa has been undertaken. McGehee *et al.* (2009) and Holcomb *et al.* (2007) state that CSR research is relatively new therefore reporting in the hospitality field, is limited.

## **OBJECTIVES OF THE STUDY**

The main objective of this study was to determine if Hospitality –related South African companies report on their CSR activities. Included in the objective was to investigate the level of reporting and to conduct a comparison between the different listed companies.

## **LITERATURE REVIEW**

Currently almost all business decisions involve social and environmental issues. Most organizations discuss the impact of social and environmental issues in their annual reports and on their Web sites.

Nevertheless, CSR has emerged as a significant business issue and is likely to gain increased importance over the next years (Montiel, 2008).

A business is accountable to its primary stakeholders. These include profit to the owners, achievement of goals, efficacy of the organization, productivity, promotion of the organization's image and public relations, quality of service rendered, as well as environmental management and control. These aspects are referred to as the internal dimension of CSR (Jones *et al.*, 2006). The external dimension (Jones *et al.*, 2006) or secondary stakeholders to whom a company is held accountable are the community and the country as a whole. Organizations can demonstrate corporate social responsibility in local communities through community development, low-cost housing, support of health and medical services, training and development, donations to churches and religious institutions and sponsorships for schools and sporting bodies. The potential benefits of CSR include improved financial performance and profitability, reduced operating costs, long-term sustainability for companies and their employees, sound relations with government and communities, accountable risk and crisis management, enhanced reputation and brand value, as well as forging closer links with customers and fostering greater awareness of their needs. There is consensus that CSR is the "right thing to do" (Jones *et al.*, 2006; Gan, 2006).

The global Reporting Initiative's guidelines have become the accepted international standard of sustainability reporting (King III, 2009). By issuing integrated reports, a company gains the trust and confidence of its stakeholders and manifests the legitimacy of its operations. Reporting can increase a company's business opportunities and improve its risk management. In an integrated report a company assesses its ethical stance, fundamental values and governance internally, while gaining the trust and confidence of external stakeholders. A company should gauge how it has impacted both positively and negatively on economic, social and governance issues (King III, 2009).

Corporate social investment in South Africa gained momentum in the early 1990s when political reforms that were implemented, accelerated social change in the country. In South Africa the state plays a crucial role in defining and driving CSR initiatives. CSR-related issues are given priority in the management hierarchy due to the South African state's transformation agenda. This has resulted in a scorecard that rates a company's performance against a range of black economic empowerment criteria (Hamann & Kapelus, 2004). Companies have to adhere to Broad-based Black Economic legislation and the JSE (Johannesburg Stock Exchange) SRI (Social Responsibility Investment) Index regarding corporate social investment (JSE, 2010). The JSE launched the SRI index in 2004. This tool, used by investors, identifies companies, that incorporate sustainability practices (King III, 2009). In South Africa CSRR receives a lot of attention (Hamman *et al.*, 2005).

Cabinet approved the International Tourism Growth Strategy in June 2003, of which one aim is to facilitate transformation and Black Economic Empowerment (BEE) in the local tourism industry (GCIS, 2010). BEE is a programme launched by the [South African government](#) to redress the inequalities of [Apartheid](#). Previously disadvantaged groups (black Africans, [Coloureds](#), [Indians](#) and some [Chinese](#) who are SA citizens) are given economic opportunities that were previously not available to them. These measures include [Employment Equity](#), skills development, ownership, management, socio-economic development and preferential procurement. On 9 February 2007, the first BEE Code of Good Practice was gazetted by the South African Government. This latest version of the Code is also known as [Broad-based Black Economic Empowerment](#) or [B-BBEE](#). The BEE legislation is supported and functions in conjunction with various other forms of legislation, such as the Employment Equity Act, the Skills Development Act and the Preferential Procurement Framework. Enterprises may be rated using various scorecards (Department of Trade and Industry, 2007).

According to the Tourism, Hospitality, Sport Education and Training Authority (THETA) tourism is the fastest growing industry in South Africa, contributing no less than 10% to the Gross Domestic Product (GDP) and comprising of five main sectors - accommodation, food and beverage services, recreation, entertainment and transportation and travel services. Tourism is regarded as one of the key economic sectors with excellent potential for growth. About 9,6 million foreign tourists visited South Africa in 2008, a 5,5% increase over the 9,1 million foreigners who visited the country in 2007. The contribution of

tourism to South Africa's GDP is estimated to have increased from R162,9 billion in 2007 to R194,5 billion in 2008. The estimated number of jobs created directly and indirectly in the economy through tourism increased by 10% from 946 300 in 2007 to 1 041 700 in 2008 (GCIS, 2010). Tourism has the potential to fuel the South African economy by creating jobs, reducing unemployment and improving the quality of life of all South Africans.

An increase in CSR activity will benefit hotels because both firm value and profitability will increase (Holcomb *et al.*,2010). Most companies report that their CSR efforts to improve their image certainly pay dividends (Jenkins & Yakovelva, 2005).

## RESEARCH METHODOLOGY

Content analysis was used for exploratory research. The main purpose of exploratory research is to develop and clarify ideas, and to formulate questions for further investigation. Existing literature is perused to provide new insights into a problem. Content analysis can be applied to any form of communication (Adler & Clark, 2011). Content analysis refers to the gathering and analysis of textual content. Content refers to messages, e.g. words, meanings, symbols and themes. Text can refer to that which is written, spoken or visualized (Neuman, 2003). When qualitative content analysis is used the primary aim is to document the analysis verbally, rather than statistically (Adler & Clark, 2011).

The CSR dimensions that were used for this study is the same as those used by Holcomb *et al.* (2010) and Holcomb *et al.* (2007) namely, community, environment, marketplace, vision and values, and workforce. Additional dimensions relevant to the South African context are BEE levels, King III report on corporate governance, employment equity committee and employment training. Child care that appeared in the original workforce category was removed as no South African company reported on it. These themes relate to the activities reported by the hospitality companies.

All the hospitality-related companies listed under Gambling, Hotels, Travel and Tourism on the JSE were listed. Seven companies in these categories are listed on the JSE. These companies include casinos, horseracing, hotels and, a tourism and travel company. The latest annual report of the companies were used for content analysis. One of the companies had no electronic annual report. All the annual reports were read and information relating to CSR was gathered. Approximately 110 pages of documents were analysed for content from each of the companies. Reporting on the five main categories with their descriptors was tabulated in the form of a matrix. If a specific category was addressed, this was captured and marked with a ✓. The specific projects and descriptions of CSR that were captured will be presented separately in the results section. The websites of the companies were also visited to check whether any CSR activities had been reported. For the sake of ethical consideration the companies will be identified according to letters of the alphabet.

## RESULTS

Categories that were reported on by all six companies were the environment and workforce with, specific reference to conservation, BEE levels and the King III report on corporate governance. Most of the companies reported on their code of ethics and charity involvement. Only one company reported on providing jobs for the disabled (See Table 1)

**Table 1: Corporate social responsibility reporting**

Company	A	B	C	D	E	F
<b>ENVIRONMENT</b>						
Conservation	✓	✓	✓	✓	✓	✓
Cultural heritage		✓	✓	✓		
<b>COMMUNITY</b>						
Charities	✓	✓	✓		✓	
Employees	✓					

Jobs for disadvantaged		✓				
<b>MARKET PLACE</b>						
Diversity in supplier	✓	✓	✓		✓	
Safety & wellbeing of clients	✓				✓	
<b>VISION &amp; VALUES</b>						
Mission / Vision Statement	✓			✓		
Code of Conduct	✓	✓	✓	✓		✓
<b>WORKFORCE</b>						
Employee diversity	✓	✓	✓	✓		
Employee wellness programme.				✓		
BEE	✓	✓	✓	✓	✓	✓
King III	✓	✓	✓	✓	✓	✓
Employment Equity committee	✓	✓				
Employment training	✓	✓	✓			

## In-depth analysis of annual reports.

### Company A

Company A has 52 hotels, catering for four different market segments, ranging from hotels for the discerning guest, to catering for the guest who insists on value for money. This company reports in detail on its environmental responsibility. The company adheres to a code of ethics for efficient energy and water management, as prescribed by the World Tourism Organisation. Staff are encouraged to participate in the SOS initiative – Switch Off Something. Energy-efficient generators and lighting have been installed, and air conditioners automatically switch off 4 times per day.

Community involvement is evident in enterprise development, corporate social investment initiatives and socio-economic development. Charities that it supports are Operation Hunger, World Wildlife Foundation, SA Golf Development and Cuppa for Cancer. Employees who are involved in volunteer work, are encouraged to donate redundant stock.

Company A reports in the market place category on preferential procurement on DTI targets of 85% of procurement from empowered suppliers. A 24-hour business abuse hotline is in operation to deal with any unethical or corrupt behaviour when it is reported. HIV/Aids awareness is addressed by an HIV/Aids programme. The workforce is consistently being trained in different skills. Company A that adheres to the DTI codes of good practice, is currently the 27th most empowered company in South Africa and is ranked at number 2 in the Travel and Leisure sector.

### Company B

Company B provides gaming, hotel and entertainment facilities. The group comprises of 14 casinos in South Africa as well as 94 hotels (owned, leased and managed), primarily in South Africa, but also in 7 other countries across Africa and in the Middle East. The Group is split into 2 main divisions, - a gaming and hotel operation. In their report the group addresses their CSR involvement in the environment as follows: “The

company is committed to the preservation and conservation of the environment. All reasonable steps are taken to protect indigenous flora and fauna on site and to remove invasive alien vegetation.”

The company prioritises energy-saving in all forms and minimises wastage. On each shift the maintenance team inspects all ablution facilities to ensure that there are no water leaks. The results are recorded and leaks repaired immediately. Energy-saving globes have been installed where possible. All air conditioners are run on timers and are switched off during quiet periods. In one of the casino gardens indigenous species and fynbos that require little water to survive have been planted. Paper, cardboard boxes and plastic are sorted and collected by a recycling company.

During the reported year the group donated R24,9 million to CSI programmes. The group also supports a home-based care project to HIV/Aids families and orphans and it has contributed the construction of an international-standard ablution block at a sports field.

Company B reports in detail on their Responsible Gambling programme. Ongoing training and development of employees enhance the skills base and facilitate individual advancement, particularly for BEE employees. A training institute is in operation. Formal HIV/Aids policies protect the rights of infected employees and codify procedures for the management of ill health.

## **Company C**

This company invests in and manages 15 hotels, resorts and casinos in southern Africa and 2 in other countries. It focuses on the development, operation and management of its hotels, resorts and casinos. The total CSI spend was R20 million.

The group embarked on the implementation of the Heritage Environmental Management Programme. One of the casinos has been awarded with Platinum Certification by the Heritage Foundation in recognition of the achievement of sustainable environmental performance to international standards. A pilot energy management system aimed at reducing overall energy consumption at the facility is in operation. One of the Casino and entertainment centres received the Best Single Resource Award for their water management practices. An annual 17% reduction was recorded due to the use of recycled grey water irrigation on its golf courses and concerted efforts at resort level to reduce overall fresh water consumption. Another casino was awarded Platinum classification for its continued efforts to minimise environmental impacts. A 71% increase in the number of personnel across the group completing formalised training in the regard of Environmental responsibility was reported. Guest and visitor awareness campaigns and initiatives were successfully implemented at a number of resorts and gaming operations.

The introduction of a central warehouse facility and greater supply chain management initiatives resulted in a decline of 34% in the number of deliveries being made each week. This has contributed to a lower carbon footprint for the resort. The company reported on their Social Responsible gaming programme. The company remains committed to the transformation of the South African economy through BBBE and was ranked 30 th in the Financial Mail’s survey for most empowered companies.

## **Company D**

This company has a network of hotels, residential resorts and vacation and private residence club destinations. The company accepts its obligations as a responsible corporate citizen. It aims to increase spending on skills development programmes to enhance job performance across the board. It is committed to achieving an employment complement that represents the demographics of this country in which employees enjoy equal rights. The company upholds the objectives of the Employment Equity Act.

The company is committed to the preservation and conservation of the environment and the natural resources of the regions in which it operates. The company conducts environmental impact studies prior to the commencement of construction thereby ensuring conservation of local fauna and flora. Their commitment to

conservation is evidenced in their eco-development strategies. The company acknowledges its social responsibility towards the communities in which it operates.

## **Company E**

Company E is listed under gambling on the JSE list. The business activities include horseracing and destination marketing. At this company, social responsibility is integrated into the day-to-day business practices. They have invested R1.2 into CSI projects.

The company continues to make progress with BEE and commits to the highest standards of corporate governance with high ethical standards and personal integrity. It's training, focuses on the development of managerial, financial, customer care and people management skills. A regular wellness newsletter is provided to all staff members. This company reported on the responsible gaming programme

Wherever possible water is recycled and if possible storm water is used. They report that they are aware of the need to preserve the biodiversity of its land and protect the birds and animals on their properties. The company has identified four specific areas through which it can contribute to the socio-economic development of South Africa. These are: skills development, enterprise development, preferential procurement and CSI. Procurement is done through suppliers that are controlled by entrepreneurs from previously disadvantaged groups. The main focus of their social investment programme is on the development of young people and the upliftment of the area in which their head office is located.

## **Company F**

The group operates in four major segments: Tour Operators, Retail Travel, Coaching and Touring, and Marine and Boating. It is committed to the highest standards of integrity, behaviour and ethics when dealing with its stakeholders.

The company asserts that it is committed to BBEE as a socio-economic process, that directly contributes to the economic transformation of South Africa and brings about significant increases in the number of previously disadvantaged individuals that are able to participate actively in the country's economy. It is further committed to training black-owned SMMEs in their travel businesses. The company is involved in the implementation of a HIV/Aids prevention and impact management strategy. It is a member of the Travel Corporation Conservation Fund. Since 2008 this fund has donated over R14 million to various conservation projects worldwide.

## **DISCUSSION**

The research findings suggest that Companies A,B and C have the highest frequency of CSR reporting activities. All the companies address CSR activities in their annual reports. It is clear that most of the companies are committed to various CSR activities. This has emerged in other studies (Jones *et al.*, 2005). These findings are in contrast with other researchers' findings in which it is reported that, although many companies report a need to implement CSR, they are not committed to these activities (Jones *et al.*, 2006).

Only one of the companies consulted did not report involvement in charities. The results are supported by Holcomb *et al.* (2007). The companies spend a lot of money on charities, but very little is reported on the involvement of employees. It is noticeable that only one of the companies reports that their employees volunteer for community projects. It can be concluded that it is easier to spend money on projects without becoming involved. The companies report on CSR activities in areas including environment, community, market place, workforce, vision and ethical values. These activities correlates with the findings of other recent studies ( Jones *et al.*, 2006; Holcomb *et al.*, 2007).

There is a noticeable reporting on BEE aspects and HIV/Aids programmes, which are not usually present in other studies (Holcomb *et al.*, 2010; Holcomb *et al.*, 2007; Jones *et al.*, 2006). These issues are

relevant in the South African context. Diversity, whether it relates to employees or to procurement is a virtue (Holcomb *et al.*, 2007).

Environment is another category that features in reporting. Holcomb *et al.* (2007) report on conflicting evidence from their study on CSRR in hotel companies. Different methods of water and energy saving are reported and two companies tasked their employees to assist with these ventures. The UK gambling industry hardly mentions environmental issues (Jones *et al.*, 2009).

All the gaming companies report substantially on their Responsible Gaming Programme, while the majority of the UK's major gambling operations report on their commitment to CSR (Jones, *et al.*, 2009). The high frequency of reporting on training is gratifying. Most of the companies cite extensive training opportunities for employees. Having their own training institutes communicating CSR activities could give them a competitive edge in the process of recruiting and retaining employees (Holcomb *et al.*, 2007).

## CONCLUSIONS AND RECOMMENDATIONS

This paper has some limitations as an exploratory study, as only annual reports of the companies reported on. In-depth interviews with people responsible for CSR could have resulted in a more comprehensive study.

All the tourism- and hospitality-related companies listed on the JSE report on CSR. A marked variation in the extent, nature and content of reporting is evident. Similar areas are covered and a general commitment to empowerment of the previously disadvantaged, HIV/Aids support, environment issues and involvement in the community is common to all. Reporting on all CSR activities is commendable, but it is an open question whether CSR is solely a management responsibility or whether all company employees should be aware of, committed to or involved in these activities. This issue leaves ample opportunity for further research on involvement rather than on reporting only.

## REFERENCES

Adler, E.S. & Clark, R. *An invitation to social research: how it's done*. Australia: Wadsworth Gengage Learning. 2011.

Department of Trade and Industry. "Codes of Good Practice on Broad-Based Black Economic Empowerment - Schedule 1, Interpretation and Definitions" 2007.

Gan, A. The impact of public scrutiny on corporate philanthropy. *Journal of business ethics*, 19(1)(2006):137-143.

Government Communications and Information System (GCIS). South African Yearbook 2009/2010. South African Consulate General. 2010.

Hamman, R., Agbazue, T., Kapelus, P. & Hein, A. Universalizing corporate social responsibility? South African challenges to the International Organization for Standardization's new social responsibility standard. *Business and society review*, 110(1)(2005):1-11.

Hamann, R. & Kapelus, P. Corporate social responsibility in mining in Southern Africa: fair accountability or just greenwash? *Development*, 47(3)(2004):85-92.

Johannesburg Stock Exchange. SRI Index, 2010.

Holcomb, J.L., Upchurch, R.S., Okumus, F. Corporate social responsibility: what are top hotel companies reporting? *International journal of contemporary management*, 19(6)(2007):461-475

Holcomb, J.L., Okumus, F. & Bilgihan, A. Corporate social responsibility: what are the top three Orlando theme parks reporting? *Worldwide hospitality and tourism themes*, 2(3)(2010):316-337.

Jenkins, H. & Yakovelva, N. Corporate social responsibility in the mining industry: exploring trends in social and environmental disclosure. *Journal of cleaner production*, 14(3/4)(2005):271-284.

Jones, P., Comfort, D & Hillier, D. Corporate social responsibility and the UK's top ten retailers. *International journal of retail & distribution management*, 33(12)(2005):882-892.

Jones, P., Comfort, D. & Hillier, D. Reporting and reflecting on corporate social responsibility in the hospitality industry. A case study of pub operators in the UK. *International journal of contemporary hospitality management*, 18 (4)(2006):329-340.

Jones, P., Hillier, D. & Comfort, D. Corporate social responsibility in the UK gambling industry. *Corporate governance*, 9(2009):189-201.

King committee. King Code of governance for South Africa. Institute of directors South Africa, 2009.

Mcgehee, N.G., Wattanakamolchai, S., Perdue, R.R. & Calvert, E.O. Corporate social responsibility within the U.S. Lodging Industry: an exploratory study. *Journal of hospitality and tourism research*, 33(2009):417-437.

Montiel, I. Corporate social responsibility and corporate social sustainability: separate pasts, common futures. *Organization and environment*, 21(3)(2008):245-269.

Neuman, W. *Social research methods: qualitative and quantitative approaches*. Boston, Mass: Allyn and Bacon, 2003.

# THE IMPACT OF TRADITIONAL AND NATIONAL VALUES ON ATTITUDES AND WILLINGNESS TO BUY COSMETICS IN SINGAPORE

**Yamen Koubaa and Gaëlle Ulvoas**  
**The Brittany School of Management, France**  
**Patricia Chew, Unisim, Singapore**

## ABSTRACT

*The Chinese Singaporean woman has a two faceted identity. Singaporean she is, but also Chinese with a double commitment to her national and ethnic identities. This paper examines the double influence of traditional Chinese and national Singaporean values on the attitudes towards skin beauty and the buying intention of Chinese Singaporean women related to beauty care. Results from an empirical investigation reveal a dual effect of traditional Chinese and national Singaporean cultural values on the attitudes towards skin beauty and on the willingness to buy skin care cosmetics that varies across skin whitening products, skin smoothing products and skin anti-ageing products. The study relies on a structural modelling approach.*

## INTRODUCTION

As China represents almost a fifth of the world population today (CIA World Factbook, July 2010 estimate), the Chinese consumer has been the focus of increasing attention in the area of consumer behaviour research (Yau, 2001; Zhang and Jolibert 2003; Cheng and De La Robertie, 2009). Overseas Chinese communities in particular have developed throughout the world, especially in South East Asia. For instance, Chinese are the dominant ethnic group in Hong-Kong, Taiwan and Singapore and China towns are spreading across big cities around the globe. Unlike their fellow Chinese in mainland China, expatriate Chinese's culture has evolved under the shade of the host country's national culture. Culture is a main determinant of consumer behaviour (McCracken, 1986) and cultural values play a leading role in this scheme of influence (Kamakura and Novak, 1992; Luna and Gupta, 2001). Surveys have shown that different ethnic groups, as they hold different cultural values, display differences in their consumption patterns (Sekhon and Szmigin, 2009; Jung and Kau, 2004). Across researches, Chinese values were found to influence the search for information (Yang, 1989), learning and memorizing processes (Schütte and Ciarlante, 1998; Trompenaars and Woolliams, 2004; Usunier and Lee, 2005), aesthetics and country of origin perceptions, attitude and loyalty toward the product (Schütte and Ciarlante, 1998; Usunier and Lee, 2005) and purchase frequency (Zhang and Jolibert, 2003). The current study focuses on the effect of cultural values held by expatriate Chinese on their willingness to buy. Its objective is to investigate the influence of traditional Chinese and local national values on the attitudes and willingness of Chinese Singaporeans. The research is an empirical one. After defending the theoretical rigor of the study in the first section, we present the methods and the findings in the second section. The third section discusses the results and presents the implications. The paper ends with conclusions, limitations, and windows for future researches.

## CONCEPTUAL BACKGROUND

The influence of values on attitude and willingness to buy or intentional behavior has been clearly established (Williams, 1979; Neuman 1986; Homer et Kahle 1988). Homer and Kahle (1988) have developed a three level causality model: values, attitude related to nutrition and purchase(s) of healthy food. Results show that a causality link exists between values and buying behavior but that the link between values and attitude is

even stronger. McCarty and Shrum (1993) adapted Homer and Kahle's model (1988) to recycling activities and reached the same conclusions. Attitude thus becomes a mediator variable between values and buying behavior. Values are useful to explain behaviors such as donations to charities, blood donations, recycling, etc (Mc Carty et Shrum, 1993). In the area of ecology and environmental protection, several studies conducted between 1986 and 1995 highlighted the positive correlation between values and a positive attitude toward ecology. For instance, Grunert and Juhl (1995) demonstrated that a link exists between collective values and the green attitude of a person, which in turn influences the purchasing behaviour of organic products. The values-attitude-buying behavior link is therefore widely supported.

***H1: Consumers' cultural values impact their attitudes towards the product which in turn impact their buying behavior***

According to Kroeber and Kluckhohn (1952, p. 181), " culture consists of patterns, explicit and implicit, of and for behaviors acquired and transmitted by symbols constituting the distinctive achievements of human groups ... the essential core of culture consists of traditional ideas and especially their attached values". Values thus reflect and make the fundamental part of a culture. They shape beliefs and attitudes, and influence individuals' behaviors while providing a set of available solutions to problems commonly encountered (Hofstede, 2001). The two main characteristics of cultural values are their stability over time and their adaptability. Stability requires that a society's cultural values be strongly dependent upon its traditional values, which has been demonstrated for the Chinese culture (Yau, 2001). At the same time, seldom will a culture not receive external influences and adapt. In this sense, Luna and Gupta (2001) state that an individual behavior is the result of his cultural values system in a specific context. Hence, although ethnic cultures are quasi-stable over time, they also evolve in accordance with the context they develop in. Ethnic groups living outside their mother countries are good proofs of this evolution. Albeit they've kept many of their traditional values, Mexicans in the United States, Indians in the United Kingdom, North Africans in France, and Turks in Germany exhibit disparate cultural patterns and non-similar values from their fellows living in their mother countries. Overseas Chinese are no exception. However, while many overseas ethnic communities find their mother country's cultural values so flavored locally, Asians and specifically Chinese are known for being very preservative of their mother culture (Kurata et al, 1994). This never means that overseas Chinese could keep their mother country's values immune and away from local adaptation, it suggests that the extent of adaptation differs. Communities of overseas Chinese living in South East Asian countries, namely Chinese in Singapore, are not so far from mainland China. Grace to the intense economic, political and social exchanges between China and these countries, overseas Chinese in Singapore and other East Asian countries remain somewhat incarnated in their mother country's values and adapt with great care to mother values (Chew and Putti, 1993). Therefore, it is very likely that Chinese Singaporeans' attitudes are simultaneously strongly influenced by mother country's cultural values and local country's cultural values. Traditional Chinese philosophical and religious influences mainly come from three schools of thought: Confucianism, Buddhism and Daoism. Each of these three doctrines can have an impact on a specific aspect of Chinese people's lives. Confucianism's role would be greater on social life (relationships in general and family), Daoism on private life and Buddhism on spiritual life (Zhang and Jolibert, 2003). Confucianism has been the main cultural determinant of Chinese culture for over 2000 years. The key principles of Confucian ethics are the stability of society based on the hierarchy of relationships amongst people, the adoption of the family as the prototype of any social organization, a virtuous behavior toward others which consists in treating them as one would like to be treated, and virtue applied to one's own tasks in life (Hofstede and Bond, 1988). Confucianism, being a philosophy or an ethics code and not a religion, has left room for Asian religions to develop, especially Buddhism and Daoism, parallel to its principles (Liang, 1996; Hofstede and Bond, 1988). Buddhism aims at freeing man from the grasp of suffering issued from desires associated with material life and sins originating in an earlier life. Since Buddhists are only interested in their future life and compassion toward all humans, they lead a simple life on earth (Harvey, 1990). Daoism, however, teaches people a way of life that enables them to be in harmony with nature and to enjoy life. According to this school of thought, nature is a step above all other beings. When it comes to human action, Daoism is more interested in processes than results. It advocates the respect of nature and a life in harmony with it (Lao Zi, 6<sup>th</sup> century B.C.). The two manifest traditional Chinese religious philosophies present today in Singapore are Buddhism and Daoism. Besides, Singapore is a multiracial society where the preservation of each ethnic group's own unique culture, including religious values, has been encouraged along with national harmony (Jung and Kau, 200; Chinese Heritage Centre, 1998) thus enabling Chinese Singaporeans to freely practice their Buddhist and Daoism rituals and learning, and to refresh their traditional beliefs and values. However, even though only

Buddhism and Daoism are manifestly present in Singapore as Chinese religions, Confucianism has had a recognized historical influence on the development of the Singaporean culture and according to Kuo (1988) it should be considered as a strong cultural root. Since independence, both the construction of a Singaporean identity and the preservation of each ethnic group's own identity have been encouraged. The Singaporean identity was built on the ground of British legacy of Western tradition and that of shared values common to the three ethnic groups which make Singapore: Chinese, Malays and Indians. Shared values, which are more widely accepted by all ethnic groups, replaced Confucian ethics which had been previously taught to Singaporeans. They have led to what is now referred to as Singaporean values. Four waves of studies on Singaporean values conducted between 1991 and 2001 (Kau, Tan et Wirtz, 1998; Kau, Jung, Tambyah et Tan, 2004) have revealed the six following Singaporean values orientations: family, status, traditionalism, societal consciousness, materialism and entrepreneurship. Family values are love, care and concern, mutual respect, filial responsibility, commitment and communication. These values enable one to feel "appreciated and treasured" (Kau, Jung, Tambyah and Tan, 2004, p.18). Status consciousness translates into the type of house and car one owns, as well as clothing. Traditionalism refers to the respect of traditions, including celebrating festivals and being religious. Societal consciousness mainly translates into efforts to raise money or dedicate time to charities. Materialism focuses on money value and effectiveness such as the monetary value of a job and the belief that money can solve most of a person's problems. Entrepreneurship relies on self-confidence, creativity, realising one's full potential. Building on the dual effect of traditional Chinese and Singaporean values on the attitudes and behaviors of Chinese Singaporeans, and given that Singaporean values were historically inspired from traditional Confucian philosophy, we suppose that:

***H2: Attitudes and then behaviors namely buying behavior of Chinese Singaporean women are likely to be strongly influenced by both traditional Chinese cultural values and national Singaporean cultural values***

***H2a: Buddhist values influence Chinese Singaporean women's attitudes and buying behaviors***

***H2b: Daoism values influence Chinese Singaporean women's attitudes and buying behaviours***

***H2c: Confucian values influence Chinese Singaporean women's attitudes and buying behaviors***

***H2d: Singaporean values influence Chinese Singaporean women's attitudes and buying behaviors***

Women's aspiration for beauty is universal. However, the definition of beauty varies from one culture to another. In Asia, where white represents nobleness, mystery and secret, cultural variations are as numerous as ethnic, climate and geographic ones. Asian women however have a common desire: that is to have a fair skin. Three studies carried out on Asian populations show that the factors of greatest influence on the quest for a fair skin are a woman's geographic origin, age, culture and original cultural environment (Saito, 2001). Besides, fairness of the skin doesn't by itself make the ideal skin. It has to be associated with a smooth texture. The survey of Chinese women undergoing an intensive beauty care for the purpose of skin whitening and smoothing showed that these women enjoy the physiological benefits coming from the beauty investment on themselves as the result of the sense of accomplishment and personal merit associated with personal discipline (a traditional Confucian value) which they demonstrate throughout the « beauty diet » period. Saito (2001) speaks about the "ideal skin fairness" as the concept to be defined to better understand the beauty ideal sought by Chinese women. She suggests that women's aspiration for this "ideal skin fairness" is not only for their own individual satisfaction, but also because they desire to build harmonious relationships with their dear ones and the society they live in-the two being also traditional Confucian values. The survey of the purchasing behavior of a group of women in the traditional region of Beijing (Zhang and Jolibert, 2003) showed the influence of traditional Chinese values in this context. This influence translates in Confucian women's preference for prestigious brands, which reflect their status; the preference of Buddhist women for simple, rather cheap products; and that of Daoist women for natural and good quality products. Retailing data (Euromonitor 2010) shows that cosmetics sales are rapidly growing among Asian women and that face care cosmetics such skin smoothing, skin anti-ageing and skin whitening are among the best selling products for women in countries like Japan and Honk Kong for instance. Singapore is included neither in Saito's (2001) nor Zhang and Jolibert's (2003) surveys. Therefore, it is interesting to investigate whether the conclusions reached by these authors apply to Chinese Singaporean women. Building on these conclusions, we propose that:

***H3a: Traditional Chinese values impact Chinese Singaporean women's attitudes and their buying behaviors of skin care products designed for the purpose of skin smoothing, skin whitening, and skin anti-ageing***

***H3b: Singaporean values impact Chinese Singaporean women's attitudes and their consumption behaviours of skin care products designed for the purpose of skin smoothing, skin whitening, and skin anti-ageing***

## METHOD

First we checked for the scales' reliabilities to be sure about the adequacy of the scales used to measure the constructs studied. Then, we checked for the stability and the consistency of the measurement structures reproduced from previous researches via a confirmatory factorial analysis (CFA). Third, we conducted principal components analyses (PCA) for those inconsistent structures. The principal components analyses allowed us to extract new structures of measurement eventually more consistent with the Singaporean sample. Afterward, we conducted confirmatory factorial analyses to confirm the structures extracted via the principal components analysis. Finally, we processed the final model for each of the three skin care cosmetics products studied. The final model is a structural model (SEM) that links Singaporean values (e.g., national and traditional) to attitudes towards skin care beauty and then to their willingness to buy skin care cosmetics. Data was collected via questionnaire among Singaporean women between October and November 2010. 370 useful questionnaires were collected. Almost 50% of the respondents were aged between 20 and 29, 20% aged less than 20, almost 10% respectively aged between 30 and 39, 40 and 49 and 50 and 59. The age is quite dispersed across the various age group of the Singaporean women society. Almost 70% of respondents are single, more than 25% are married and less than 5% are living under another marital status. Almost 40% of respondents are living in households with three persons and 37% are living in households with four persons. 95% of respondents are having an educational level higher than senior high school and up to university level. Almost 40% of respondents are students and the remaining ones are having various occupations such as services sector, liberal professions, government employee, etc. Less than 50% are having a gross income of 1000 Singaporean dollar per month, 35% are having a gross income between 3000 and 5000 and the remaining ones are having a gross income superior to 5000 Singaporean dollar per month. Buddhism (34.1%) and Christianity (32.2%) are the dominant religions of the respondents. 11.9% are free-thinker. The remaining 23% are dispersed between Daoism, Islam and Atheism. All the constructs and measurements we have used in the research have been partially validated in previous researches. Table 1 presents the original sources of these measurements. Hence, after checking the scales' reliabilities, we move onto conducting confirmatory factor analyses (CFA) to check whether these structures are to keep invariant with the current research or need some refinements. We conduct a CFA for each multidimensional structure. That's to say 4 CFAs: one CFA for each of the cultural components. Note that the constructs of attitudes towards skin beauty as well as the willingness to buy skin care cosmetics were taken as one-dimensional structures. Table 2 summarizes the goodness of fit of the models used for measurement.

Alpha values support the reliability of the scales used. Except for the scale of attitudes towards skin ageing products (Alpha= 0.63), all the scales have Alpha values equal or superior to the cutting point of 0.7 (Nunnally, 1978). Alpha value of the scale measuring attitudes towards skin ageing is not that far from 0.7 and the scale can be regarded as a reliable one.

**Table 1 –Constructs and measurement tools**

<b>Constructs :</b>	<b>Measurements :</b>	<b>Remarks :</b>
Traditional Chinese values	Zhang and Jolibert's (2003)	Translated into English and validated in Singapore through the 2006 survey (Ulvoas, 2007)
Singaporean values	Kau, Jung, Tambayah and Tan (2004)	Used in the original version
Attitude toward skin whitening, smoothing and anti-ageing	Saito (2001) and partial validation through Ulvoas (2007)	Re-examined through the current study

**Table 2: goodness of fit of the models used for measurement (as presented in the theoretical background)**

<b>Model</b>	<b>CMIN/DF</b>	<b>GFI</b>	<b>RMR</b>	<b>RMSEA</b>	<b>HOELTER</b>
Buddhist	89.98	0.47	0.09	0.49	7
Daoist	211.29	0.41	0.13	0.75	4
Confucian	133.85	0.34	0.16	0.60	4
National Singaporean	69.60	0.25	0.11	0.37	8

The indices of goodness of fit in the table above show that all the models used to measure the constructs require refinement. In fact, GFI (goodness of fit index) which should be close to 1 and RMR (root mean square residual) which should be close to 0 for a good goodness of fit are far from these values. RMSEA (root mean square error of approximation) which should be between 0.05 and 0.08 for the best fit and not so far from 0.1 for an acceptable fit is far from these values and HOELTER index (sample adequacy index) values show that there is no problem with the sample size as HOELTER values are low (Byrne, 2001). Following these findings, we performed a principal components analysis with Varimax rotation to refine the measurements. In order to decide how many components to retain and what are the items to retain by component, we need to check three details: first, we need to check the communality of each item to see whether this item is strongly or weakly contributing to the extraction of factors (Stewart, 1981). Second we need to check the percentage of the explained variance of each of the factors extracted to decide about the number of factors to retain. Finally, we need to check the loading of each item on the factors retained to decide about the number of items to retain by factor and about the content of each retained factor. The principal components analyses reveal new structures slightly different from those supposed in the research background. Table 3 summarizes the outputs of the principal components analyses. Note that we have fixed the cut point of 0.5 for item extraction to judge the item as having a high communality and worth to retain. We believe that if the item is extracted for less than 50% (i.e. communality less than 0.5) it should not be considered as a viable one in the analysis and should be rejected from the outputs of the PCA. Likewise, we have fixed the cut point of 0.55 for the loading of the item on the factor retained. Items with a loading less than 0.55 will be rejected. We think that fixing high the cut point of items' loadings on factors is necessary especially with rode scales like the ones we are using in this research.

**Table 3: outputs of the PCA analyses**

<b>Construct</b>	<b>Items rejected for low communalities</b>	<b>Factors retained</b>	<b>Cumulative explained variance</b>	<b>Items retained and content of the component</b>
Buddhist values	B4	3	69.92	1:B1, B2, B3:equity and kindness 2:B7, B8: predestination 3:B5, B6: modesty
Daoist values	D1, D2, D3	1	49.5	D4, D5
Confucian values	C6, C7	3	64.76	1:C1, C2, C3:status 2:C4, C5:saving face 3:C8, C9: discipline
National Singaporean values	S12, S13, S20, S24	4	43.97	1:S1, S2, S3, S4, S5, S6, S7:family value 2:S17, S18, S19, S21:materialism 3:S8, S10, S11: environment value 4:S9, S14, S15: community value

PCA revealed new structures for the constructs. Nevertheless, the new structures are not that different from the ones defended in the background. Most of the changes occurring are due to the elimination of those items with low communalities. The contents of the new components were kept almost invariant comparing to those before the PCA. There was only reduction in the number of items retained as measures for the components. Note here that for the one-dimensional structures of attitudes towards skin beauty and the willingness to buy skin care cosmetics we haven't conducted PCA as the number of items is limited (respectively 3 and 4). In a second stage and going to confirm the structures revealed by the PCA, we conduct a second round of confirmatory factor analysis to check the stability and the reliability of the structures we extracted. Table 4 presents the results of the second round of CFA.

**Table 4: goodness of fit of the models used for measurement (as extracted from the PCA)**

<b>Model</b>	<b>CMIN/DF</b>	<b>GFI</b>	<b>RMR</b>	<b>RMSEA</b>	<b>HOELTER</b>
Buddhist	9.53	0.88	0.04	0.15	65
Daoism	289.35	0.63	0.09	0.8	5
Confucian	5.93	0.92	0.03	0.1	104
National Singaporean	6.96	0.78	0.04	0.12	65

As shown in table 3, most of the structures got from the PCA are confirmed and exhibit strong reliabilities. Buddhist values and Confucian values are found to be tri-dimensional constructs. National Singaporean values construct is found to be four-dimensional construct. Worth to note here that the initial 32 items used to measure the National Singaporean values appear to be –to some extent- heterogeneous. In fact, the PCA revealed that in order to get 55% of the explained variance, we need to consider 7 different components with this construct. Less strong reliabilities however are found with the Daoist values. The last construct are proven to be one-dimensional constructs and this one-dimensionality may have contributed to the weakness of the overall goodness of fit of the measurement structure of the Daoism values’ construct. After being sure about the robustness of the constructs and of their respective measurement structures, we moved onto processing the whole model. The whole model is the model that draws the link, from one side, between the Chinese and national Singaporean cultural values and the attitudes towards skin care beauty (Skin fairness, skin smoothness and skin ageing), and from the other side, between the latter attitudes and the willingness to buy skin care products (skin whitening products, skin smoothing products and skin anti-ageing products). We measured the buying behavior of respondents by the extent to which they are willing to buy the cosmetic product in question. Table 5 presents the goodness of fit indices s for the final models estimations.

**Table 5: goodness of fit indices for the final models**

<b>Model</b>	<b>CMIN/DF</b>	<b>GFI</b>	<b>RMR</b>	<b>RMSEA</b>	<b>HOELTER</b>
Skin whitening	12.85	0.66	0.04	0.09	52
Skin smoothing	13.96	0.76	0.05	0.09	69
Skin anti-ageing	24.09	0.64	0.07	0.11	44

Goodness of fit indices in table 4 show an acceptable goodness of fit for all the models. Even though GFI is not so close to 1, the sign of a goodness of fit, RMR and RMSEA values are both indicating an acceptable goodness of fit. In fact RMR is close to 0 and RMSEA is below the cut point of 0.1 except for the model of skin anti-ageing. Coupled with the Chi Square value, we think that –although the models are not showing an excellent goodness of fit- all the three models estimated are exhibiting acceptable goodness of fit that allow us to consider the results got from the structural equation modeling estimations.

## **INTERPRETATIONS AND DISCUSSIONS**

Results of the estimation via SEM show that cultural values significantly impact the attitudes towards skin beauty and then the willingness to buy skin care cosmetics. In fact, across the three types of attitudes (skin fairness, skin smoothness and skin ageing) and across the three types of skin care cosmetics (skin whitening, skin smoothing and skin anti-ageing), cultural values have had significant impacts on the attitudes towards skin beauty and the attitudes towards skin beauty in their turn have had significant impacts on the willingness to purchase skin care cosmetics. Hence H1, H2 and H3 are all confirmed. Traditional Chinese and national Singaporean values impact the attitudes of Singaporeans women towards skin fairness. However, with Chinese values, only Buddhist and Confucian values that had significant impacts on the attitudes towards fairness with Confucian value being the most influential (3.03). Note that Confucian values are the only traditional Chinese values that had a strong positive significant impact on attitudes towards fairness. Buddhism and national Singaporean values however had moderate negative significant impacts on attitudes towards skin fairness. As regard the effect of attitudes towards skin fairness on the willingness to buy skin whitening cosmetics, results support a significant positive effect of these attitudes on the willingness to buy skin whitening cosmetics. The latter effect has a size of 0.19. Coupling the findings about attitudes towards skin fairness and the willingness to buy skin whitening cosmetics, we conclude that the more the woman adopts Confucian values, the more she will hold a favorable attitude towards skin fairness and hence the more she will be willing to buy skin whitening cosmetics. In contrast, the more the woman adopts Buddhist and national Singaporean values the less she will hold favorable attitudes towards skin fairness, and hence the less she will be willing to buy skin whitening cosmetics. Therefore H2a, H2c, H2d, H3a and H3b are confirmed for skin whitening. Buddhist and national Singaporean values are the only cultural values that had significant positive impacts on the attitudes towards skin smoothness, with national Singaporean values being the most influential. Likewise, the attitudes towards skin smoothness had a significant positive effect on the willingness to buy skin-smoothing cosmetics of a size of

0.27. Coupled with the findings about attitudes towards skin smoothness, we conclude that the more the woman adopts Buddhist and national Singaporean values, the more she will hold a favorable attitude towards skin smoothness and hence the more she will be willing to buy skin-smoothing cosmetics. Therefore H2a, H2d, H3a and H3b are confirmed for skin smoothing. Only national Singaporean values had significant impact on the attitudes towards skin ageing. This impact is positive and of a size of 0.39. Likewise, the attitudes towards skin ageing had a significant strong positive impact on the willingness to buy skin anti-ageing cosmetics of a size of 21. Therefore, H2d, H3a and H3b are confirmed. Culture is an evolving phenomenon across time and across places. The current research proves that ethnic cultural values cannot be kept intact from the influence of the host environment. Expatriate ethnic groups like Chinese Singaporeans exhibit a culture mixing traditional ethnic values with the national values of the host country resulting in a mix of values different from the traditional ethnic ones and from the pure values of the host environment. It is then wise not to consider expatriate ethnic groups as an intact extension of the mother culture. These expatriate groups appear to develop new set of values that have disparate impacts on attitudes. Attitudes, and in line with previous findings, are found to be strongly influenced by cultural values. Cultural values are found to have a strong impact on attitudes towards face beauty. Both the traditional ethnic and the national values have shaped women's attitudes towards face beauty, although their impacts differ in significance and size across determinants of face beauty. Note that we have studied three facets of the Singaporean women face beauty namely the skin fairness, skin smoothness and skin anti-ageing. Confucian values which are one pillar of the Chinese traditional values have had only a strong significant positive effect on the attitudes towards skin fairness which is in line with the principles of Confucianism of nice appearance, transparency and the good face-good behaviour link. It might be interesting for marketers of skin fairing cosmetics products for Asian women, particularly those affiliated to the Confucianism philosophy, to stress transparency and virtuous behavior to communicate on their products. Buddhist values, which are one of the main religions in Singapore, have had relatively weak positive impacts on two facets of Asian face beauty namely skin fairness and skin smoothness. The positivity finds salience in the principle of harmony and compassion strongly encouraged in the Buddhist philosophy. The weakness of the effect is due to the lesser interest Buddhism gives to the actual life in favour of the future life. Buddhists aims at freeing men from the greed of this life and look at conducting a simple life on earth; and being too concerned about one's appearance would not let you enjoy a simple life. Based on the latter findings, we think that Buddhist values can't play a considerable role in orienting the attitudes of Singaporean women consumers towards face beauty. However, Buddhist values such as harmony and compassion for others may be used as complement techniques to anchor the desirable attitude in the minds of Singaporean women. The third pillar of traditional Chinese values studied in this research is Daoism. Daoist values are found of no impact on the attitudes of Singaporean women towards skin beauty namely face beauty. We think that the reasons of such findings are first the limited presence of Daoists among the Singaporean women surveyed, and second the assimilation of the principles of Daoism in the other two dominant Chinese philosophies -according to the results- namely Confucianism and Buddhism. Therefore, we suggest that Daoism values would not play any significant role in shaping Singaporean women attitudes towards face beauty. National Singaporean values, which are the values of the host country, are found to be the most significant. In fact, national Singaporean values have had statistically significant positive impacts -albeit moderate impacts- on the three determinants of face beauty, that's to say skin fairness, skin smoothness and skin ageing. The latter finding is not surprising. In fact, the Singaporean government has been working since independence on the establishment of common national values for all in order to create a national spirit common to the various ethnic groups forming the Singaporean society. Singaporeans are converging through time towards common national Singaporean values backed by a political will and a time effect. Through time, ethnic groups are getting more and more influence from the host country that contributes to strengthening of national values in detriment sometimes of traditional ethnic values. The moderate effects of national Singaporean values on the attitudes studied may find salience first in the relatively strong influence of traditional ethnic values on expatriate ethnic groups due to the developed social, economic and cultural exchanges Chinese Singaporeans are having with main land China and second in the limited period Singaporeans have had living together. Note here that Singapore got its independence in the late 60s, they have just 50 years of common life and the generation of common national values from heterogeneous groups is a time consuming process. Hence, currently, we believe that national Singaporean values and traditional ethnic values are almost equally shaping the attitudes of Singaporean women with more influence expected for the national values in the future due to the political will and to the time effect. These findings are reminiscent of what North Africans have experienced in France and of what Hispanic have experienced in the United States. It is then wise for marketers of face beauty cosmetics for Singaporean women to highlight and stress national Singaporean values such as luxury, value for money, social status to better and deeper get into the minds of Singaporean women.

The second link besides cultural values-attitudes is the effect of attitudes on the buying intention or the willingness to buy cosmetics products to keep the face beautiful. Here too, and in line with previous researches, attitudes have had significant impacts on the willingness to buy the products. The impacts revealed along this study were all positive. That's to say, more the attitudes towards skin fairness, skin smoothness and skin anti-ageing are strong, more Singaporean women are willing to buy skin whitening cosmetics to keep their faces fair, to buy skin smoothing cosmetics to protect the texture of their skins, and to buy skin anti-ageing cosmetics to keep the face young and of good appearance. These results prove that Singaporean women's willingness to buy skin care cosmetics passes through their attitudes towards face beauty. It is hence rigorous to target attitudes to get women willing to buy. The impact on the willingness to buy which will lead to the effective buying is an indirect impact that takes attitudes as mediators. Nonetheless, it is always of value to work on these factors affecting directly the willingness to buy such as the atmosphere in the point of sale, the salesperson skills, and the display; however, factors orienting and shaping attitudes should be given great interest from marketers. The link between cultural values, attitudes towards face beauty and willingness to buy skin care cosmetics is a structural link leading to the consideration of attitudes as a mediating variable between cultural values and buying intention.

## CONCLUSIONS

Culture is not static; it evolves across places and time. Expatriate ethnic groups such as Chinese Singaporean women are adopting a cocktail of cultural values mixing their traditional ethnic values with those of their host country, Singapore. These values have had disparate impacts in terms of significance and sizes and across the determinants of face beauty (fairness, smoothness, anti-ageing) on the attitudes towards skin beauty namely face beauty. Marketers are invited to design their actions in accordance to the roles played by each of these values on the attitudes towards the three determinants of face beauty among Singaporean women. Likewise, attitudes are found of strong effect on the willingness to buy. A pretty part of the willingness to buy skin care cosmetics is derived from the attitudes held in minds about the determinants of face beauty. Attitudes play a mediating role between cultural values and buying intention via a structural link. There are several points that deserve reconsideration in this research. First, even though the sample can be considered as large, we think that, regarding the number of variables we have in our model, it is wise to rely on a larger sample. Second, the research was about specific cosmetics products namely those related to skin care, we think it is judicious to extend the analysis to other categories and types of products. Third, to gain on the reliability of the findings and the research framework, it would be necessary to reproduce this study with different expatriate ethnic groups such as Turks in Germany and North Africans in France.

## REFERENCES

- Byrne, B. (2001), *Structural Equation Modelling with AMOS: basic concepts, applications, and programming*, Lawrence Erlbaum Associates: London
- Cheng, B. and De La Robertie, C. (2009), "The impact of cultural values on marketing of Chinese national parks: an exploratory research for communication strategy", *Journal of Global Strategic Management*, Vol. 3, No. 1, pp. 38-46.
- Chew, I. and Putti, J. (1993) "A Comparative Study of Work-Related Values of Singaporean and Japanese Managers in Singapore", Working Paper, *Nanyang Technological University*.
- Chinese Heritage Centre (1998), *The Encyclopedia of the Chinese Overseas*, Archipelago Press, Singapore.
- Grunert, S. and Juhl, H. (1995), "Values, environmental attitudes, and buying of organic foods", *Journal of Economic Psychology*, Vol. 16, pp. 39-62.
- Harvey, B. (1990), *An introduction to Buddhism*, Cambridge University Press, Cambridge (UK).
- Hofstede, G. (2001), *Culture's Consequences: [Comparing Values, Behaviours, Institutions, and Organizations Across Nations](#)*, Thousand Oaks CA: Sage Publications.

# **A REAL OPTIONS MODEL FOR ENERGY SERVICE CONTRACTING INTEGRATED WITH TRANSACTION COST ECONOMICS**

**Ahmet Can Kutlu and Seçkin Polat**  
**Istanbul Technical University, Turkey**

## **ABSTRACT**

*Energy service contracting, which can provide a cost-effective way to overcoming barriers to energy efficiency, is a form of outsourcing and should be considered as an economic problem rather than a technical one. However economics of energy service contracts have a very little attention in the energy related literature. In the study, energy service contracting decision is generalized as a make-or-buy decision and this choice of providing the energy service activities inside or outside of the firm is modeled by real options approach integrated with the transaction cost economics approach.*

## **INTRODUCTION**

The technological innovations and their impacts on the production processes, globalization, mobility of the capital in the international level and the developments in the communication field have caused an increase in the demand of energy and its consumption. This issue has brought the energy concept up in a strategic context since energy is an input for the organizations like manpower, raw materials, etc. for the organizations and the rise in the price of energy resources increases the energy costs of the firms. Therefore there is a need for energy efficiency which is defined as to decrease the share of the energy input in the production or producing the same outputs by consuming a lower amount of energy.

When firms begin to implement energy efficiency activities, they may reduce costs and gain competitive advantage by energy saving. Energy service contracting which is form of outsourcing can provide a cost-effective way to overcoming barriers to energy efficiency (Sorrell, 2007). The energy services can be outsourced to the energy service companies (ESCOs) or they can be handled inside the firm by investing to the necessary assets such as workforce, equipment, technology, etc. Energy service contracting can be chosen when the expected reduction in energy costs is higher than the transaction costs which occur during negotiating and managing the relationship with the energy service provider. As a result energy efficiency services should be considered from an economic point of view rather than a technical one as this case is known make-or-buy problem.

The economics of energy service contracts have little attention in the area of energy literature. In the paper the economics of energy service contracts will be analysed and modelled with a real options (RO) perspective that is integrated with transaction cost economics (TCE) approach. In next section, literature about energy service contracts and energy service companies are given. Later real options perspective and the applications of real options for the discussed field are explained. Subsequently the energy service contracts are modelled with an integrative approach and in the last section the paper is concluded.

## **ENERGY SERVICE CONTRACTING (ESC)**

Energy service contracting, which can be defined as the transfer of decision rights over key items of energy equipment under the terms and conditions of a long-term contract, including incentives to maintain and improve equipment performance over time, is the process of outsourcing one or more energy-related services to a third party (Sorrell, 2007). The energy services such as installing, commissioning and maintaining equipment, purchasing energy commodities and identifying energy saving opportunities can be classified in the scope of energy service contracting. There are various reasons for considering outsourcing and contracting services for an industrial energy consumer. Some of them are listed below (Helle, 1997).

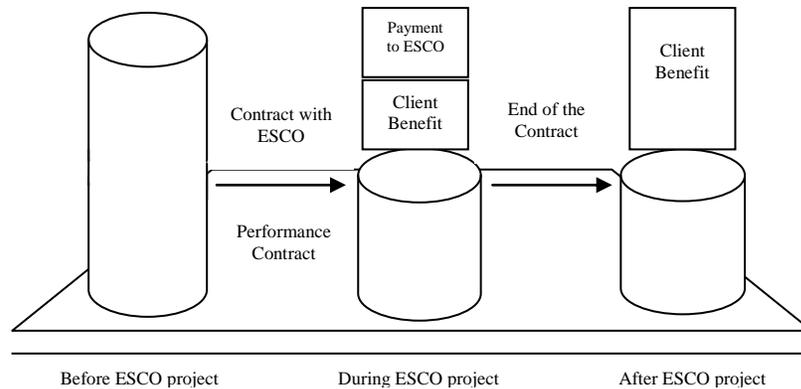
- The company does not possess the necessary know-how for the realization and is not experienced in managing complex energy investments.
- Financial restrictions are conceivable, too: the financial limits or the available financial resources respectively are exceeded or preferably spent for projects covering the company's priority sectors.
- Since contracting is an off-balance financing scheme, there can be reasons in favour of contracting with respect to corporate financial policy when drawing up the balance sheet.
- Due to its market strategies, a company attaches a high priority to outsourcing, that is to say in-house activities carried out in the company's non-priority performance sectors will be increasingly offered to external companies.
- The risks and (internal) transaction costs arising from projects outside the company's priority sectors are deemed too high. As a consequence, for example the levels of the required profitability of such projects may be high (that is to say short pay-off periods or high internal rates of return respectively); similar restricting conditions, such as expected amortization periods not exceeding 4 years, are quite widespread in the field of industrial energy management.

Two types of energy service contracting projects exist in general. First type is the conventional “turnkey” projects (Sorrell, 2007) or facility contracting projects (Helle, 1997) where the contractor is responsible for design, specification, construction, and commissioning and is paid on project completion. However the contractor may be liable if the equipment does not work or does not perform to specification, but has not any responsibilities for the operation of the equipment and has neither the incentive nor the means to optimise equipment performance subsequent to project delivery (Sorrell, 2007). The latter one is the energy performance contracts (EPC) which is a performance-based procurement method and financial mechanism for building renewal whereby utility bill savings that result from the installation of new building systems (reducing energy use) pay for the cost of the building renewal project.

## **Energy Service Companies (ESCOs)**

The companies that provide the activities involved in energy service contracts as are usually named energy service companies (ESCOs). ESCOs are the companies that operate in developing, installing and financing comprehensive, performance-based projects designed to improve energy efficiency or reduce maintenance costs for energy-consuming facilities over a certain time period (Cudahy and Dreesse, 1996; Dayton et al., 1998; Goldman and Dayton, 1996; Lee et. al., 2003; Vine, 2005). ESCOs that operate under an energy performance contracting arrangement, implement a project to deliver energy efficiency project, and has the income from the share of the cost savings, or the renewable energy produced, to repay the costs of the project (Okay, et. al. 2008). The process of an ESCO project with an EPC is illustrated in Figure 1. Before an implementation of an ESCO project, the client has a certain amount of energy cost. After the contracting, there is a reduction in the cost of energy due the efforts of energy efficiency activities taken by ESCO. The payment of the ESCO is given from a share of the saved energy and at this stage the benefit of client is small until the payments to the ESCO finish. At the end of the contract, the ESCO project finishes and since the ESCO gets paid in return of the project, the reduced energy cost is totally in benefit for the client. As a result, by the concept of performance-based contracting, ESCOs are fundamentally different from consulting engineers specializing in identifying and offering efficiency improvements, which are typically paid for their advice and undertake no risk that their recommendations will yield results (Okay, et. al. 2008; Lee et. al., 2003).

**Figure 1: Process of an ESCO Project**



Source: (Lee et. al., 2003).

## A TCE Approach to the Economics of ESC

The concept of transaction costs was first introduced by Coase (1937) and later developed by Williamson (1975, 1985). The unit of analysis in the transaction cost theory is the transaction, which “occurs when a good or service is transferred across a technologically separate interface” Williamson (1975, 1985). Transaction costs are defined by Williamson (1975, 1985) as the costs associated with an economic exchange that vary independently of the competitive market price of the goods or services exchanged. Transactions costs can be divided in two categories as the costs occurred during the contract such as drafting, negotiating, and safeguarding agreements between the parties to a transaction (*ex-ante* costs) and the costs occurred after the contract execution such as monitoring performance, maladaptation, haggling, renegotiation, establishment, operational, and bonding costs (*ex-post* costs).

Sorrell (2007) stated that contracting is expected to reduce overall production costs but increase overall transaction costs and can be chosen when the expected reduction in energy costs is higher than the transaction costs. In terms of energy concept, production costs is defined by Sorrell (2007) as the financing costs of any replacement conversion, distribution and control equipment, the staff and material costs for operation and maintenance and the purchase cost of energy commodities while transaction costs are the staff, consulting and legal costs associated with searching for a supplier, negotiating and writing the contract, monitoring contract performance, enforcing compliance, negotiating changes to the contract when unforeseen circumstances arise and resolving disputes. They also include the costs associated with opportunistic behaviour by either party, such as when a contractor fails to maintain equipment to an adequate standard (Williamson, 1985). In Sorrell’s model (2007) these variables is illustrated below;

- $P_{CL}$  : Production costs incurred by client
- $P_{CON}$  : Production costs incurred by the contractor
- $T_{CL}$  : Transaction costs incurred by client
- $T_{CON}$  : Transaction costs incurred by contractor
- $PAY$  : Payments to the contractor

Additionally the three conditions for a viable contract are given in the following statements where IN and OUT superscripts refer to in-house and outsourced provisions respectively (Sorrell, 2007).

$$PAY \leq (PC_{CL}^{IN} - PC_{CL}^{OUT}) + (TC_{CL}^{IN} - TC_{CL}^{OUT}) \quad (1)$$

$$PAY \geq (PC_{CON}^{OUT} + TC_{CON}^{OUT}) \quad (2)$$

$$PC_{CL}^{IN} - (PC_{CL}^{OUT} + PC_{CON}^{OUT}) \geq (TC_{CON}^{OUT} - TC_{CL}^{OUT}) - TC_{CL}^{IN} \quad (3)$$

First condition explains that the contract payments are less than the total savings achieved by the client after the outsourcing. The second condition is that the contract revenues are greater than the total costs incurred by the contractor to be profitable. Finally the third condition, which is the main emphasis of the transaction cost economics approach, states that the total saving in production costs achieved through the contract must be greater than the total increase in transaction costs for making the outsourcing decision right.

# REAL OPTIONS

An option is the right, but not the obligation, to take an action in the future (Amram and Kulatilaka 1999). The development of real options theory has been based on the financial options theory in which the value of options on uncertain financial assets is assessed (Foss and Roemer, 2010). A financial options is defined as the derivative security whose value is derived from the worth and characteristics of another financial security or so-called underlying asset (Reuer and Tong, 2007). Basically two types of financial options are defined as call option and put option. A call option on an asset gives the right, with no obligation, to acquire the underlying asset by paying a pre-specified price (exercise price) on or before a given maturity while put option similarly gives the right to sell or exchange the underlying asset and receive the exercise price (Trigeorgis, 1996). In addition, a European option gives the right to exercise the option on the expiration date. However an American option gives the right to exercise the option on or before the expiration date.

The real options concept was developed from the seminal idea of Myers (1977). The idea is that one can view the discretionary investment opportunities of as a call option on real assets like a financial call option provides decision rights on financial assets (Reuer and Tong, 2007). As a formal definition, real options are the investments in real physical assets, as opposed to financial assets, which give the firm the right, but not the obligation, to take on the certain future actions (Reuer and Tong, 2007). Real options cover a systematic approach and integrated solution using financial theory, economic analysis, management science, decision science, statistics and economic modelling in applying options theory in valuing real physical assets in a dynamic and uncertain business environment. The options to delay the investment, to expand or contract a project, to abandon it or to switch the modes of production are considered when real option values are assessed (Roemer, 2004).

The real options theory which assesses the actual and potential resources of a firm including the value of flexibility is a dynamic approach that takes into consideration the changes in the future and supports the adaptations of the firm to the changes and uncertainties (Foss and Roemer, 2010). From the real options perspective, the firm can be viewed as a portfolio of real options instead of a conceiving the firm as a set of institutions, property rights or contracts as the traditional approaches propose (Roemer, 2004). Optimal flexibility covers an action plan that enables the firm to acquire the set of options which maximizes the net present value of the firm (Foss, 1998).

## Valuing Real Options

Different financial option pricing methods (Black and Scholes, 1973; Merton, 1973; Myers, 1977) have been used as the characteristics of financial options can be transferred to real investment issues to assess the value of real investment projects under uncertainty (Foss and Roemer, 2010). Black and Scholes (1973) developed a closed form solution for valuing a European option with one variable for continuous time. Merton (1973) extended the option valuation method of Black and Scholes (1973) considering the stocks with decreasing values due to dividend outflows to represent the option value of a product opportunity and defined a parameter that shows a rate of asset value erosion during the time. In addition the binomial lattice approach of Cox, Ross, and Rubinstein (CRR) (1979) is a powerful and flexible numerical procedure for valuing options for discrete time in the case of one variable. Boyle (1988) developed an extension of the CRR procedure for option valuation in the case of two state variables by using simulation technique.

## Real Options Perspective on Outsourcing Decision

There are several studies considering real options approach for the outsourcing decision. Cao et al. (2007) used a binomial lattice option valuation method for R&D outsourcing decision. Nembhard et al. (2003) developed a financial model for assessing the option value for product outsourcing. They considered a three state-variable and used Monte Carlo simulation to estimate the value of option. Jiang et al. (2008) considered real options approach to valuate outsourcing contracts from the vendors' perspective. Their option valuation method is based on the general Brownian motion (GBM) standard setting in ROT and the continuous-time formulation of the random walk. Benaroch et al, (2010) developed a simplified real options models for

outsourcing and back sourcing under demand uncertainty considering internal and external fixed and variable costs. Datta (2005) used Black and Scholes formula with Merton's (1973) extension for calculating the option value for the outsourcing decision. When the option is in the money or in other words the option has a positive value, then it is right to exercise the option for producing the products or services in-house. Table 1 illustrates the option terms and their corresponding terms used as outsourcing concepts.

**Table 1: Option terms and corresponding strategic terms**

Option term	Strategic term
Time to expiry	Time horizon of the outsourcing decision
Stock price	Present value of cost of transacting with the market (purchase price + transaction cost)
Exercise price	Present value of cost of producing the services in-house
Volatility	Uncertainty of the cost of transacting with the market (arises due to fluctuation in transaction costs)
Dividends	Present value of cost incurred to maintain core strategic capability in-house during the outsourcing relationship

Source: Datta (2005)

## Integrating TCE and Real Options

Both real options analysis and transaction cost economics resemble each other in high degree and deal with similar issues while there exist some differences between the two streams of research especially with respect to uncertainty (Roemer, 2004). Considering the similarities Sanchez (2003) developed a theoretical framework for integrating transaction cost economics and real options theory. Table 2 shows the comparison of the main aspects of two approaches. ROT and TCE differ in their assumptions on rationality entailing a shift in the meaning of uncertainty. In contrast to the assumption of bounded rationality underlying the TCE framework, ROT uses an unbounded rationality perspective where contingent 'market' contracts can be concluded. There is no need for organization of the transaction within the firm. Furthermore, both approaches focus on different origins of uncertainty: While TCE concentrates on the safeguarding aspect of governance structures to reduce behavioral uncertainty; the real options approach mainly treats environmental types of uncertainty. (Roemer, 2004). On the other hand both approaches consider the same issue, sequential decision making under uncertainty (Trigeorgis and Mason 1987; Williamson 1985). Williamson (1991) emphasizes that asset specificity has a strong relation to the notion of sunk costs and the irreversibility problem that is taken in consideration in real options theory. The irreversibility of investments is worthwhile in the real options analysis. Dixit and Pindyck (1994) suggest that investment expenditures are sunk costs when they are firm or industry specific and cannot be recovered".

**Table 2: Comparison of Real Options and Transaction Cost Economics**

Topic	Real Options Analysis	Transaction Cost Economics
Unit of Analysis	Real Option	Transaction
Assumptions	Rationality, Perfect and Complete Capital Markets, Risk Averseness	Bounded Rationality, Opportunism, Risk Neutrality
Nature of Investments	Irreversible Investments	Specific Investments
Source of Uncertainty	Environmental Uncertainty	Behavioural Uncertainty
Optimization Criterion	Maximization of Option Values	Minimization of Transaction Costs
Decision Problem	Choice of Option Strategy	Choice of Governance Structure
Basic Statement	The higher environmental uncertainty, the more valuable an option becomes to the firm	The higher the specificity of assets, the more efficient is an internal organization of transactions
Application	Sequential Decision Making under Uncertainty	Sequential Decision Making under Uncertainty

Source: (Roemer, 2004).

## MODELLING ENERGY SERVICE CONTRACTS

### The Real Option Model for Outsourcing

Energy service contracting is an outsourcing form so that real options approach on outsourcing decisions is applicable for these contracts. The real options approach enables the firm flexibility for choosing the energy service contracting or providing the energy services in-house. The outsourcing decision can be conceptualized as illustrated in table 4. In the proposed model Datta's (2005) approach is considered by using Merton's (1973) equation for a European call option for a dividend paying stock is used as in the following:

$$c = se^{-qt}\Phi(d_1) - xe^{-rt}\Phi(d_2) \quad (8)$$

where

$$d_1 = \frac{\ln(s/x - (r - q + \sigma^2/2)t)}{\sigma\sqrt{t}} \quad (9)$$

$$d_2 = d_1 - \sigma\sqrt{t} \quad (10)$$

and

$s$  = the price of the underlying stock

$x$  = the strike price

$r$  = the continuously compounded risk free interest rate

$q$  = the continuously compounded annual dividend yield

$t$  = the time in years until the expiration of the option

$\sigma$  = the implied volatility for the underlying stock

$\Phi$  = the standard normal cumulative distribution function

$\Phi(d_1)$ ,  $\Phi(d_2)$  = the probability that a random draw from a standard normal distribution will be less than  $d_1$ ,  $d_2$

**Table 4: Integration of Real Options and Transaction Cost Economics**

Outsourcing opportunity	Variable	Call option
Present value of the cost of transacting with the market	$s$	Stock price
Present value of cost producing in-house	$x$	Exercise price
Estimated horizon of the outsourcing decision	$t$	Time to expiration
Time value of money	$r_f$	Risk-free rate of return
Uncertainty associated with the decision	$\sigma^2$	Variance of return on stock
Costs incurred to preserve the strategic capability in-house.	$q$	Dividend

Source: Datta (2005)

The cost of transacting with market ( $s$ ) has two components, the direct purchase price of the goods or service provided by the external supplier and the transaction costs and the exercise price ( $x$ ) is the cost of production in-house. Another variable is  $q$ , which is the cost that is incurred by the client to preserve a strategic capability in-house to produce the outsourced activities during or after expiration of the outsourcing contract. Most firms need to retain a ‘core’ employee capacity within the firm to bring the service back in-house, in case of a requirement (Datta, 2005). Variance in transaction costs is a source of uncertainty ( $\sigma$ ). The intrinsic value of the option is the difference between  $s$  and  $x$  and the horizon of the outsourcing decision  $t$  affects the value of the option in a positive way (Datta, 2005). When the value of the option is positive (*in the money*) the option should be exercised for producing in-house.

## Integrating RO Model and TCE Approach

The options valuation model for outsourcing used by Datta (2005) is integrated with the Sorrell’s (2007) TCE approach for energy service contracting. The cost of transaction market ( $s$ ) equals the sum of the purchase (paying to the contractor) and the decrease in transaction costs of the client after outsourcing decision. The exercise price ( $x$ ) is the difference in the production costs in-house and production cost when outsourced. This refers to the amount of energy saving costs.

$$s = PAY + (TC_{CL}^{OUT} - TC_{CL}^{IN}) \quad (11)$$

$$x = (PC_{CL}^{IN} - PC_{CL}^{OUT}) \quad (12)$$

Then the three conditions for a viable contract is transformed the inequalities as illustrated in Eq. 13-15.

$$s \leq x \quad (13)$$

$$s \geq (PC_{CON}^{OUT} + TC_{CON}^{OUT}) + (TC_{CL}^{OUT} - TC_{CL}^{IN}) \quad (14)$$

$$x \geq (TC_{CON}^{OUT} - PC_{CON}^{OUT}) - (TC_{CL}^{IN} + TC_{CL}^{OUT}) \quad (15)$$

The option value is calculated as shown in eq. 16. When  $c$  is positive, it is right to exercise the option. Otherwise as the total costs for outsourcing will be greater, the outsourcing decision should be made.

$$c \geq (PAY + TC_{CL}^{OUT} - TC_{CL}^{IN})e^{-qt}\Phi(d_1) - (PC_{CL}^{IN} - PC_{CL}^{OUT})e^{-rt}\Phi(d_2) \quad (16)$$

## CONCLUSION

In the study, the economics of energy service contracts which have little attention in the area of energy literature are modelled by using real options theory integrated with transaction cost economics. Transaction cost

economics and real options valuation are the approaches separately used in many studies dealing with the problem of outsourcing decision. In this study the approaches are integrated to develop a framework for analyzing the economics of energy service contracts from a make-or-buy view. Datta's (2005) real options valuation model for outsourcing decisions by considering Merton's (1973) expansion on Black-Scholes (1973) formula is combined with Sorrell's (2007) transaction costs model for the economics of energy service contracting. This new model enables the analysis the economics of the energy service contracting by a more comprehensive and broad view considering the firm flexibility and irreversibility nature of the contracts. This issue can influence the managers while making the outsourcing decision.

## REFERENCES

Amram, M. and Kulatilaka, N., 1999: Real Options – Managing Strategic Investment in an Uncertain World, Harvard Business School Press

Benaroch, M., Webster, S. and Kazaz, B. 2010 Outsourcing and Backsourcing under Demand Uncertainty: A Simplified Real Options Model, *3rd Conference of the MSOM Service Management Special Interest Group*, Technion, Israel, June 27.

Black, F. and Scholes, M., 1973. The pricing of options and corporate liabilities, *Journal of Political Economy*, 81, 637–654.

Cao, Q., Ford, D. N. and Leggio, K. 2007. The Application of Real Options to the R&D Outsourcing Decision, Chapter 2 in Schniederjans, M. Schniederjans, A. Schniederjans, D. (Eds.), *Outsourcing Management Information Systems*.

Coase, R., 1937. The nature of the firm, *Economica*, 4, 386–405.

Cox, J. C., Ross, S. A. and Rubinstein, M., 1979. Option pricing: A simplified approach, *Journal of Financial Economics*, 7, 229–263.

Cudahy, M. and Dreessen, T., 1996. A review of the ESCO industry in the United States. National Association of Energy Service Companies, Washington, DC.

Datta, S. 2005. Strategic Outsourcing : A Real Option Approach. *Proceedings of Doctoral Symposium of Bristol Business School*, Bristol Business School, Bristol, January.

Dayton, D., Goldman, C. and Pickle, S., 1998. The Energy Services Company (ESCO) industry: analysis of industry and market trends. *Proceedings of the ACEEE Summer Study, American Council for an Energy-Efficient Economy*, Washington, DC., 6, 29–45.

Dixit, A. K. and Pindyck, R. S., 1994. Investment under Uncertainty. Princeton, NJ: Princeton University Press.

Foss, N. J. and Roemer, E., 2010. Real options, resources and transaction costs: Advancing the strategic theory of the firm, *International Journal of Strategic Change Management*, 2(1), 73–92.

Foss, N. J., 1998. Real Options and the Theory of the Firm, working paper, No 98-3, Department of Industrial Economics and Strategy, Copenhagen Business School, Denmark.

Goldman, C. and Dayton, D., 1996. Future prospects for ESCOs in a restructured electricity industry. *Proceedings of the ACEEE Summer Study, American Council for an Energy-Efficient Economy*, Washington, DC., 10, 59–69.

Helle, C., 1997. On energy efficiency-related product strategies – Illustrated and analysed using contracting approaches in Germany as an example, *Utilities Policy*, 6(1), 75–85.

- Jiang, B., Yao, T. and Feng, B., 2008. Valuate Outsourcing Contracts from Vendors' Perspective: A Real Options Approach, *Decision Sciences*, 39(3) 383 – 405.
- Lee, M. K., Park, H., Noh, J. and Painuly, J. P., 2003: Promoting energy efficiency financing and ESCOs in developing countries: experiences from Korean ESCO business, *Journal of Cleaner Production*, 11, 659-665.
- Merton, R., 1973. Theory of rational option pricing. *Bell Journal of Economics and Management Science*, 4(1), 141–183.
- Myers, S., 1977. Determinants of corporate borrowing, *Journal of Financial Economic*, 5, 147–176.
- Nembhard, H. B., Shi, L. and Aktan, M., 2003. A real options design for product outsourcing, *The Engineering Economist*, 48(3) 199 – 217.
- Okay, E., Okay, N., Konukman A. E. Ş. and Akman, U., 2008. Views on Turkey's impending ESCO market: Is it promising, *Energy Policy*, 36, 1821-1825.
- Riordan M. and Williamson O., 1985. Asset specificity and economic organization, *International Journal of Industrial Organization*, 3, 365 –378.
- Roemer, E., 2004. Real Options and the Theory of the Firm, *Proceedings of the 8th Annual International Conference of Real Options Group*, Montréal, Canada, June 17-19.
- Sanchez, R., 2003. Integrating transaction cost theory and real options theory, *Managerial and Decision Economics*, 24, 267–282.
- Sorrell, S., 2007. The economics of energy service contracts, *Energy Policy*, 35, 507–521.
- Trigeorgis, L. and Mason, S. P., 1987. Valuing Managerial Flexibility, *Midland Corporate Finance Journal*, 5, 14-21.
- Trigeorgis, L., 1996. Real Options: Managerial flexibility and strategy in resource allocation, The MIT Press Cambridge, Massachusetts, London, England.
- Vine, E., 2005. An international survey of the energy service company (ESCO) industry, *Energy Policy*, 33, 691-704.
- Williamson, O. E., 1975. Markets and Hierarchies: Analysis and Antitrust Implications. The Free Press, New York.
- Williamson, O. E., 1985. The Economic Institutions of Capitalism. Free Press, New York, NY.

# **OBTAINING A COMPETITIVE ADVANTAGE BY UTILISING AN INTEGRATED LOGISTICS SUPPORT SYSTEM TO ENHANCE THE MAINTENANCE PERFORMANCE OF CAPITAL ASSETS**

**Keith Lambert**  
**Westinghouse Electric South Africa, South Africa**

## **ABSTRACT**

*The ever-changing business environment requires new and diverse methodologies to provide an organization with a competitive advantage.. An integrated logistics support system can provide this competitive advantage by efficiently and effectively maintaining and supporting the capital assets of the firm. The research contained qualitative and quantitative research components, from which a model and grounded technological rules are provided. Where these grounded technological rules can be utilized in the most complex of environments. A successfully implemented integrated logistics support system will result in reduced maintenance costs, life cycle costs, and total cost of ownership.*

## **INTRODUCTION**

The business environment is constantly changing and new and diverse methodologies are needed to provide an organization with a competitive advantage by adding value to the services they render. Significant leadership and management challenges exist in developing countries worldwide where resources are scarce: these are essential to successfully operate high technology complex systems. The scarcity is evident in skills shortages, where knowledge and experience is lacking, as well as in support systems. A fully implemented integrated logistics support system can be a mechanism to gain a competitive advantage by effectively and efficiently supporting the complex high technology assets owned and utilized by the organization, delivering products and services quickly and efficiently, and supporting long term customer requirements.

Complex technology systems, which have a high consequence of failure, require complex support infrastructures in order to support and maintain these systems throughout their designed or extended life cycle. Some high technology systems are designed for a life cycle of between 20 and 40 years, and even 60 years. These high technology systems require complex and integrated management systems during the planning, implementation and operation phases of their life cycle to ensure an integrated supply network. Some of these complex capital assets are more often than not used beyond their intended life cycle or suffer from obsolescence. These systems are then refurbished and/or upgraded to extend their useful life. Such is the case with systems which were brought into use in the late 70s and early 80s, which are a few technology gaps behind current technology. This is especially true where funding is limited to procure new systems.

## **HISTORY OF INTEGRATED LOGISTICS SUPPORT**

Integrated logistics support originated in the military environment, but has also been introduced into industry. Systems in industry currently using an integrated logistic support system approach include civilian radar, satellite earth stations, navigational aids, space shuttles, petrochemical plants and nuclear power plants. One such application in South Africa would have been the Pebble Bed Modular Reactor, the now defunct nuclear power plant project.

Various definitions of integrated logistics support exist from a variety of authors, including Blanchard (2004), Jones (2006), Hutchinson (1987), Quayle (1993), United Kingdom Ministry of Defence (2010), United States Department of Defense (1988) and Department of the Army (1999). These definitions vary due to the respective authors' backgrounds ranging from military to engineering (Marshall and Lambert, 2007). Lambert (2008:40) provides another definition of integrated logistics support, as follows:

*“A management responsibility which ensures that the most appropriate and reliable product/s and/or technical service/s supplied are of the highest quality and are both efficient and effective, are in the correct quantity, at the correct location, at the correct time to support a system throughout its intended or extended life cycle at the minimum cost.”*

The discipline of integrated logistics support consists of various sub-elements. These elements are provided in Table 1 below.

**Table 1: Integrated logistics support elements**

<ul style="list-style-type: none"> <li>• Maintenance support;</li> <li>• Manpower and personnel;</li> <li>• Packaging, handling, storage and transportation (PHS&amp;T);</li> <li>• Supply support;</li> <li>• Technical data and documentation;</li> <li>• Support and test equipment;</li> <li>• Computer resources;</li> <li>• Reliability, availability and maintainability (RAM),</li> <li>• Training and training devices;</li> <li>• Facilities;</li> <li>• System operational requirements;</li> <li>• Configuration management;</li> <li>• Obsolescence; and</li> <li>• Disposal.</li> </ul>
---

Source: Blanchard (2004), Jones (2006), Finkelstein & Guertin (1988), US DoD (1988), US Army (1999), UK MoD (2010), and Carpenter (1967).

A system can be regarded as a group of different components which are formed to provide a function. Haskins (2006:appendix-8) defines a system as ‘*a combination of interacting elements organized to achieve one or more stated purposes*’. A complex system, can be regarded as an integrated system, as it combines a vast amount of components and external elements to form an integrated whole, which is ultimately used to perform a specific function. The term “integrated” can be viewed as a group of components assembled to form a system. Once the human element is added, to support the system, the system becomes even more complicated, as the uncertainty and risk is increased. An integrated logistics support system is a complex system in itself, and needs to be implemented as soon as possible in the high technology systems life cycle. This requires commitment from all involved in the high technology system.

## **RESEARCH APPROACH**

The research consisted of three phases. The first phase entailed deconstruction of the available integrated logistics support literature. The second phase involved the deconstructing of six case studies of high-technology systems based in a developing country. The inputs to the final phase of the research consisted of shortcomings from phase one and two, resulting in aspects requiring further exploration by means of a questionnaire.

Design science implies the necessity for ‘prescription driven’ research (van Aken, 2004:236). The aim thereof is to develop knowledge used by professionals in designing solutions to solve problems in their specific field (van Aken, 2005). Mode 2 can be considered as knowledge generation in a particular situation, where theory generated is applied in practice (Burgoyne and James, 2006). Van Aken (2005) argues that the purpose of Mode 2 is to solve relevant and complex field problems. Mode 2 research establishes a connection between academic research at management level within a firm, where the objective is on ‘*the so-called field-tests and grounded technological rule ...*’ (van Aken, 2005:19). Glaser (1998:3) suggests that grounded theory ‘*is the*

*systematic generation of theory from data acquired by a rigorous research method*'. The aim is to provide grounded technological rules for the discipline of integrated logistics support which can be used in practice.

## **Phase 1: Literature deconstruction**

Phase 1 of the research consisted of deconstructing the integrated logistics support literature. Many sources were consulted for the literature review, as provided in Lambert (2008). A brief summary of this literature deconstruction is provided below.

A maintenance philosophy is used to generate the maintenance concept, which in turn provides inputs to the maintenance plan. The system operational requirements serve as an input to these maintenance documents. Personnel are required at the various support levels, in order to support the system throughout its life cycle. Training of personnel is also required, not just initial training, but continuous training as well. Support and test equipment is also required to support the system at the different levels of maintenance. Different support equipment is required at the various support levels. Spare parts are required to repair those items of equipment which are not discarded upon failure.

The aspect of packaging, handling, storage and transportation entails packing the item in order to reduce or eliminate possible damage. Sufficient handling mechanisms are required to move the items either mechanically or manually. Storage requirements include preserving an item for a predefined period of time, in order that the item is useable upon demand. Transportation involves the physical distribution of finished goods to suppliers and materials moved into the firm. A facility is required to support the system; this can range from a building to a tent depending on the specific function that needs to be performed in a specific environment. Technical data and documentation includes all the necessary supporting documentation such as technical manuals, and specifications required to support the system throughout its life cycle. This aspect also includes all data packs including supporting data media. Configuration management entails managing the baseline of items, which includes the identifying of items, controlling changes to these items, recording these changes, and conducting audits.

Computer resources entail all stand-alone or embedded computer hardware, firmware and software. Reliability, availability and maintainability provides the requirements for the system availability, the probability of a system functioning as specified, and a quantitative measure that the system will be restored to an operational state within a certain time period with the necessary resources at hand. Obsolescence occurs when an item is no longer available from the supplier. It not only affects spare parts, but also support and test equipment, and documentation utilized for system support. Disposal entails phasing-out a system from operational use.

## **Phase 2: Case study deconstruction**

Phase 2 of the research consisted of deconstructing case studies of the integrated logistics support aspects of six high-technology systems based in developing countries (Lambert, 2008). The high-technology systems ranged from military radar, military and civilian radio navigation systems, satellite earth station and a modular nuclear reactor. All the systems, except the modular nuclear reactor, are in the operational phase of their life cycle. The modular nuclear reactor sub-systems were in different design phases. One operational system is based in South America, the remainder of the systems are South African based.

The maintenance support aspect was well dealt with on all the systems. Although the systems have different levels of maintenance specified, the roles and responsibilities were clearly defined in five of the systems. Support and test equipment issues varied between the operational systems, in that the test equipment for some systems is readily available, but with two similar systems the test equipment was shared and delays occurred. Supply support concerns varied between the operational systems, where the spare parts were not always readily available in stock, and long lead times resulted in the system being unavailable.

The packaging, handling, storage and transportation element of these systems varied somewhat in the sense that all the systems were used in different locations, however the requirements to reduce or eliminate system damage were mostly adhered to. A case in point was the arrival of a damaged box full of repairable line

replaceable units from the end user of the system based in South America. This was quickly rectified. Technical data and documentation issues included the manuals of two systems, which became operational in the early 1980s, which were only available in printed format. Accidental shredding of technical manuals required to maintain the one system, resulted in a major recovery exercise. These manuals were subsequently converted to electronic format, which assisted the technical staff greatly as they no longer need to carry bulky manuals with them.

The facilities element differed per operational system, depending on the location of the system, and availability of fixed buildings. In some cases containers were required to store test equipment, and manuals. Personnel varied per system, primarily based on the type of technical system, and the required skill levels needed for each level of maintenance. Maintenance induced errors occurred in the system based in South America, due to their lack of English proficiency of the end users personnel in understanding the manuals. Training of personnel of the operational systems included initial training and on-the-job training. Their training also included classroom and practical training. Configuration management principles are applied to all the systems.

Obsolescence is a major concern in two of the systems, primarily due to the age of the system. In particular these systems were put into operation in the early 1980s and the spare parts are no longer available. These systems have undergone numerous technology upgrades over the years. Withdrawal from operational service of some of the systems within the one fleet started occurring in the late 1990's. These retired systems are being used for spares. A logistic support plan (LSP) typically contains information to support the system during operations and maintenance (Marshall and Lambert, 2008). Only four of the systems had logistic support plans in place.

### **Phase 3 : Quantitative research**

Phase 3 entailed quantitative research by means of questionnaires. Phase three inputs were identified as shortcomings from phase 1 and 2 which required further exploration. Two questionnaires were distributed, one for industrial personnel and one for military personnel. The overall response rate was 33% (187 responses). The military paper-based questionnaire response rate was 75% (122 responses), where the industrial web-based questionnaire had a response rate of 16% (65 responses). This difference in response rate could be as a result of differences between the industrial and military culture.

Two of the questions (job orientation, and knowledge and experience) were compared to the remainder of the questions in the questionnaires, in order to determine their dependence. Howell (1995) argues that contingency tables were used to determine whether two or more variables are dependent on each other. The Chi-square test was used to determine if two specific variables in the contingency table are dependent on each other. Cramer's V was used to measure the strength of association of these categorical variables in the contingency table. The value of the calculated Cramer's V statistic determines the strength of association: if V is close to 1 then the association is strong, and when V is close to zero there is a weak association (PlanetMath, 2011).

The respondents regarded analysis, in the form of logistics support analysis, as an important contributing factor in determining the maintenance philosophy, concept and plan. They also regarded a poorly defined maintenance concept causing maintenance induced errors. One aspect that the respondents regarded as needing improvement was the availability of test equipment. With regards to the economic facets of supply support, the respondents regarded the reliability of repaired systems as the most important aspect.

The respondents perceived the minimum handling of material as most important, while the dimensions and size of the handled material was perceived as least important. The application of configuration management principles was considered as important. Furthermore the respondents regarded it essential to compile maintenance and operator documentation which is easily understandable. With regards to storage facility requirements, the respondents deemed the impact on the product reliability as the most important factor. 85% of the respondents regarded attracting and retaining skilled personnel as either important or most important. While 75% of the respondents considered the defining of maintenance and operational personnel requirements.

The respondents regarded poor training and procedures and the highest contributing factor to maintenance personnel errors, while inadequate work layout or workspace was regarded as the least contributing factor. Reliability was regarded as the most important determinant of obsolescence, while new technology was regarded as the least contributing factor towards obsolescence.

## INTEGRATED LOGISTICS SUPPORT SYSTEM FRAMEWORK

The three phases of research were collated, where a single structure was critically reviewed to generate a framework and grounded technological rules. A high technology complex system has an estimated operational life of between 30 to 40 years, even 60 years. These systems are more often than not extended beyond these intended design life. In reality these high technology systems operate in complex environments which are far from the postulated theoretical environments. These systems require complex support structures, which can be rather challenging in developing countries.

A high technology system, the complex operational environment and the integrated logistics support elements each have a certain risk associated to them. The integrated logistic support system requires regular reviews (or a certain trigger, such as an upgrade) to re-assess its risk and effectiveness, which may affect one or more of the integrated logistic support elements (Lambert, 2008). The grounded technological rules derived from the three phases of research are provided in table 2 below. These rules which are postulated in theory can be applied successfully in practice.

**Table 2: Integrated logistics support (ILS) grounded technological rules**

ILS ELEMENT	GROUNDED TECHNOLOGICAL RULE
Maintenance	<ol style="list-style-type: none"> <li>1. Utilize the defined business strategy;</li> <li>2. Establish the organization's maintenance philosophy;</li> <li>3. Delineate the maintenance concept of the specific system and its linkage to other systems;</li> <li>4. Develop maintenance planning, including analysis;</li> <li>5. Document a maintenance plan for the specific system;</li> <li>6. Implement the maintenance plan across all maintenance levels;</li> <li>7. Conduct specific analysis of the system; and</li> <li>8. Ascertain the risks associated with the maintenance of the system and manage these risks.</li> </ol>
Support and test equipment (S&TE)	<ol style="list-style-type: none"> <li>1. Design of S&amp;TE and compatibility thereof with main system;</li> <li>2. Trade-offs, constraints and availability of S&amp;TE;</li> <li>3. Scheduling of multi-system S&amp;TE;</li> <li>4. S&amp;TE concept and plan;</li> <li>5. Support and maintenance (including calibration) of S&amp;TE.</li> </ol>
Supply support	<ol style="list-style-type: none"> <li>1. Define the system support strategy, philosophy, and concept;</li> <li>2. Derive the supply support ditto from the above strategy;</li> <li>3. Determine specific risks and calculate spares levels based on risks and cost effectiveness; and</li> <li>4. Document the supply support plan, defining the various processes and procedures required to efficiently and effectively manage the supply support function.</li> </ol>
Packaging, handling, storage and transportation (PHS&T)	<ol style="list-style-type: none"> <li>1. Define the PHS&amp;T (including packing, preservation, and labeling or marking) policies, procedures, requirements and specifications;</li> <li>2. Ensure stringent adherence to the PHS&amp;T (including packing, preservation, and labeling or marking) policies, procedures, requirements and specifications;</li> <li>3. Ensure adequate maintenance and support of the PHS&amp;T infrastructure, and equipment;</li> <li>4. Conduct analysis and trade-offs regarding PHS&amp;T mechanisms, in order to minimize and standardize PHS&amp;T interfaces; and</li> <li>5. Ensure comprehensible labeling and marking of items susceptible to vibration, shock, fragility, correct orientation, environmental constraints, etc.</li> </ol>
Technical data and documentation	<ol style="list-style-type: none"> <li>1. Ensure technical data and documentation are written for the skill level of its user;</li> <li>2. Ensure the above is sufficiently detailed to assist the end user in correctly following operator and maintenance tasks;</li> <li>3. Document all relevant technical data and documentation in order to endure efficient and effective support of the system;</li> <li>4. Apply strict configuration management principles to all technical data and documentation; and</li> <li>5. Document all relevant technical information into a technical data and documentation plan.</li> </ol>
Facilities	<ol style="list-style-type: none"> <li>1. Define the facilities requirements for the operational system as early as possible in the latter's life cycle;</li> <li>2. Define the support system infrastructure for the facilities requirements as early as possible in the life cycle of the system and support system (once the support system possesses sufficient information to define its respective</li> </ol>

ILS ELEMENT	GROUNDED TECHNOLOGICAL RULE
	requirements); 3. Ensure adequate training facilities to simulate as closely as possible the actual operating environment; 4. Ensure the facilities requirements are documented into a facilities plan; 5. Regularly update the facilities plan with new knowledge; 6. Maintain the facilities at regular intervals; and 7. Ensure availability of facility resources.
Manpower and personnel	1. Define the operational and maintenance personnel requirements in accordance with the maintenance concept; 2. Attract and retain the applicable skills, knowledge and experience to support the system; and 3. Document all the manpower and personnel requirements, specifications, analysis in a manpower and personnel plan.
Training and training devices	1. Define the operational and maintenance personnel training requirements in accordance with the maintenance concept; 2. Specify the types of training to be conducted and the training aids that will be required; 3. Document all the training and training devices requirements in a training and training devices plan, including sustainment training; and 4. Develop a long-term plan to ensure trained resources are available when needed.
Computer resources	1. Utilize best practices in developing required computer resources that will meet performance requirements in complex environments; 2. Develop processes and procedures to effectively develop, test, audit operational software and other related aspects; 3. Ensure that the computer resources element is kept under strict configuration management and subjected to periodic audits; 4. Ensure all computer resources aspects are subjected to stringent security controls and stored in fireproof safes; 5. Ensure master copies and working copies of all computer resource related aspects are stored separately at different premises; and 6. Document all system computer resources aspects in a computer resources plan, describing the processes and procedures of software version control, security control of media, etc.
Reliability, availability, and maintainability (RAM) – Dependability	1. Develop an efficient and effective RAM analysis process taking reality into account and all possible constraints, variables, and variations, instead of a theoretical statistical projection; 2. Identify components with excessive failure rates, i.e. define reliability of components and system; 3. Reduce logistics delay times which have a high risk factor; 4. Calculate the operational availability of the system; 5. Ensure the system is maintainable and supportable.
Configuration management	1. Implement sound configuration management principles; 2. Conduct periodic audits; 3. Educate personnel regarding the purpose of configuration management, its use and benefits; and 4. Document the configuration management principles and audits.
Obsolescence	1. Implement an obsolescence programme (including processes and procedures) and plan for obsolescence; 2. Conduct regular technology scanning as part of risk review; 3. Manage the obsolescence constraint in order to improve system performance; 4. Ensure multiple suppliers of components, to eliminate single source supplier problems; 5. Ensure reliability data and component life cycle data is specific to the operating environment; 6. Attract and retain skilled and knowledgeable resources; 7. Establish excellent client relationships with suppliers; and 8. Ensure accurate obsolescence data and systems.
Disposal	1. Plan for system phase-out/retirement/disposal and manage effectively; 2. Plan and manage day-to-day disposal of components, consumables, and spare and repair parts; 3. Effectively manage the cost element of disposal; 4. Consider disposal of components in the design phase; and 5. Document all phase-out/retirement/disposal activities in a disposal plan.

Source: Lambert (2008: 297-299).

The grounded technological rules as provided above can be applied not just in third world countries, but also in the complex environments of first and second world countries.

## CONCLUSION

In the developing world, there are significant leadership and management challenges. The dynamic business environment presents an organization with constant challenges of finding new and diverse methodologies to gain and maintain its competitive advantage in the marketplace. One such mechanism is implementing an integrated logistics support system.

Advantages of implementing such a system include a reduction in the total life cycle cost and associated total cost of ownership, improving the firm's overall bottom line. The market share of the firm will increase as suppliers and customers appreciate the added value service. The risk of obsolescence and the effects of long lead

times will be reduced due to effective and efficient inventory management. Skilled staff will be attracted and retained by the firm, improving the necessary knowledge and skill sets within the firm. Refurbishment, upgrade, modification, cannibalization, and mothball programmes will be managed successfully. The system availability and reliability will be improved significantly (Lambert , 2008).

The integrated logistics support grounded technological rules are robust in nature, where they can be used in difficult environments and circumstances, not just in developing countries, but also in less complex environments.

## REFERENCES

- Blanchard. B. S. 2004. *Logistics engineering and management*. 6<sup>th</sup> Edition. New Jersey: Pearson Prentice Hall.
- Burgoyne, J, and James, K. T. 2006. Towards Best or Better Practice in Corporate Leadership Development: Operational Issues in Mode 2 and Design Science research. *British Journal of Management*, 17: 303–316.
- Carpenter, J. L. 1967. *Integrated Logistics Support*. NASA Center for Aerospace Information (CASI). Hanover, MD.
- Finkelstein, W. and Guertin, J. A. R. 1988. *Integrated Logistics Support The Design Engineering Link*. 1<sup>st</sup> Edition. London: IFS Publications, UK and Springer-Verlag.
- Glaser, B. G. 1998. *Doing Grounded Theory: Issues and Discussions*. CA, USA: Sociology Press.
- Haskins, C. (ed.). 2006. *Systems Engineering Handbook, A guide for System Life Cycle Processes and Activities*. INCOSE (International Council on Systems Engineering).
- Howell, D. C. 1995. *Fundamental Statistics for the Behavioral Sciences*. 3<sup>rd</sup> Edition. Belmont, CA: Wadsworth Publishing Company, International Thomson Publishing.
- Hutchinson, N. E. 1987. *An Integrated Approach to Logistics Management*. 1<sup>st</sup> edition New Jersey: Prentice-Hall.
- Jones, J. V. 2006. *Integrated Logistics Support Handbook*. 3<sup>rd</sup> Edition. New York: SOLE Logistics Press, McGraw-Hill.
- Lambert, K. R. 2008. *The Development of a Framework for an Integrated Logistics Support System within a High Technology Industry in a Developing Country*. Unpublished Doctoral Thesis. UNISA. Pretoria.
- Marshall, M. M. and Lambert, K. R. 2007. *Development of an Integrated Logistic Support System (ILSS) in Systems Beyond Designed Life*. Proceedings of the 2007 IEMS Conference. Cocoa Beach, Florida.
- Marshall, M. M. and Lambert, K. R. 2008. *Insights into Supporting Complex Systems under Conditions of Obsolescence*. Proceedings of the 2008 PICMET Conference. Cape Town, South Africa.
- PlanetMath. 2011. *Cramer's V* [online]. Available from: <<http://planetmath.org/encyclopedia/CramersV.html>>. Accessed: 09 May 2011.
- Quayle, M. 1993. *Logistics: An Integrated Approach*. Eastham: Tudor Business Publishers.
- United Kingdom (UK) Ministry of Defence (MoD). 2010. Ministry of Defence, Defence Standard 00-600. *Integrated Logistic Support. Requirements for MOD Projects* [online]. Issue 1. Available from: <<http://www.dstan.mod.uk/standards/defstans/00/600/00000100.pdf>>. Accessed: 07 May 2011.
- United States (U.S.) Department of Defense (DoD). 1988. MIL-STD-1369-A, *Integrated Logistic Support Program Requirements*. Washington, D.C: Department of Defense.

United States (U.S.) Department of the Army Pamphlet 700-127. 1999. *Integrated Logistic Support (ILS) Manager's Guide*. Headquarters Department of the Army. Washington D.C: Department of Defense.

van Aken, J. E. 2004. Management Research Based on the Paradigm of the Design Sciences: The Quest for Field-Tested and Grounded Technological Rules. *Journal of Management Studies*, 41 (2): 219-246.

van Aken, J. E. 2005. Management Research as a Design Science: Articulating the Research Products of Mode 2 Knowledge Production in Management. *British Journal of Management*, 16 (1): 19-36.

# ACCOUNTING AND ORGANIZATIONAL CHANGE: AN AUTOPOIETIC VIEW

**Stewart Lawrence and Vida Botes**  
**University of Waikato, New Zealand**

## ABSTRACT

*A biological metaphor of an open system has been widely used to understand how organizations respond to the environment. This paper offers an alternative understanding. The theory of autopoiesis argues that all living systems are organisationally closed, autonomous systems of interaction whose only concern is self-reproduction. The purpose of this paper is to present an argument for the applicability of autopoiesis to social systems, such as organisations, and to draw out the implications for information systems, in particular, accounting systems. From the perspective of autopoiesis, accounting systems are not determined by the environment, but act to determine the boundary and environment for an organisation.*

## INTRODUCTION

Scepticism about business organisations and their motives for social and environmental reporting practices permeates the accounting literature (Adams, 2004; Milne, Tregidga and Walton, 2009). The continued pursuit of economic growth may mean that organisations are destroying the social and ecological environments on which we all depend. One theory that explains such myopic behaviour of organisations is that of autopoiesis. With origins in biological sciences, according to this theory organisations may be viewed as autopoietic, self-serving, ‘closed’ systems. If accepted as a basis for understanding organizational functioning, the theory of autopoiesis challenges the traditional way of understanding the use of accounting and information systems in organizations (Beeson, 2009, p.187; Huysman, van der Blonk and Spoor, 2009, p.201). It is the purpose of this paper is to present an argument for the applicability of autopoiesis to social systems, such as organisations, and to draw out the implications for information systems, in particular, accounting systems.

The argument in this paper is that accounting systems are not, as often portrayed, neutral collectors of objective information as an input to rational economic decision making. They are rather a part of the evolution of the organisation, creating the environment (medium) in which the organization changes. In this theory of autopoiesis, accounting practices may be viewed as component parts of the system that (re)produces itself; and as creators of the organization’s boundary and identity. Perhaps the simplest way of understanding this perspective is to return to the classic paper by Ruth Hines about the nature of accounting in which she argued: “in communicating reality, we construct reality” (Hines, 1988, p.251). The external environment does not determine accounting practice, but rather accounting practice determines the environment. What elements of the environment are counted as part of the organization, and which parts of the environment are not included in the organization, depends on the application of accounting practice. In her illustration, the river that passes through an organization’s physical boundary, and whose waters the organization uses, is not treated as part of the organization (ibid, p.251). Accounting creates the fictive entity called an ‘organization’ and its boundaries. There is no physical ‘reality’.

*What we consider to be ‘objective’, what we consider to be ‘rational’, the way we think, the way we act, our theories, the way our society is structured – it’s not real...If men define things as real, they are real in their consequences. We create a picture of an organization, or ‘economy’, whatever you like, and on the basis of that picture (not some underlying ‘real’ reality of which no one is aware) people think and act. And by responding to that picture of reality, they make it so: it becomes real in its consequences. (Hines, 1988, p.257)*

This view from Ruth Hines reflects the way information systems in autopoietic organizations operate. It is the information system that creates the organization's understanding of its 'environment' and which leads to action, for its own self-production. That is how organizations evolve. The environment does not exist objectively separate from the picture provided. To understand organizational change it is necessary to understand the inner workings of the information and communication systems inside the organization, and not look to external environmental influences. Autopoietic organizations exist for their own sake; their purpose is their own dynamic production. Relations with the 'environment' are self-referential and self-interested. As argued later, if the theory of autopoiesis is understood simply as a biological metaphor then it is possible to use this understanding to avert potential danger, and to introduce humanising influences to organisational life. If the theory is understood as a real description and explanation of self-serving life forces, the future may be grim. The paper presents a brief introduction to the theory of autopoiesis, and then provides a comparison of 'open' and 'closed' systems thinking to emphasize the differences from conventional understanding. It then raises questions about the traditional understanding of the role of accounting/information in organizations, before illustrating the application to empirical phenomena. The implications for research are discussed in the concluding section.

## **BRIEF INTRODUCTION TO AUTOPOIESIS**

Poiesis means 'dynamic production', while 'auto' means autonomous, independent or self-referential. The theory of autopoiesis evolved from Maturana and Varela's (1980) exploration of what distinguishes living systems from non-living; and how living systems persist despite changes in structure and components. In summary, an autopoietic systems approach focuses on:

- . autonomy realized through the process of self-referential re-production;
- . production of feasible responses to perturbations;
- . structural coupling between systems; and
- . how systems persist and maintain an identity despite changes in components and structure.

The theory gives an account of living beings from the simplest unicellular organisms ('first-order unities') to the most complex multi-cellular organisms ('second-order unities') and extends more tentatively beyond organisms to social systems ('third-order unities') (Beeson, 2009, p.185). Social organizations, such as business organizations, are examples of third-order unities of networks. An autopoietic system is a living system that exists as a network of relations and processes which continuously produces the components which are the reality (concrete form) of the network. The point about such systems is that they are organizationally (or operationally) 'closed'. The behaviour of the system is not specified nor controlled by its environment but by its own structure, which specifies how the system will behave under all circumstances.' Systems are not disconnected from their environments, but are in constant interaction with them, in an ongoing process that Maturana and Verela (1987, p.75) call 'structural coupling'. Changes in the living being are triggered by environmental factors but not determined by them. It is always the structure of the living being that determines the changes. There can be no 'instructive interactions' by means of which something outside the system determines behaviour. It is the organizational closure of living systems that produces their autonomy and their individuality. A disturbing consequence of the theory of autopoiesis for information scientists, and for accountants in particular, is the rejection of the notion that information received from the outside can directly affect the system's behaviour. There is a rejection of the idea that the system builds an internal representation of the world outside. Our theoretical models of rational cognitive planning are rejected. To explain the features of the alternative paradigm, a brief comparison of open systems and closed systems approaches is presented next.

## **OPEN SYSTEMS THEORY COMPARED TO AUTOPOETIC**

Traditional approaches to organization theory have been dominated by the idea that change originates in the environment (Morgan, 1986, p.235). A biological metaphor has been widely used to understand how organizations change as a response to the environment. An organization is typically viewed as an open system in constant interaction with its context. Changes in the environment are viewed as presenting challenges to which an organization must respond. Both contingency theorists and population ecologists believe that the major

problems facing modern organizations stem from changes in the environment Morgan (1986). Accounting systems within organizations too are viewed as responsive to environmental influences and must adapt to ensure organizational survival (Otley, 1980).

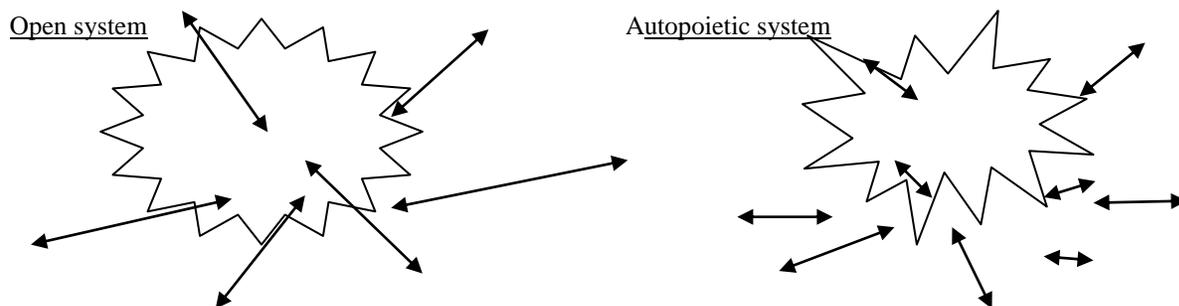
This section explicates an alternative systems approach developed from the work of the biologist Ludwig von Bertalanffy (1950) building on the principle that organizations, like organisms, are open to their environment and must achieve an appropriate relation with that environment if they are to survive. Changes in the environment present challenges to organizations requiring them to adapt to the new context in which they operate. General theories of environmental change abound. A favoured view is that of Toffler's (1970) 'waves of change'. Toffler (1970:4) conceived change as a process and the rate of change in society as exponential. The rate of change accelerated at the time of the second wave – the Industrial Revolution. New technologies replaced the old, and in the process societal and business structures became obsolete. Change in the environment is therefore the driver of change in organizations and their accounting systems. Much attention has been devoted to understanding the immediate 'task environment' defined by the firm's direct interactions, such as with customers, competitors, suppliers, labour unions, and government agencies, as well as the broader contextual or general environment. Contingency theory attempted to scientifically determine the external influences that determined the appropriate accounting system for any organization. Autopoietic theorists have a different view of the impact of the industrial revolution. Gregory (2006, p.962) explains:

*the industrial revolution marked a break-point point from pre-industrial society (characterized by the integration of economic activity with social, religious and political functions) to industrial society (characterized by the differentiation of economic and other functions into separate sub-systems). This differentiation, without an overall co-ordination and control function within society, has led to sub-systems (and organizations) becoming self-serving or pathologically autopoietic.*

Industrial society is characterized by the separation of society into a range of functional sub-systems (Gregory, 2006, p.963). According to Luhmann (1995) society approximates a self-producing or autopoietic system that is comprised of six sub-systems – the economy, politics, the law, science, religion and education. The industrial revolution marked this break-point from pre-industrial revolution society. The latter was characterised by the integration of economic activity with social, religious and political functions. The post-industrial revolution society in contrast is characterised by the differentiation of economic and other functions. These sub-systems have developed differentiated language and find it hard to speak to each other.

At the individual organization level, the main difference with open systems theory relates to the fact that the organisational boundary is permeable. Accounting systems provide the feedback information for the organization to be in equilibrium with its environment. In autopoietic systems, the boundary is an important barrier. Accounting information is used to differentiate, and in a sense define the organization as separate from its environment.

Figure 1 - Open and autopoietic systems (Adapted from Llewellyn (1994, p.11))



It has been suggested that there is a tension within the theory of autopoiesis between the notions of self-production and the closure of the system with the coupling of the system to its environment (Vanderstraeten, 2005). The autopoietic system is neither determined by its environment nor its internal operations alone – it is a product of the interaction of the two. Maturana and Varela (1987) refer to this relationship of mutual influence as structural coupling thus:

*The structure of the environment only triggers structural changes in the autopoietic*

*unities (it does not specify or direct them), and vice versa for the environment. The result will be a history of mutual congruent structural changes [ . . . ] there will be a structural coupling.*

The notion of structural coupling represents an important point of departure from the traditional open systems view that regards systems as being environmentally determined and stresses the importance of boundary between the living system and its environment. The tendency for autopoietic systems to look after their own interests and self-preservation comes with certain warnings. For example, Robb (1989, p.348) warns of:

*The subordination of all human aspirations and ambitions, values, and welfare to the service of preserving the unity of such systems, and not to any human end. Once formed such organizations appear to be beyond human control; indeed to be real-world systems*

Corporations that span the globe seem unconscious of the local context in which they operate except those to their advantage (Klein, 2000). Globalization would represent opportunities but also threats to the self-reproduction of autopoietic systems. Opportunities to operate in new markets and to take advantage of low cost production possibilities may be accepted; but there may be scant regard for national regulatory regimes. The lack of attention to regulatory schemes has been manifest in various industries, most notably and recently, the finance industry. Finance companies have demonstrated that the pursuit of autonomous self-reproduction can produce disastrous consequences for the wider social and economic environment. The interests of firms are often put ahead of costs to the physical or social environment, which is the condition referred to by Gregory (2006, p.962) as ‘pathologically autopoietic’. The biological view as explained below may exclude ethics from consideration. The biological view is an a-moral view of life and organizational change. It is akin to Nietzsche’s claim that life is driven forward by an *inhuman* principle of creation that is *immanent* or interior to life. Nietzsche referred to this drive as ‘will to power’ (Spinks, 2003). Spinks (ibid, p.5) explains that ‘will to power’ is an inhuman principle because it envisages *all life*, not just human life, as united by a common striving of becoming and transformation within which each form of life seeks to expand and increase its power. The aim of life from this perspective is not enlightenment, moral improvement or even self-preservation; it seeks ‘power’. By this is meant that a particular form of life becomes powerful in so far as it appropriates other forces to its domain. As in the theory of autopoiesis, every movement of life bears within it a configuration of self-referential forces. The struggle between powers produces a hierarchy of stronger and weaker forces, which then leads to the creation of concepts. According to Spinks (ibid, p.5), Nietzsche argued what we call ‘values’ describe the domination of a particular perspective upon or interpretation of life. According to the biological understanding, there is no human consciousness that can prevent the competition of forces. Thus Robb, in the above quotation, refers to ‘real world systems’ beyond human control.

## **A SOCIOLOGICAL INTERPRETATION**

According to Maturana and Verela (1987) autopoietic systems are systems that define, maintain, and reproduce themselves. This is the essential characteristic of living systems. But it is contentious whether social systems can be regarded as natural living systems. There is disagreement about whether social organizations can be treated as if they were natural living systems, i.e., whether second-order and third-order unities (as described in section 2) are ontologically commensurate. According to Maturin (1980) a social system is: “a collection of interacting living systems that, in the realization of their autopoiesis through the actual operation of their properties as autopoietic unities, constitute a system that as a network of interactions and relations operates with respect to them as a medium in which they realize their autopoiesis while integrating it, is indistinguishable from a natural social system and is, in fact, one such system.” (1980,p.11). Luhmann (1984) in describing society as is has argued for a theory of social interpretation of autopoiesis. However, he retains the non-human aspects of the theory employing a theory of communication rather than human agency (Seidl, 2009, p.135). This has been criticized by Habermas and more recently by Giddens (1984) whose structuration theory involves a dualism between agency and structure. A more humanistic and critical social theory interpretation is offered by Fuchs and Hofkirchner (2009). In their interpretation, humans coproduce and reproduce social structures. They describe a dynamic, dialectical process where society produces and reproduces man as a social being and Society and humans produce each other mutually.

Such a view of social organization and autopoiesis provides a means by which human values are reflected in the dynamic reproduction of organizations. The relentless non-human drive for power in all living

systems as described by Nietzsche, promoting this struggle over any moral considerations, is replaced by the possibility of human aspirations and ethical decision making, even in autopoietic systems.

Yet the reproduction of the systems is dependent on technologies employed. The process of organizing happens at the organizational boundaries and information systems play a role as 'gatekeepers' in deciding what information is imported and how it is interpreted (Llewellyn, 2006). The structural information collecting and processing systems of the organization have important effects on what signals (perturbations) are responded to (Scott, 1981, p.173). IT systems, including accounting, affect the understanding of what to attend to and how to interpret the environment.

The structural coupling between an organization and its environment means that organizations (as autopoietic systems) cannot be controlled or determined from the outside; nevertheless, they have to connect, or resonate, with their environment. Systems can react internally (resonate) to environmental event in accordance with their own structure but they are always changing. They constantly scan the environment for signals. Resonance is achieved whenever signals in the environment are translated into the system's self-referential operation mode. Governance can be achieved if sufficient signals are placed in their environment, usually in the form of law or money, but increasingly in the form of 'knowledge', and in the form of societal views such as in the area of corporate social responsibility. Signals will be picked up by organizations if they are both socially acceptable and in the system's interest. Kanter's research (2008, p.52) notes a change in global corporates, with a move away from the pure profit motive and traditional controls (including financial budgets) towards empowered engaged participative stakeholders. Twenty years earlier, Drucker (1988, p.51) had foretold that organisations would operate with fewer management levels, where all specialists shared a common vision. Kanter (2008, p.51) found that the need for tight internal controls had been superseded by autonomous empowered teams operating locally, enabling close collaboration and communication. Reflecting upon an organisation's control struggles might consider both the macro and micro socio-economic contextual factors contributing to why this change has come about.

## EMPIRICAL APPLICATIONS / IMPLICATIONS FOR ACCOUNTING

The theory of autopoiesis raises difficult questions for accounting. This section reflects on various understandings of 'accounting'. It raises questions and speculations about its employment within living systems such as organizations. Some issues, which were very evident in earlier literature, relate to the differences between formal and informal knowledge gathering and processing activities within organizations.

Preston (1986) under the title: *Interactions and arrangements in the process of informing*, described how the formal information systems in an organization are not the source of information for day-to-day actions and interactions. On a similar theme, Boland (1983) explained that as well as 'rational' systems, organizations operated with 'natural' systems. Roberts and Scapens (1985) differentiated between 'accounting systems' and 'systems of accountability', the former being the potential offered by accounting systems and the latter the actual use of those potentialities in everyday organizational life. All these researchers have indicated that the formal rational models informing the design of accounting and information systems do not capture the reality of day-to-day organizational functioning. Accounting literature through Institutional Theory attempts to explain accounting practices in organizations (Scapens, 2006). Institutional theory defines institutions as "a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people" (Hamilton 1932:84). They are settled ways of thinking common to members of an organization (Burns, 2000). Institutional principles are encoded in rules and routines which in turn are enacted in specific situations (Johnson et al. 2000). The resulting behaviour is reproduced by organizational members and becomes objectified and institutionalized. DiMaggio & Powell (1983, 1991) point out that organizations tend to model themselves after other similar organizations which have been found to manifest significant higher survival advantages. A problematical issue with institutional theory has been identified as its lack of dynamism and inability to explain change in organizations. Institutional theory has tended to emphasize organizational stability rather than change and to ignore human agency (see Lounsbury 2007, Seo & Creed 2002, Fieldman 2003). Though Greenwood & Hinings (1988, 1996) and by Barley & Tolbert (1997) have attempted to bring in agency into institutional theory but a paradox remains as to how new organizations are created (or changed) if

organizations are so set in their rules, norms and routines? In conventional theory an external 'jolt' is required to change the internal systems (Greenwood and Hinings, 1988). This problem echoes the issue in autopoiesis in explaining the process by which a system can be closed and yet achieve structural coupling with its environment. The institutionalization of habitualized practices does imply a stability of internal systems despite external changes.

Contrary to the prophecies of open systems theory, accounting systems may not adapt to environmental influences. The basis of contingency theory is that organizations are open to their environments and accounting systems must adapt to environmental influences to ensure organizational survival. Yet evidence suggests that when organizations change, the accounting systems do not necessarily change; they often continue the same (Kaplan 1999). Specific examples of lack of response of accounting systems to organizational change have been reported by Huysma, von der Blonk and Spoor (in Magalhaes and Sanchez, p.205) where a state-owned enterprise was privatized to commercial business, yet despite the massive changes in organizational context, the financial information system continued to be used unchanged. Internal factors may be more important than environmental contexts in determining the use of accounting. In mergers and acquisitions, the acquired company often has new accounting systems imposed by the acquirer no matter the fit or suitability of these to the organization's context. On an international scale, the push for 'harmonized' accounting reflects the needs of large global corporates. The discourse about 'international accounting', concerning local contextual influences on accounting, is claimed to have been a discursive formation that has come to an end (CPA, forthcoming). The needs of global capital have led to countries adopting IAS irrespective of the suitability to local needs. It is knowledge and intellectual capital, more than financial capital that more and more determines the wealth of organizations (Fraser and Hope, 2000). The translation of employees and their skills, knowledge and experience into 'intellectual capital', the benefits of which accrue to the organization, sits well with the notion of autopoiesis and the self-serving reproduction of organizational structures.

## CONCLUSION

The autopoietic view of organizations was compared to open systems view. In the open systems approach, organizations and their environments are in equilibrium as organizations respond to environmental necessities. Accounting systems assist in the necessary adaptation informing managers of how to respond in order to survive. Organizations are a part of their environment in a systemic view. This approach was contrasted with an alternative – that of the closed, or autopoietic system. Here the organization is an embedded, but differentiated, form of social life. The organization is embedded in society in its use of information about its 'medium' or environment but, at the same time, the organization is differentiated from society by managing its boundaries to maintain its own internal identity. The problem with autopoietic systems is their tendency to place their own survival above that of social and environmental considerations. There is a danger they will deplete the environment and damage society in the pursuit of their own self-reproduction. A pessimistic view is that sustainability of human and other forms of life has already been placed in jeopardy. There are no mechanisms to prevent organizations being 'pathologically autopoietic'.

It is somewhat disconcerting to have one's ideas challenged. A disturbing aspect of the theory of autopoiesis is the view that accounting (and other information systems) are not tools used to collect information about the environment, process this information and make a rational response. It may seem that way from the outside, but on the inside that is not what happens. After thirty and more years of research into the functioning of accounting in organizations, we are still lacking knowledge about the role of accounting in dynamic systems or organizational change. New research approaches may be necessary and autopoiesis is one that offers the possibility of new understandings.

## REFERENCES

- Barley, S. R., and P.S. Tolbert. (1997). "Institutionalisation and structuration; studying the link between action and institution", *Organization Studies* 18, 1:93-117.
- Burns, J. and R.W. Scapens. (2000). "Conceptualising management accounting change: an institutional framework", *Management Accounting Research* 11, 1:3-25.

- Beer S. (1985). *Diagnosing the System for Organization*, John Wiley & Sons, Chichester.
- Beeson J. (2009). Information in Organizations: Rethinking the Autopoietic Account, pp.185-200 in Magalhaes R. and Sanchez R., (2009). *Autopoiesis in Organization Theory and Practice*, Emerald, Bingley, UK
- Boland R.J. (1983). Accounting in Organizations: a union of natural and rational perspectives, *Accounting Organizations and Society*, Vol 8, No. 2/3, pp223-234
- Buchinger E. (2006). "The sociological concept of autopoiesis", *Kybernetics*, Vol. 35, No. 3 /4 pp.360-374
- Chapman J. (2004). *System Failure: Why Governments Must learn To Think Differently*, Demos, London  
CPA "The rise and coming fall of International Accounting Research, *Critical Perspectives on Accounting*, forthcoming
- DiMaggio, P. J., and Powell W.W. (1983). "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields", *American Sociological Review* 48, 2:147- 160.
- DiMaggio, P. J., and Powell W.W. (1991). "Introduction", In W. W. Powell and P.J.
- DiMaggio, (eds.), *The New Institutionalism in Organisational Analysis*, Chicago: University of Chicago Press:1-38.
- Fieldman, M. S. ( 2003). "A performative perspective on stability and change in organizational routines", *Industrial and Corporate Change* 12, 4: 727-752.
- Fuchs C., and Hofkirchner W. (2009). Autopoiesis and Critical Social Systems Theory, pp.111-129 in Magalhaes R. and Sanchez R., (2009). *Autopoiesis in Organization Theory and Practice*, Emerald, Bingley, UK
- Gregory A. (2006). "The state we are in: insights from autopoiesis and complexity theory", *Management Decision*, Vol. 44 No. 7, pp.962-972
- Greenwood, R., and Hinings C.R. (1988). "Organizational design types, tracks and the dynamics of strategic change", *Organization Studies* 9, 3: 293- 316.
- Greenwood, R., and Hinings C.R. (1996). "Understanding radical organizational change: bringing together the old and the new institutionalism", *The Academy of Management Review*.24, 4:1022- 1054.
- Hamilton, W. H. (1932). "Institution", In E. R. A. Seligman & A. Johnson (Eds.), *Encyclopedia of Social Science* 73, 4: 560-595).
- Hines R. D. (1988). Financial Accounting: in communicating reality, we construct reality, *Accounting, Organizations and Society*, Vol 13, No. 3, pp.251-261
- Huysma M., Van der Blonk H. and Spoor E., (2009). Autopoiesis and the Evolution of Information Systems, pp.201-214 in Magalhaes R. and Sanchez R., (2009). *Autopoiesis in Organization Theory and Practice*, Emerald, Bingley, UK
- Johnson, G., S. Smith and B. Codling. (2000), "Microprocesses of institutional change in the context of privatization", *The Academy of Management Review* 25, 3: 572- 580.
- Kaplan R.S., (1984). The Evolution of Management Accounting, *Accounting Review*, Vol. LIX, No.3, pp. 390-418
- Klein N. (2000). *No Logo*, Harper Collins, London

- Lounsbury, M., (2008). "Institutional rationality and practice variation: new directions in the institutional analysis of practice", *Accounting, Organizations and Society*, 33, 349-361
- Llewellyn S, (1994). "Accounting for Boundary Management", *Accounting Auditing and Accountability Journal*, Vol 7, No.4 pp.4-23
- Magalhaes R. and Sanchez R., (2009). *Autopoiesis in Organization Theory and Practice*, Emerald, Bingley, UK
- Maturana H.R., and Verela F.J. (1987). *The Tree of Knowledge: The Biological Roots of Human Understanding*, rev ed. Shambhala, Boston, MA. Maturana H.R., and Verela F.J. (1980). *Autopoiesis and Cognition: The realization of the living*. Dordrecht: D. Reidel Publishing.
- Morgan G. (1989). *Images of Organisation*, Wiley, Interscience.
- Oliver, C. (1991). "Strategic responses to institutional processes", *Academy of Management Review* 16, 1:145-179.
- Otley D. (1980). The contingency theory of management accounting: achievement and prognosis, *Accounting Organizations and Society*, Vol.5, No. 4, pp 413-428.
- Preston A., (1986). Interactions and arrangements in the process of informing, *Accounting Organizations and Society*, Vol. 11, Issue 6. Pp.521-540
- Robb R.F. (1989). "The application of autopoiesis to social organization", *System Practice*, Vol. 2, No. 3, pp. 343-348
- Roberts J., and Scapens R. (1985). *Accounting Organizations and Society*, Vol 10, No. 4, pp.443-456
- Scapens, R. W. (2006). Understanding management accounting practices: A personal journey. *The British Accounting Review*, 38, 1-30.
- Seidle D. (2009). Productive misunderstandings between organization science and organization practice- practice relation from the perspective of Niklas Luhmann's theory of autopoietic systems, pp.133-148 in Magalhaes R. and Sanchez R., (2009). *Autopoiesis in Organization Theory and Practice*, Emerald, Bingley, UK
- Seo, M. G., and Creed W.E. (2002). "Institutional contradictions, praxis and institutional change a dialectical perspective", *Academy of Management Review* 27, 2: 222-247.
- Swedberg R., and Granovetter M. (2001). "Introduction", *The Sociology of Economic Life* Westview Press, Oxford
- Vanderstraeten R. (2005). "System and environment: notes on the autopoiesis of modern society", *Systems Research and Behavioural Science*, Vol. 22, No. 6, pp. 471-481
- Von Bertalanffy L. (1950). An Outline of General System Theory, *British Journal for the Philosophy of Science* 1, p. 139-164

# THE ARAB MAGHREB UNION: A CURRENT PERSPECTIVE

**Frank P. Le Veness, St. John's University, USA**  
**Jaime M. Beran, Loyola University of Chicago, USA**

## ABSTRACT

*The Arab Maghreb Union was created as a regional economic organization for the purpose of economic and political unity in North Africa in the late 1980s. While this merger was an advantageous and forward-thinking idea in theory, this organization has fallen victim to "stalled integration" in reality. These causes range from inter-state conflict to traditional AMU rivalries and vary significantly. These causes include diplomatic tensions, discrepancies with the rotation of the AMU presidency, territorial disputes between Morocco and Algeria over the Western Sahara's sovereignty, whether Libya's President Gaddafi's is genuinely supportive of the AMU's goals, and speculation of Libyan involvement in a recent coup attempt in Mauritania. Though these reasons are debilitating its progress and prospects for future growth, the recent events unfolding in North Africa and across the Middle East can serve as a catalyst in reviving this dormant economic organization.*

## INTRODUCTION

The concept of economic and even political integration has become more and more fashionable since the conclusion of the Second World War and the great independence movement which has transformed the map of the world with the virtual end of colonialism. Although this process was begun earlier, with the emergence for example, of the nations of India, Pakistan and The Philippines, to name but a few, it took on tremendous impetus after the war, and indeed, the 1960s might well be seen as the decade of independence for most of Africa and along with the 1970s, independence for countries throughout the developing world, or South nations, as they are sometimes known. This political independence led to a significant change in international economic relations. Much of the earlier period, literally for hundreds of years, had been colonial for much of the South. In essence that meant that the profits of the economy were directed away from the colonies toward the colonizing powers, perhaps best characterized by traditional mercantilism, which saw the shipment of raw materials, semi-processed goods, basic agricultural products, and labor from the colonies to either other colonies of the same colonizer or to the colonizing nation itself, exemplified by the so called triangular trade that the British colonies in America experienced throughout the 17<sup>th</sup> and 18<sup>th</sup> centuries. Though colonialism is not completely explained by economics, it is largely dominated by economic and financial concerns. Profit inexorably flowed to the nations of the North.

In the post-colonial period, efforts were made to continue that same international economic system, so that profits continued to drift to the North. While development certainly occurred in South nations, it was largely regulated and controlled by the North either by treaties and trade and aid agreements with individual nations, or through multinational arrangements. It is far beyond the scope of this paper to undertake an examination of these arrangements, but, for example, clear controversy has been raised concerning the policies of such international organizations as the World Bank Group and the IMF, and more recently, the World Trade Organization. In their stirring work *WTO: Whose Trade Organization?*, Lori Wallach and Patrick Woodall, claim that even for Americans, the "WTO is like a muscular pro-corporate, anti-environment, anti-worker octopus...." (288). Criticism of insufficient development or poverty alleviation has been leveled against various other international agreements, such as the Lome and Cotonou (effective 2003) Agreements, between the African-Caribbean-Pacific (ACP) nations on the one hand and the European Union on the other. For an interesting study of globalization, presenting a well-balanced view, see Gilpin, *The Challenge of Global Capitalism: The World Economy in the 21<sup>st</sup> Century*.

Whether one accepts the positions of the Marxists and neo-Marxist scholars that there is a world-wide capitalist plot to maintain control over these South nations and to limit their development, and indeed, direct such progress made heavily toward the benefit of the nations of the North, or one takes a more moderate view that many such agreements are well-intentioned, but sometimes are drawn by North officials utilizing economic and financial principles more appropriate for more developed nations, as discussed, for example in Todaro and Smith's *Economic Development*. Whatever theory one accepts, the frustration level has reached new heights, as was evidenced when then United Nations Secretary General Kofi Anon announced at the famous and so hi-tech Johannesburg international conference that the world had engaged in sufficient conferences talk, and that it was clear that governments could not solve poverty by themselves, so it was time for business to rise to the occasion and take action (for a discussion, see Le Veness and Fleckenstein).

Whatever the answers to the above, and clearly those answers are most certainly vital in the solution to the problem of international economic inequality and poverty, the symptoms tend to be similar. Though the Maghreb Arab Union is of fairly recent vintage, the nations represented in its membership fall into the categories noted above. All were colonial entities for years until that post-World War II period. All emerged from colonialism with significant need for economic and, many would add, political development and with very significant and persistent levels of poverty. However, since the MAU itself, did not emerge until the later 1980s, it had the benefit of examining other models of regional development and also the root causes of poverty in other South nations.

In many respects, the conditions in most of the South nations were remarkably similar from an economic and financial standpoint. The Secretariat of the Caribbean Community and Common Market in 1973 drew up a list of the causes of that region's poverty which can be seen to readily pertain to the nations of the Maghreb Union: "(a) high rates of unemployment; (b) the vulnerability of the high-cost agricultural export sector; (c) the near-stagnation and, indeed, slow death of Domestic Agriculture; (d) the lack of 'forward and backward linkages' in the national economy – around Minerals, Manufacturing and Tourism; (e) continuing and growing foreign ownership and control of the economies; (f) low national savings, increasing tastes for foreign goods and high consumption levels of imported goods; (g) the failure to develop extra-regional exports of manufactures and new non-traditional agricultural exports; (h) the existence of few 'linkages between the national economies of the Region – whether measured by the proportion of intra-regional trade to total trade or by 'linkages' between the proactive sectors of the different national economies." It noted "the economies of the Region remain under-developed, fragmented and dependent on external decisions. Economic growth has not yet been generated from *within* the national economies of the region" with the result that it "is not soundly based" (Caribbean Community Secretariat, 10). While clearly the problems experienced by the MAU were not precisely the same as those of the Caribbean nations, as for example, problems of dealing with principally island nations and some extremely small nations both in terms of geography and population, nevertheless close comparison may be made with regard to most of these problems.

Those theorists utilizing a regional approach to self-development generally state that there is a need for local control not merely of the political and constitutional realm, but also of the economy of the nation involved. In other words, there cannot be reliance on foreign intervention, whether or not well-intentioned. Each nation must see to its own economic development, constructing a model designed to fit its particular needs and conditions, and thereby, in the words of the late Governor of Puerto Rico, don Luis Munoz Marin, creating an Operation Bootstrap, which is heavily reliant on local initiative. Regardless of one's opinion about the use of the Puerto Rican model, which may be criticized as too reliant on the mainland United States, it cannot be argued but that significant self-development is essential for the successful elimination of poverty. Once critical problem is often economy of size, which may be viewed from agricultural and raw materials to production to consumption perspectives. With this in mind, international regional cooperation has been engendered, commencing with more simple bi-lateral and multi-lateral treaties, and advancing to a free trade area, a customs union (which adds the dimension of common external tariffs), a common market (which acts in a fashion similar to a domestic market, though not always with free movement of labor), to a community or union (which adds non-economic dimensions such as services and foreign policy harmonization, and the like). In addition, there can be variations including common currency, such as the Euro of the European Union, resulting from the 1992 Maastricht Treaty or the Eastern Caribbean dollar, issued by the Eastern Caribbean Currency Authority from 1965, and since 1983, by the Eastern Caribbean Central Bank. It is with this background, that the paper examines the MAU..

# THE MAGHREB ARAB UNION

In light of the recent Jasmine revolution in Tunisia and the subsequent tidal wave of uprisings across the Middle East, the notion of regional economic integration in North Africa is worth reconsidering at this critical juncture in which several national governments are facing unprecedented pressures to institute democratic reforms. Considering that the causes of this region-wide dissension are rooted in high youth unemployment rates and inflation, among other various economic and undemocratic predicaments, correcting the problems plaguing Maghreb integration would aid in ameliorating the economic troubles and even the political tribulations the region is now facing. The Arab Union estimates that this stalled regional integration costs each country of the Maghreb two-percentage points of annual GDP growth, while the African Economic Commission suggests that if the Maghreb Union were functional, the five member countries would each gain five percent in GDP. Furthermore, the World Bank estimates that successful regional integration would have increased per capita real GDP in 2005-2015 by thirty-four percent for Algeria, twenty-seven percent for Morocco and twenty-four percent for Tunisia (Jaidi 2011). Considering the potential growth for not only its individual nations but also the region, revisiting the reasons for its stagnation and reviving this economic organization is certainly not only in the states but the region's interest.

Maghreb. Because the Maghreb has fallen behind on a global scale socially, economically, politically, and developmentally, it is vitally important the Maghreb states work together to improve the status of their region especially as the world becomes increasingly integrated and globalized. In brief, this paper explores the prospect of renewed economic integration in the Maghreb in wake of the sweeping call for democratic reforms region-wide and examines what affect a rehabilitated Arab Maghreb Union would have on the region economically and developmentally.

## **Why economic integration? The development and stagnation of the magreb arab union**

The Arab Maghreb Union (AMU) is the proposed economic integration of Algeria, Libya, Morocco, Tunisia, and Mauritania. The notion of Maghreb regional integration and security has existed since Morocco and Tunisia gained independence in the 1950s. Political differences and international disputes have kept this notion from becoming a reality. However, a plan for a common market, modeled after the EU's common market, to be established by 2000 was set forth in 1989 by these five nations. The Maghreb's main reason for establishing a regional organization was because of the threat the creation of the European Union posed to Maghreb-European trading partners. At that time, the Maghreb's trade with Europe accounted for two-thirds of its foreign trade and where inter-Maghreb trade was less than three percent. After Maghreb leaders finally realized that their inter-Maghreb trade was not being brought to its full potential, the AMU was proposed. Considering the wealth of natural resources within the Maghreb and also the depth of labor within the region, these five Maghreb nations sought regional integration to become a more competitive negotiating bloc with their European counterparts and also to overcome their own individual national economic crises. At this time, Libya and Algeria had become overly dependent on revenues from oil exports, which declined because of falling oil prices, while Tunisia and Morocco were undergoing a short-lived economic renaissance, and Mauritania was engulfed in high foreign debt and a stagnant economy.

The formation of a common market and integration consist of the adoption of common custom and financial legislations as well as extensive economic planning and coordination. For the AMU, this legislation included the removal of internal customs duties, the imposition of a common customs tariff for goods from countries outside the AMU, the creation of a Maghreb financial zone, Maghreb currency, Maghreb development fund, and Maghreb regional budget. Coordinated economic planning among Maghreb nations would include public spending, development and investment, and import-export policies within a liberal economic framework where the nation-state would play a secondary role to the regional organization. However, progress towards establishing this Maghreb regional organization has stalled. Although there were twenty-six cooperative agreements on taxation, customs, and central banking in the 1990s, the processes of the late 1990s fell behind of

schedule and have since been non-existent. Despite sharing a common culture and identity, there have been both a lack of political and economic will to power the AMU and also political and economic barriers to amounting Maghreb regional integration.

In political terms, while the AMU has existed for more than a decade on paper, its most important function as a common market have yet to become a reality because of multifaceted political issues in the region. A host of long-standing political issues and mistrust, including the territorial dispute over the Western Sahara, have plagued the negotiations and stalled progress toward integration since the mid-1990s. For Morocco, this former Spanish colony, which was administered for over three decades as Moroccan territory, was returned to Morocco as a result of a 1975 decolonization agreement with Spain. For Algeria, the territory must achieve independence as the Sahrawi Arab Democratic Republic (SADR) through a referendum organized by the UN. However, this avenue of resolution is now recognized as nearly impossible. The current proposal for a compromise between these two sides has been a resolution offered by Morocco in 2007, which proposed a special status of autonomy under Moroccan sovereignty. Thus far, the nationalist Polisario Front operating out of Algeria has refused to discuss autonomy as an option and has since failed to offer an alternative solution. As of recent, Morocco governs the majority of the disputed area as an integral part of its territory with regular participation by the population in both local and national elections, but the Western Sahara is officially designated by the UN as a “non-self-governing territory” pending final determination of its status. With the border still closed between Algeria and Morocco after fourteen years, the AMU will have to diligently work to bring about free movement between the two biggest economies of the AMU. While a lack of political will is just half of the problem of the AMU’s progress, the reemergence of old political conflicts coupled with the recent uprisings and ousting of political leaders is debilitating AMU development as well.

In economic terms, intra-Maghreb trade represented less than two percent of the sub-region’s combined gross domestic product (GDP) and less than three percent of the sub-region’s total trade in 2007. For the Maghreb region, annual per capita GDP growth from 1997 to 2007 was only 4.4 percent, much lower than the rate experienced by the countries of Association of Southeast Asian Nations (ASEAN), excluding Indonesia, and the countries of Central America that are parties to the Central America-Dominican Republic Free Trade Agreement (CAFTA-DR). Moreover, if the countries of North Africa maintain the growth rates of the past five years, it will take the region more than two decades to reach the current per capita income of less wealthy OECD members Turkey and Mexico (Jaidi 2011). Some of the reasons for this low economic activity include high barriers to trade, a lack of diversification, and political leadership decision-making. First, normally every regional economic organization has an economic leader; however, no North African nations have stepped up to fill that role. While Algeria in the 1990s battled civil war, Morocco and Tunisia focused on their economic relations with the EU. In addition, Tunisia and Morocco joined seventeen other Middle Eastern countries in the Greater Arab Free Trade Area (GAFTA) in 1997, which has made small steps toward freeing trade but covering only these two Maghreb nations. Nevertheless, regional economic integration has also been stalled by the different economic structures of each member nation. While Morocco and Tunisia have somewhat more liberal market-oriented economies, Algeria and Libya’s economies are centrally controlled. Mauritania’s economy, the smallest and poorest of the five, is still largely based on subsistence agriculture, and its gross domestic product is dismal in comparison to the other Maghreb countries. Moreover, progress towards a functioning AMU has been delayed partly because of overlapping bilateral agreements with one another. Even so, trade between the Maghreb nations, the Arab world, and globally, is relatively small, with exports concentrated in only a few commodities or products. If the nations of the Maghreb do not work to improve their economic relations, nations like Morocco and Tunisia will continue to trade abroad and the problems that impede AMU development will remain.

Despite the establishment of the AMU over two decades ago, the inherent lack of regional integration has also pushed these Maghreb governments to look elsewhere for economic activity. Typically the nations of the Maghreb have higher trade levels with the nations of the EU. Maghreb relations with the EU, however, have fostered an environment of reliance and a situation leaving Maghreb nations with little bargaining power in these bilateral trade agreements for a better trade status. Each country has opted to negotiate a separate economic agreement with the EU, rather than collectively negotiating for better terms. Similarly, ASEAN and CAFTA countries experienced similar dealings but have since realized their increased political bargaining power from regional integration. For the Maghreb, the EU accounts for 75% of Tunisia’s exports, 90% of emigrant workers’ remittances, 83% of tourism revenues and 73% of foreign direct investments. Likewise, 60% of Morocco’s

exports target EU markets, while 80% of tourism revenues and 90% of emigrant workers' remittances come from the EU (Achy 2010). Most significantly, these Maghreb nations are often left with trade policies chosen by these economically superior EU nations (White 2007). Nevertheless, this focus on trade with the EU provides an opportunity for individual Maghreb countries to lock in policies that would eventually help them harmonize policies within their own region if there were any sort of coordination or cooperation. Overall, the recent EU financial crisis should be of great concern for the Maghreb's reliance on trade with the EU as well as its public and private sectors as the EU's financial crisis will without doubt impact the EU's demand for Maghreb goods and services (Achy 2010). In order to avoid aftershocks of the EU's financial crisis and to grow economically, the Maghreb region must strongly reconsider revisiting regional economic integration.

Specifically, Jaidi (2011) recommends that regional integration could contribute to higher economic growth in two ways. First, regional integration would create economies of scale, increase competition, and establish a market of more than seventy-five million consumers (Al-Ali 1999). This would, in turn, increase the attraction of foreign investors. Second, regional integration would decrease the number of independent bilateral trade agreements the EU has with Maghreb nations (2011). Jaidi explains the reason for little intra-Maghreb trade in terms of market size, the similarity of economies, and an imbalance of imports and exports. He argues that Maghreb nations have in common a small market, a trade imbalance, and most notably the similarity of economies as demonstrated by the similar economies of Tunisia and Morocco. For example, for each nation's trade with the European Union, the Finger-Kreinin Index, which measures trade similarities, is more than seventy percent (Jaidi 2011). In addition, an economic model analysis by the Peterson Institute of International Economics, "Maghreb Regional and Global Integration" suggests that a full-fledged free trade area among the Maghreb nations would produce a gain in total merchandise trade of approximately \$1 billion and would concurrently pioneer for future commercial relations in the region (Brunel and Hufbauer 2008). Moreover, free trade area between the EU or the US and the Maghreb would generate even larger gains.

#### *- EU and US economic development in the Maghreb -*

History has demonstrated over and over that economic integration and cooperation occurs when it becomes a platform across the territorial boundaries of the integrating countries. As of now, this has not occurred across the Maghreb for any head of state. However, other nations and regional organizations like the EU and US have attempted to reach out to the Maghreb region to encourage economic cooperation through bilateral agreements and infrastructure projects that promote North African regional integration. According to the Peterson Institute, total Maghreb trade would expand by \$4-5 billion (3-4.5 percent) if the EU or the US separately establish a free trade area with the AMU and by nearly \$9 billion (nearly 8 percent) if both establish regional free trade areas with the Maghreb based on gravity model calculations (2008). For instance, in an EU-US-Maghreb free trade area, total Maghreb inward foreign direct investment (FDI) stocks would increase by \$5.8 billion (75 percent), and total Maghreb outward FDI stocks would rise by \$3.9 billion (2008). Based upon these calculations and predictions by the Peterson Institute, both the US and EU stand to benefit from further economic cooperation with the Maghreb region.

While the European Union has attempted to bring the Maghreb together in a cooperative setting with the Euro-Mediterranean Partnership in 1995, the European Neighborhood Policy in 2004, and the Union for the Mediterranean in 2007, the European focus of these cooperative initiatives has been a European-led dialogue on trade and cooperation between both sides of the Mediterranean rather than a Maghreb-led integration of the North African region. Furthermore, the Barcelona Process, which is an EU initiative that hoped to establish a space of stability and security, economic prosperity with a free trade zone, and joint culture in the Euro-Mediterranean region, through further Euro-Mediterranean cooperation. Specifically, the Barcelona Process raised the amount of European funding available to North Africa and the EU through the European Neighborhood Policy that has allocated approximately \$3.4 billion to implementing the Action Plans of the nine North African economies over the next three years (Ulgen 2011).

Even though Maghreb nations hold free trade agreements with the US and other nations, free trade agreements are not enough in diversifying not just economic partners but the economy. Although Morocco signed a free trade agreement with the US in 2006 for industrial goods, agricultural products, and trade of services, it has failed to effectively influence Moroccan-US trade relations with the US accounting for no more than four-percent of Morocco's trade. Moreover, Morocco and Tunisia have signed free trade agreements with Turkey, the Arab Free Trade Agreement, and the Agadir Agreement, Morocco and Tunisia are still overly reliant

on their economic partnerships with the EU (Achy 2010). In looking towards the future, the nations that comprise the Maghreb should seek to diversify trade and their economic partners in order to break their heavily reliant economic ties with the EU. Jaidi argues that the creation of a single market would help wean Maghreb economic reliance on the EU and in turn foster investment opportunities for companies throughout the region (2011). Maghreb governments should aim to be as transparent as possible and in suit support private sector development, productivity, technology, and efforts to penetrate new markets. Moving forward, the Maghreb should seek to adopt a more flexible exchange rate in order to permeate new markets and attempt to remove all Arab trade barriers. By becoming more transparent in government and in customs and diversifying their economy in various ways, the Maghreb nations have much to gain. On the other hand, the EU and US can and should continue to build upon their already existent bilateral trade and economic cooperation structure in the Maghreb. For now, the US and EU can also look to create regional, private sector initiatives that promote foreign direct investment that focus on region-wide advancement instead of country specific projects. For instance, the US can opt to create mandates for regional projects in North Africa within the Trade Development Agency and the Overseas Private Investment Corporation. In the Maghreb, where both the US and EU have common interests, the two sides can and should coordinate projects to promote North African regional integration through revamping infrastructure. Projects like current efforts at high-speed train and motorway construction and crisis stabilization in the region should be proposed while other sectors like energy, agribusiness and banking are prime sectors for greater regional cooperation.

#### *- Development within the Maghreb -*

The Maghreb is home to many natural resources: oil, gas, phosphates, agricultural land, a beautiful landscape that attracts millions of foreign visitors, and a young and eager population. However, with higher than twenty percent of the Maghreb population unemployed, thousands of migrants flee to Europe to find work and with that, eight billion dollars of private capital leaves the region every year. As the former governor of the Bank of Algeria, Abderrahmane Hadj Nacer, put it, North Africa's middle class is being formed outside its borders (Ghiles 2010). Tunisia's recent "Jasmine Revolution" has not only highlighted the upshot of endemic youth unemployment and the damaging effects that stagnant economies have had across North Africa, but also the complete lack of economic development and cooperation throughout the region.

Stability and security depends on the improvement of everyday socio-economic conditions and the development of society and the economy. An increase in employment opportunities is absolutely necessary for stability and to immobilize blanket disenfranchised youths and lower unemployment, feelings of alienation and desperation, and the threat of insecurity and terrorism across the Maghreb. Without heightened levels of economic cooperation and planning among the Maghreb nations and in partnership with the EU and US, North Africa will continue to fall behind in any efforts at regional security. In terms of building a secure Arab Maghreb Union, the EU and US through NATO are capable and should aid the nations of the Maghreb in the development of a security community starting with the reopening of borders and eventually with open road and rail services across North Africa and increasing the number of direct flights between Maghreb nations. In light of recent events, the livelihood of the citizens of the Maghreb more than ever before depends on the free movement of persons, goods, merchandise, and capital in a Maghreb common market that will eventually lead to regional integration that contributes to robust and revamped trade across the region (Bouaida 2010). With the border still closed between Algeria and Morocco after fourteen years, the AMU will have to diligently work to bring about free movement between the two biggest economies of the AMU. With coordinated responses to cross-border opportunities, the nations of the Maghreb would be able to take advantage of Euro-Mediterranean cooperation via the Mediterranean Union, and expand cooperation and trade with other parts of Africa and the Middle East.

One area of development that much attention should be paid to is the development of North Africa's infrastructure. Specifically, infrastructure development projects are of common interest and would require the involvement of various nations. Also, infrastructure projects are a simple way to get the region's political leadership and population unified and behind regional integration. Jaidi (2011) notes that joint transport ventures would have a strong political impact and maximum visibility, and would even unite Maghreb citizens. Given the Maghreb's wealth in natural resources and oil, energy and industrial sector projects could further the integration process and be developed in tangent with the EU. More specifically, the lack of economic integration in the Maghreb has a major impact on the energy sector. Ghiles notes, "Algeria is the third-largest provider of gas to the EU, after Russia and Norway. Additionally, the Maghreb's gas resources could be used to power desalination projects to bring more water to a region with a booming population and high urbanization and tourism rate.

Morocco has almost half the world's reserves of phosphate but to turn it into fertilizer, it needs energy, sulfur and ammonia: three things Algeria has in abundance, and at competitive prices" (Ghiles 2010). If Algeria and Morocco were able to compromise, jobs would be created and the Maghreb could attract further foreign investment and become the most competitive fertilizer producer in the world. Similarly in the auto manufacturing industry, Renault has invested in a new car plant near Tangiers to produce 400,000 vehicles a year by 2012 (Ghiles 2010). While Algeria stands to gain immense profit and employment from this deal, Algeria has yet to reach out and negotiate with other nations of the Maghreb to be a part of this venture. This is merely one example of lacking coordination and cooperation between nations of the Maghreb. Nonetheless, the nations of the Maghreb must look to involve and negotiate with one another in order to improve not only their individual nation's political and economic well-being but the region's global economic standing as well.

## CONCLUSION

In considering the recent tidal wave of revolutions that continue to sweep across North Africa, the first order of business on the road to a functional AMU must be to resolve interstate conflicts, like as the Algerian-Moroccan dispute over the Western Sahara and the issue of Gaddafi clinging to power and his human rights abuses in Libya. Without first fixing these political problems, the chance of a unified Maghreb is slim. Moreover, without a unified Maghreb and without such economic prospects in the region, the same economic instability that gave rise to the revolution in Tunisia and throughout North Africa will remain. A strategy for Maghreb regional integration will only succeed if political leaders make intelligent use of the many opportunities that are afforded to them in the wake of sweeping revolts and calls for democratic reform. It is far more effective for the nations of the Maghreb to speak and negotiate with their global economic partners with one unifying voice. Nevertheless, there is a sort of ambivalence that surrounds the notion of Maghreb integration, not just in politics and policy but within the public as well. What is needed is a charismatic political leader to champion this notion of Maghreb integration and win the hearts and minds of the leaders and people across North Africa. The decision to turn to greater cross-border cooperation in the region can only come from the highest levels in each country, and in this case that means the very personal attention of the heads of state. In the past, there has not been a political leader that has made the idea of regional integration across North Africa into a pet-project and ran with it. Despite these setbacks, many Maghreb national leaders, citizens and business leaders, continue to hope that the AMU will someday become a reality.

Last, Jaidi notes, "an integrated Maghreb is both a necessity and an opportunity" (2011). While several nations of the Maghreb are transitioning towards democratic government, reinvigorating Maghreb regional integration should go hand-in-hand with this process. Based upon authoritarian and corrupt government, high inflation, and endemic youth unemployment that the recent revolutions were rooted in, Maghreb nations could splinter and grow further hostile if the economic problems that plague the region are not resolved alongside its political problems as well.

## A FINAL NOTE

A final comment must be made concerning external factors. The fact is that the MAU, as any regional organization, does not exist in a vacuum, but rather faces multiple concerns from external nations. Clearly, in this post-colonial environment, with the number of French as well as other European and American companies involved in nations of the MAU, much of which revolves around oil and gas, it is interesting to see what course those nations will take with regards to the current upheavals in the area. On May 19, U.S. President Barack Obama delivered his speech "A Moment of Opportunity." In it he clearly refers to the new era of "self-determination" in the Middle East begun last December in Tunis and now spread far and wide, leading already to the downfall of the Tunisian and Egyptian governments and unrest and clashes between governments and their population in a number of other countries. President Obama noted that the "nations of the Middle East and North Africa won their independence long ago, but in too many places their people did not. In too many countries, power has been concentrated in the hands of too few." He added that "some nations are blessed with wealth in oil and gas, and that has led to pockets of prosperity. But in a global economy based on knowledge and innovation, no development strategy can be based solely upon what comes out of the ground" (Obama). The President noted that "we support political and economic reform in the Middle East and North Africa" and he

spoke to the need for free elections, end to dictatorship, end to sectarian conflict, and significant economic reform. With regard to the MAU nations, the President spoke clearly of Tunisia (as well as Egypt) in the creation of “enterprise funds” for investment, the fact that the Overseas Private Investment Corporation, in operations since 1971, will provide a US “\$2 billion facility to support private investment across the region, will work with the European Bank for Reconstruction and Development, and engage in a “comprehensive” Trade and Investment Partnership. This is of course, in addition to the free trade agreements already in place and noted earlier in the paper. Finally, President Obama called upon the International Monetary Fund to devise a plan for the forthcoming G-8 summit which would specifically address the needs of Tunisia and Egypt.

This is very much where one’s development views come into play. Can the MAU, unlike some of the other regional institutions, successfully achieve a substantial degree of economic independence? Even if the United States is sincere about these new initiatives, and there is little doubt but that many residents of the region would sincerely question that nation’s motives given its past support to dictators as well as other past policies in the Middle East and elsewhere, will this simply lead to more Foreign Direct Investment (FDI) of the type which continues to strip the region of much of its profits and limits regional development to servicing the economy of the North? Or, will it be the type of investment which truly builds a strong economy, integrating the various industries and nations of the area, increasing employment, and, ultimately seriously reducing the poverty that exists in so many quarters.

Then, there are a number of external issues which impact on the Middle East in general. In that same May 19<sup>th</sup> speech, the president recognized the severity of the Israeli-Palestinian dispute, and addressed the issue of the need for a Palestinian nation, suggesting that the 1967 boundary lines could be a starting place for negotiations, a position, which by week’s end had been rejected by Israeli Prime Minister Benjamin Netanyahu for reasons of national security. Thus, the stalemate appears to continue despite the president noting that the “Palestinian people must have the right to govern themselves, and reach their potential, in a sovereign and contiguous state.” On the other hand, the President noted that a return to negotiations will not be easy, particularly because “the recent announcement of an agreement between Fatah and Hamas raises profound and legitimate questions for Israel – how can one negotiate with a party that has shown itself unwilling to recognize your right to exist.” While this issue may not directly impact upon the MAU, it clearly impacts on the attitude of its member states toward regional and other non-member states and will affect those relationships.

Iran has become an increasingly important power in the region, particularly now with significant concerns about its nuclear potential. Clearly Iran is extremely hostile towards Israel and has effected efforts to significantly influence various Arab states as well as have an increasing role in Middle Eastern affairs. The impact of Iran’s influence on MAU trade and trade directions remains unclear.

Finally, a last word is necessary concerning the instability of the nations of the MAU, particularly that of Libya. At this point, the future of the government of COL Muammar Gaddafi’s is unclear, and if it, indeed, survives what direction it may take regarding the MAU, to say nothing of a host of other matters. An even greater question, if Libya was split, what would be the relationship of the two countries to the MAU? It is, quite frankly very difficult to see what direction a number of nations of the region, including members of the MAU, such as Tunisia, may take in the relatively short term. What will new governments be like? Will there be a rise of democratic regimes such as those sought in President’ Obama’s address? What will be the reaction to the radical Islamists? Will they be able to fill a power vacuum created by the ousting of dictatorial regimes in some Middle Eastern nations? Clearly, elsewhere for example, we have seen the impact of the administration of President Hugo Chavez Frias of the Bolivarian Republic of Venezuela on MERCOSUR, the so-called Market of the South (*Mercado Comunin del Sur*), endeavoring to have it work against the interests of the United States (*Chaves*), as well as his endeavoring to create a regional bank to rival that of the World Bank Group/International Monetary Fund, the *Banco del Sur* in 2009.

## REFERENCES

Achy, Lahcen. 2010. “Risks of Maghreb Excessive Economic Reliance on Europe.” *Carnegie Middle East Center*, May 18.  
<http://carnegie-mec.org/publications/?fa=40860> (April 10, 2011).

Al-Ali, Nizar. 1999. "North Africa-Integration: Maghreb Union Trapped in Politics." *Inter Press Service English News Wire*, February 18.  
<http://www.highbeam.com/doc/1P1-20437924.html> (April 10, 2011).

Bouaida, Mbarka. 2010. "The Promise of a United Maghreb." *Journal of International Security Affairs* 19.  
<http://www.securityaffairs.org/issues/2010/19/bouaida.php> (April 10, 2011).

Brunel, Claire, and Gary Clyde Hufbauer. 2008. "Maghreb Regional and Global Integration: A Dream to be Fulfilled." *Peterson Institute for International Economics*.  
<http://www.iie.com/publications/briefs/maghreb.pdf> (April 10, 2011).

Caribbean Community Secretariat, 1973. *The Caribbean Community: A Guide*, Georgetown, Guyana.

Haves Celebrates MERCOSUR Entry" (2006), *The New York Times*, July 5.  
[www.newyorktimes.com](http://www.newyorktimes.com)

Ghiles, Francis. 2010. "The Maghreb Refuses to Share." *Le Monde Diplomatique*, February.  
<http://mondediplo.com/2010/02/15maghreb#nb1> (April 10, 2011).

Gilpin, Robert (2000), *The Challenge of Global Capitalism: The World Economy in the 21<sup>st</sup> Century*. Princeton, NJ: Princeton UP.

Jaidi, Larabi. 2011. "Integrating the Maghreb." *Project Syndicate*, January 27. <http://www.project-syndicate.org/commentary/jaidi1/English> (April 10, 2011).

Le Veness, Frank P. and Marilyn Fleckenstein, 2003. "Globalization and the Nations of the South: Plan for Development or Plan for Marginalization," *The Journal of Business Ethics*, 47, 4.

Obama, Barack, 2011. "Moment of Opportunity," Washington, DC: VOA News, May 19.

Todaro, Michael P. and Stephen C. Smith, 2011. *Economic Development*. 11<sup>th</sup> ed., New York: Pearson Education.

Ulgen, Sinan. 2011. "Time to Overhaul the European Union's Role in North Africa." *International Economic Bulletin*, January 27.  
<http://carnegie-mec.org/publications/?fa=42382> (April 10, 2011).

Wallach, Lori and Patrick Woodall/Public Citizen, 2004. *WTO: Whose Trade Organization?* New York: The New Press.

White, Gregory. 2007. "The Maghreb's Subordinate Position in the World's Political Economy." *Middle East Policy* 14 (4): 42-54.

# AN EU CORPORATE INCOME TAX AS A NEW OWN RESOURCE TO FINANCE THE EU BUDGET

**Auke R. Leen**  
**Leiden University, The Netherlands**

## ABSTRACT

*The paper looks at the question if an European Union (EU) corporate income tax could become a new own resource of the Union to finance the EU budget. To overcome the *juste retour* thinking of the Member States and in order to get a direct relation with its citizens the EU wants new own resources. A tax directly paid tax by the EU citizens or corporations to the EU could be the answer. The tax would also give the EU a greater autonomy from the Member States.*

*The article discusses, re an European corporate tax, the problems of the quality of the EU regulatory process, the cultural differences, and the fiscal sovereignty of the Member States. The article concludes that the autonomy of the Union is, on its own, no goal, and, an corporate income tax does not create a bond between the EU and its citizens. Besides that, the corporate income tax is hard to monitor by the European Court of Auditors and it will take, if possible at all, many years to harmonize the corporate tax base.*

## INTRODUCTION

On September 7, 2010, José Barosso, President of the European Commission of the European Union (EU), delivered his first State of the Union Address. As emphasized in the Preamble to the Treaty of Rome of 1957, one of the goals of the Union has been to create an ever-closer union among the peoples of Europe. Since the Treaty of Rome, and especially after the Treaty of Lisbon that entered into force on December 1, 2009, the EU has become a real legislator (Voermans, 2009a), thus making an annual address by its president appropriate.

Since matters relating to financing go to the very heart of the common undertaking, the revenues of the EU played a role in Barosso's Address. The present system has two major drawbacks. First, it leads to the infamous *juste retour* thinking by the Member States: emphasis is placed on net contributors and net recipients among the Member States. Member States do not look at the added value of expenditures for Europe as a whole. The EU, therefore, seeks a greater degree of autonomy *vis à vis* the states. Second, the EU has evolved from a mere union of states to a union of states and citizens. A direct bond between citizens and the Union is the next logical step. A EU tax, paid to the EU by its citizens, would solve both problems.

A EU tax is a bold idea, but a problematic one. It is bold because the EU shows courage in letting its citizens pay directly to the EU. It makes the burden of taxation visible to the citizens and makes the EU more accountable to its citizens and hence more democratic. Notwithstanding the fact that in history it was often the goal of governments to hide the burden of taxation as much as possible for its citizens, or at least give them the impression that other people do pay. It is problematic since it brings to the forefront the tension between those who want the EU to become the United States of Europe and those who want to maintain the *status quo*. In other words, a EU tax emphasizes the debate regarding the fiscal sovereignty of the Member States.

How can the EU cope with these problems regarding one of the recently proposed new EU tax by the European Commission ((Brussels, 19.10.2010; SEC (2010) 7000 final)): an EU Corporate Income Tax (EUCIT)? The paper takes a perspective on and tries to play a role in the public discussions on the issue of

corporate income taxation in the multicultural environment of the EU. An EU tax is for the up-coming years for sure one of the biggest challenges public policymakers do face and of direct relevance to the EU business community.

The paper does not look at the question if corporations should (Bird, 1996) or even can be taxed in a real sense (Friedman, 1972). The first since corporations benefit from the one internal market in the EU. The last since only real persons do pay taxes. No matter the fact that companies are operating as legal persons, there is still a difference between artificial persons and real ones. As far as taxation of corporations go, it are either the corporation's employees, customers or stockholders that do pay taxes. The tax incidence will be different, also in time, and does depend on market conditions (Buchanan, 1999). In fact, the corporation is a pure intermediary through which the money is forwarded to the taxing authorities. For Friedman (Tax Reform Panel, 2005) the best tax would be a flat rate tax on consumption. This since it is the simplest and the most efficient system and it does not discourage savings. The greatest virtue, and also the reason that it will never exist, for Friedman, is that it limits what governments can do to influence the economy. This will probably also be the reason why it will be so hard in the EU to harmonize the tax base to apply the common EU tax rate on.

## **OWN RESOURCES OF THE EUROPEAN UNION**

A long-held goal for the EU is to beget a genuine system of own resources. As Article 201 of the Treaty of Rome states, "the Commission shall examine the conditions under which the financial contributions of Member States provided for in Art. 200 could be replaced by the Community's own resources." Furthermore, as Article 311 of the Treaty of Lisbon states, "[w]ithout prejudice to other revenue, the budget shall be financed wholly from own resources." Nowhere does the Treaty define, however, what is meant by own resources. It merely states how the decision-making process regarding the own resources is to proceed: the Council, the European Parliament, and the Parliaments of the Member States, all must come to an agreement. Decision-making in the European Council, as a special condition, must be unanimous.

In 2009 a leaked draft report of the European Commission sparked a false start of the discussion on EU budget reform. In the autumn of 2010, as Barosso mentioned in his address, following a period of consultation with citizens, scientists, and politicians, the Commission has presented a new approach to the Union's own resources. Presently, 85% of the revenue is funded by direct contributions of the Member States, based on a percentage of their Gross National Income (GNI). Though all revenues, by definition, are called own resources, not all of the EU's own resources are created equal. In fact only custom duties and agricultural levies, which amount to 15% of the EU's revenue, are actually owned by the EU. Thus, the *juste retour* thinking makes its mark on GNI-based contributions of the Member States.

The European Commission states that own resources are revenue flowing automatically to the European Union budget, pursuant to the treaties and implementing legislation, without the need for any subsequent decision by national authorities. How this definition relates to the fiscal sovereignty of Member States remains unclear. For fiscal sovereignty is also by the EU an agreed on cornerstone principle for any future system of the EU's own resources.

The Treaty of Rome's choice to classify custom duties, and subsequently agricultural levies, as the EU's own resources was a logical one. Both revenues, which are now called traditional own resources, are directly correlated to EU policy. They relate to the EU's goals of becoming self-supporting with regard to food, as well as the creation of a common market with a unified border. Hence, it is said that any new EU resource too should be inherently linked to a fully developed central European policy. By which is meant those activities that could not feasibly exist outside the EU context.

## **QUALITY OF THE REGULATORY PROCESS**

At present, the EU is thinking about direct taxes on consumption, transport, communications, financial services and corporate income (European Commission, 2010). One problem with the newly proposed taxes concerns the quality of the legislative process. Next to that, there is also the matter of legality: did all parties participate in the process and can their respective expectations be fulfilled (Voermans, 2009b)? More

specifically, on the subject of the quality of the regulatory process, the problem is the long shopping list of criteria an EU tax would have to fulfill. Both the Commission and the European Parliament have mentioned visibility, simplicity, financial autonomy, efficiency, sufficiency, cost-effectiveness, stability of revenue, equity, and added value for Europe as potential criteria. Next to that there are some specific EU-criteria to take care of, like the existence of border crossing external effects, the mobility of the tax base, the volatility of the proceeds, and if it is hard to state the contribution of an individual Member State in the proceeds of a certain tax. With so many criteria, in fact anything goes. Hence, the tax actually chosen will, most likely, be an *ad hoc* political choice. A choice, that is probably based on an odd, spur of the moment, political compromise.

In order to facilitate a rational discussion that will fulfill the quality demands of both national and international law, the EU must arrive at a manageable list of criteria. For the problem is of course not only the sheer endless list of criteria but also that the Member States do give different weights to the criteria (Radaelli, 2004). The same goes for the European Commission (Cattoir, 2004) and European Parliament (1997), they, too, do give different weights to the criteria. Besides that it is an open door to state that criteria that do work in a country with a relative homogeneous population not automatically do work in a union as diverse as the European Union. As has been said, in the future it is no longer the primary goal to strengthen the unity of the Union, but, on the contrary, the diversity between the Member States should be emphasized and taken care of (Krüger, 2006).

In a cynical sense, though that even does give a norm by which to judge the budget, it can even be said that the budget is only lubricating oil to streamline the process of much more important political decisions. For that reason it is said that the EU budget makes compromises possible or that it is just a means to enlarge the popularity of the EU (Figueira, 2008).

## **FISCAL SOVEREIGNTY**

The reasoning behind the EU's own traditional resources, the way how they belong to the EU is convincing. They are the direct result of the existence of the EU and its policies. The new European taxes proposed by the EU, however, are not the direct result of EU policies, unless one artificially strains the argument. Member States interpret these new resources as a, not to be taken, loss of fiscal sovereignty. Hence, in order to get agreement with the Member States, the EU emphasizes that full fiscal sovereignty will remain with the Member States. This is, however, not really convincing.

Firstly, how are own resources defined? In the Treaty of Rome of 1957 it was stated explicitly, Art. 201, that own resources would be the goal. In art. 311 of the Treaty of Lisbon it reads too that "[w]ithout prejudice to other revenue, the budget shall be financed wholly from own resources". However, what those own means are is nowhere to be told. It is only said that the Member States together with the European Parliament has to decide about them (Ehlermann, 1982). Own resources, however, are described as sources of income which belong to the Union forever and for which no decision of the separate Member States is necessary. At present only the custom duties do adhere to this description.

Secondly, from an economic perspective, the eternal socialization of an asset's return is the same as the socialization of the asset itself. *Mutatis mutandis*, the same goes for the temporary pooling of taxation revenue, which also entails a loss of fiscal sovereignty for Member States.

For the Union, however, it is a fact, as just-said, that as far as new own resources of the Union go, the fiscal sovereignty of the Member States have to be respected. The right to collect taxes remains with the Member States. The Union is mandated by the Member States to profit from a national tax for a limited time period. A decision that can be recalled at any moment (European Parliament, 2007). However, how all this relates to the definition of own resources and the temporary pooling of taxation revenue and hence means for the fiscal sovereignty of the Member States remains unclear.

## **CULTURAL DIVERSITY**

In introducing a one size fits all EU tax the existing divergence of national tax preferences is not taken into account. On the basis of the data of the European Values Study Foundation & World Values Survey Association, real differences in value judgments related to tax system preferences can be shown. Southern Europe Member States, for instance, give a relatively low weight to efficiency compared to equality. At fields where competition is the driving force, e.g., corporate taxation, there is some convergence in tax rates, in other fields, however, e.g., inheritance taxation, there is evidence of continuing tax preference heterogeneity (Heinemann, cs, 2008). The present system of national contributions does give Member States free choice of how to finance their contributions to the EU budget based on their own value systems.

In line with this, it is also said that if the goal is to make the EU more visible to its citizens it is not necessary at all to introduce one common EU tax. It is enough just to show to the citizens the amount paid by a Member State to the Union in a national tax. Every Member State can choose its own "Euro" tax; this is called a declaratory tax (Ceasar, 2001). For instance, in one Member State, when shopping, on each receipt the national contribution as a certain percentage of the value-added tax to the EU is visible to every citizen. In another Member State, however, it can be shown as a part of the income tax paid by its citizens. The advantage is that no time-consuming process of harmonization with regard to the tax base between the Member States is necessary. Besides that there are no extra EU collection costs. Also the quality of the tax authorities in a Member States is of no importance. The national contribution of a Member State is independent thereof, since the amount to be paid is fixed. In short, with a declaratory tax, the form to collect the required amount is not prescribed by the Union to the Member States. Member States can choose the national EU tax that works best for them. Member States do have the best knowledge of what works and does not work in their country.

## **EU CORPORATE INCOME TAX**

An EU Corporate Income Tax (EUCIT) would, for the European Commission (2010), first require a common corporate tax base. A uniform EU corporate tax rate could then be applied to the common corporate base. Member States could continue to apply a national rate to this new base, or the EUCIT could be a percentage of each national company tax.

Corporate income tax represents on average between 2% and 3% of GDP in the EU so that in the scenario of a new compulsory base for all companies with part of the revenues accruing to the EU, there would be enough revenues to finance the EU budget with an EU tax rate of about a quarter or less of the harmonized tax base. This since the goal of the EU is that own resources would furnish about half of the EU budget of about one percent of total GDP. However, the amount raised would fluctuate with the taxable profits of the EU private sector and would be difficult to predict.

If a common basis replaced current national rules and bases, this could, as the Commission states, lead to substantial efficiency gains (fewer tax distortions in investment decisions) and help to reduce compliance costs for companies operating cross-border in the internal market. In addition, it could contribute to a "clearer" distribution of tax bases for multinationals across Member States.

The challenges to implement an EUCIT are considerable. The work on a possible EU common tax base, which was first suggested in 1962, is notoriously difficult. This given the competences of Member States in taxation, as it relates to essential differences in Member States. Even the completion by the European Commission (2011), this year, of a for corporations optional Common Consolidated Corporate Tax Base (CCCTB) has proved to be very controversial. This base, however, has not been conceived as a possible basis for a new corporate EU income tax. It is meant for companies operating in more than one Member State in the Internal Market. In this way companies would benefit from a one-stop-shop system for filling their tax returns and would be able to consolidate all the profits and losses they incur across the EU. Member States, however, would maintain their full sovereign right to set their own corporate tax rate. This however is, as just-said, an optional choice for companies operating in more than one Member State. It is to be chosen for at least a period of five years.

Besides that, given the different qualities, and---not the least---morality, of the tax institutions and payers in the EU Member States, an EUCIT as an percentage of the proceeds of corporate income taxes would

hardly do justice to horizontal (fiscal) justice between the corporations in the Member States. Hence a surcharge, a declaratory tax also, that would furnish the by the EU required contribution to the EU, on the proceeds of the existing corporate income tax in the Member States could be in this regard be a better solution.

## **The autonomy of the European Union**

For the Commission, EU taxes would be the answer to the problem of the *juste retour* behavior of the Member States. Member States do focus on their net budget position with regard to the Euro budget. They do look at what they do give and what they get back in money from the Union. The victims of this behavior are the real European collective goods; they do become underfinanced.

But a greater autonomy can never be a goal on its own for the EU. Though this seems to be the case for the Union (European commission, 2004; European Parliament, 2007). Autonomy can be a means to secure typical European collective goods like an EU policy against illegal immigration. Financial autonomy can be of help to ascertain these goals that otherwise would not be accomplished (Cieślukowski, 2006). However there is no direct link between the goal of securing European collective goods and financial autonomy.

Besides that, even in the recent history of the Union, in the eighties of the last century, when direct financial contributions from the Member States to the Union were almost completely absent, there were fierce fights over the EU budget. With, as the absolute climax, the words of Margaret Thatcher, the English Prime Minister, *I want my money back* at the 1984 EU-summit in Fontainebleau

## **The bond between EU citizens and EU institutions**

The Union, at least for the European Commission, has developed from a union among nations to a union among nations and citizens. So, in taxing too, there should be a direct bond between citizens and the EU institutions. The bond would also make the EU more accountable to its citizens and hence would raise the democratic level of the EU. Though it is also said that the real problem is not that there is no bond between EU citizens and the EU institutions, but that because the EU budget at present is not used to finance real European goods, citizens do not support the EU. If, however, the EU would supply real European collective goods, citizens would feel connected with the EU and be in favor of European taxes (Iozzo cs, 2008). Though, on the other hand, since taxes are never popular, a visible EU tax, it is said, would diminish the support for the Union (Mutén, 2001).

In a sense, however, the Union shows a lot of courage to introduce a visible European Tax. Though in the case of a corporate income tax, by not taxing individuals directly by their income or consumption, the EU is probably relying on the misleading common wisdom of citizens that others do pay by taxing corporations. This, whatever the often heard equity reasons for taxing corporations are. For the EU, it follows from the benefit principle that those benefiting from current policies ought to pay for the policies. As far as the EU and corporations go, in the present case, corporations benefit from the Single Market and from the euro. The former through the expansion of the domestic market and the latter as a result of price transparency and enhanced competition (European Commission, 1998).

The present way of financing the Union, in fact, concurs to this old ideal of making taxes as invisible as possible. Custom duties give 15% of the EU budget. Direct contributions of the Member States do furnish the remaining part of the budget. A contribution that is *grosso modo* based on the Gross National Product of the Member States. For 2011, the total budget is 126.5 billion euro. That is about 1.24 percent of the total GNP of the 27 Member States. Both of these resources are not related to the daily life of the average European citizen. A situation that will not be improved with a corporate income tax. A corporate tax would not be visible to citizens as consumers but only as owners of firms. Probable the accountability of the EU to its citizens would not be enhanced.

## **Time path of implementation and control by the European Court of Auditors**

A practical problem for the introduction of an EU corporate income tax is that the harmonization of the base will take a long time. In all previous reports of the EU (e.g., European Commission, 1998) the severest difficulty for corporate taxation to become a new own resource is the diversity of the existing national tax bases upon which the tax is going to be levied. This pertains to the diverse accounting rules, depreciation rules, and rules re loss compensation in the Member States. The harmonization process for the EU value-added tax base lasted more than ten years. Though differences do still exist. A problem too is that for the European Court of Auditors the tax is difficult to verify. The tax receipts depend on the tax habits and morals in the different Member States. Not every Member State in the EU collects the tax revenues it should with regard to the existing tax rates. One EU tax rate would also not automatically mean equality of payment to the EU for its citizens or corporations (Schneider, 2007).

## CONCLUSION

The ability of the EU forerunner, the European Coal and Steel Community (ECSC), to collect its own taxes with its own tax administrators on steel and coal producing companies is still an unattainable ideal for the European Union. An EU corporate income tax, however, might not be the ideal own resource the EU seeks. Firstly, it does not create a bond between citizens and the Union. Secondly, though it will enable the growth of EU autonomy, and with that the possibility of EU policies with a real added value to Europe as a whole, the lessons of history do not support that expectation. Severe negotiations about the EU budget are of all times, no matter how the budgets are financed. Given the fact that, at present, a harmonized base for corporate income taxes is virtually non-existent, to create one, will at least for its short-time introduction be an insurmountable hurdle. Besides that Member States do not want to lose their fiscal sovereignty given the wish to fine-tune business taxation based on national interests and cultural differences.

## REFERENCES

Bird, R. M., *Why Tax Corporations?* International Centre for Tax Studies, University of Toronto, Working Paper 96-2, 1996.

Buchanan, J.M., *Public Finance in Democratic Process, Fiscal Institutions and Individual Choice*, Collected Works of James M. Buchanan, Vol. 4, Indianapolis: Liberty Fund, 1999.

Caesar, R., "An EU Tax? – Not a Good Idea," *Intereconomics*, September/October, 2001.

Cattoir, P., "Tax-based EU own resources : An assessment," *European Commission Working Paper*, No. 1, 2004.

Cieślukowski, M. and Alves, R.H., *Financial Autonomy of the European Union after Enlargement*, Poznan University of Economics en Porto University, Paper presented at 6<sup>th</sup> European Community Studies Association-Canada Conference, 2006.

Druker, I. E., *Financing the European Communities*, Leiden: Sijthoff, 1975.

Ehlermann, C., "The Financing of the Community. The Distinction between Financial contributions and own resources," *Common Market Law Review*, 1982: 571-589.

European Commission, *Financing the European Union*, Commission Report on the Operation of the Own Resource System, COM (1998) 560 final, 1998.

European Commission, *Commission Report on the Operation of the Own Resources System*, 505 final, 2004.

European Commission, *Reforming the Budget, Changing Europe*, A Public Consultation Paper in View of the 2008/2009 Budget Review, 1188 final, 2007.

- European Commission, *Contributions to the debate*, 2008. [http://europa.eu?budget?reform?issues?read\\_en.htm](http://europa.eu?budget?reform?issues?read_en.htm).
- European Commission, *The 2008/2009 EU Budget Review*, Draft 06-10-2009.
- European Commission, *Commission Staff Working Document, Technical Annexes, The EU Budget Review*, Brussels, 19.10. 2010, SEC (2010) 7000 final, 2010.
- European Commission, 16-3-2011, IP/11/319 and Memo 11/171, 2011.
- European Parliament, *Die Eigenmittel der Europäischen Union : Analysen und Entwicklungsmöglichkeiten*, 1997.
- European Parliament, *On the future of the European Union's own resources (2006/2205 (INI))*. Rapporteur A. Lamassoure, 2007.
- Figueira, F., "A Better Budget for Europe: Economically Efficient, Politically Realistic," *European Policy Analysis*, Issue 2, 2008.
- Friedman, M., "Can Business Pay Taxes?," In: *An Economist's Protest*, New Jersey: Thomas Horton, 1972: 86-87.
- Heinemann, F., Mohl, P. and Osterloh, S., *Reform Options for the EU Own Resource System*, ZEW Economic Studies, Vol. 40, Heidelberg: Physica-Verlag, 2008.
- Iozzo, A., Micossi, S. and Salvemini, J.T., "A new budget for the European Union?," *CEPS Policy brief*, no. 159, 2008.
- Krüger, P., *Das unberechenbare Europa, Epochen des Integrationsprozesses vom späten 18. Jahrhundert bis zur Europäischen Union*, Stuttgart: Kohlhammer, 2006.
- Laffan, B., *The Finances of the European Union*, New York: St. Martin's Press, 1997.
- Mutén, L., "The Case for an EU Tax Is Not Convincing," *Intereconomics*, 2001.
- Radaelli, C. M., *How context matters: regulatory quality in the European union*, Paper presented for PSA conference, Lincoln, 5-7 April, 2004.
- Schneider, F., "Shadow Economies and Corruption All over the World: New Estimates for 145 Countries," *Economics, E-Journal*, Vol. 9, 2009.
- Tax Reform Panel, 2005, [www.taxreformpanel.gov](http://www.taxreformpanel.gov).
- Treaty of Lisbon, Consolidated version of the Treaty on European Union and the Treaty on the functioning of the European Union. 6655/08, Council of the European Union, Brussels, April 15, 2008.
- Voermans, W., "Is the European Legislator after Lisbon a real Legislature?" *Legislação*, No. 50, 2009a.
- Voermans, W., "Concern about the quality of EU legislation: what kind of problem, by what kind of Standards?" *Erasmus Law Review*, Vol. 2, Issue 1, 2009b.

# **PARTICIPATION OF LOCAL RESIDENTS IN ARTS FESTIVAL: THE CASE OF MACAU**

**Wengsi Lei and Weibing Zhao**  
**Institute for Tourism Studies, Macau**

## **ABSTRACT**

*Motivations of festival attendance have been researched traditionally from a tourism perspective; tourists' motives have long been recognized. However, arts festival is considered as community and cultural related. The participation of local residents to a large extent defines the event success. Local attendees' expectation, perception on festival's value and benefits are of little known in the field of event research studies. Thus, this study is formed to examined a range of pull and push factors that influence Macau local residents to participate in the annual Art festival. A survey was conducted with 160 usable responses. Statistical analysis was conducted and important factors, such as convenience of purchasing tickets, personal curiosity about unique performances, and interest in arts appreciation are revealed to exert influence on local attendees' participation.*

## **INTRODUCTION**

Importance of understanding tourists' motives have long been recognized in the tourism literature (Crompton 1979, Iso-Ahola 1982). The same principle applies to event's marketing strategies. Many previous studies examine tourists' motivation in attending events (Uysal, Gahan, and Martin 1993, Yuan, Cai, Morrison and Linton 2005, Saleh and Ryan 1993, Lee, Yang and Lo, 2008); nevertheless, many loyal return event participants are local residents (Getz, 1991). However, studies on motives for local participants attending event are rarely found, except the study conducted by van Zyl and Botha (2004) for the annual Aardklop National Arts Festival in South Africa. With the aim to fill this research gap, the research objective of this study is to explore the motivational factors of local residents in attending a festival.

## **MOTIVATION FOR FESTIVAL ATTENDANCE**

The research importance on event motivation as stated by Crompton and McKay (1997): 1. It is a key to design event product and service; 2. Motives and satisfaction are interrelated; 3. Motives help to understanding event attendees' decision making process, are well recognized. However, special events come in different themes, features and settings. Different studies have identified different motivational factors in attending event. For example, the study conducted by Uysal, Gahan and Martin (1993) revealed that escape, thrill, event novelty, socialization, family togetherness are the most prominent factors for the event attendees. Bowen and Daniels (2005) studied a music festival – Celebrate Fairfax, an annual music festival held in Virginia (USA) identified another set of motivational factors, namely discovery, music and enjoyment. Indeed, multiple needs are satisfied when an event attendee participates in a special event (Crompton and McKay, 1997).

In general, event novelty and socialization seem to be the most influential motivational factors across studies (Uysal, Gahan and Martin 1993, Formica and Uysal 1996, Crompton and McKay 1997, Nicholson and Pearce 2001, van Zyl and Botha 2004, Guzman, Leones, Taipa, Wong and deCastro 2006). In the study conducted by Nicholson and Pearce (2001), four factor groupings: socialization, novelty, escape and family are revealed. They are prominent factors among the four events that Nicholson and Pearce compared in the South Island, New Zealand. Besides, two types of socialization are identified in the study by Crompton and McKay (1997). They are known-group socialization which referred to interaction with existing friends or acquaintances, and external socialization referred to interaction with visitors who were unacquainted prior to the

festival. Event planners should surely pay attention to this factor when designing event process and atmosphere. In addition, event novelty is another important motivational factor revealed among earlier studies (Uysal, Gahan and Martin 1993, Formica and Uysal 1996, Faulkner, B., Fredline, E., Larson, M., and Tomljenovic, R. 1999, Nicholson and Pearce 2001, van Zyl and Botha 2004, Guzman, Leones, Taipa, Wong and deCastro 2006). Event novelty contributes significantly to the product element of an event, which is considered as the core service to attract attendees. Site selection, programme uniqueness, packaging with other services, physically setting of an event site and other relevant marketing aspects of an event are important attribute to an event novelty level (Allen, O'Toole, McDonnell, and Harris 2008).

In understanding motivation for festival attendance, one could separate factors between push and pull. Push factors are internal to an individual and refer to the sociopsychological benefits that a festival's facilities, attractions and people offer (Crompton, 1979, Dann, 1977). These factors refer often to the desire or forces arising in an individual self, and they are mostly intangible. For event participants, examples of push factors include socialization, escape, community pride and cultural exploration (van Zyl and Botha 2004, Guzman et al, 2006). Pull factors are external to an individual and refer to the tangible attributes of an event (Crompton 1979, Dann, 1977), such as transport, food and beverages, information, and entertainment (van Zyl and Botha 2004). In summary, we attempt to identify the two types of motivational factors – pull and push in this study. We believe that event marketing planning and management process could be further developed and enhanced by understanding the push and pull factors of festival attendance.

The choice of festival researched in this study is the Macau Art Festival. It is a festival covering the categories of community (Allen et al. 2008) and cultural (Shone and Parry 2004). According to the events and festivals calendar of Macau (Macau Government Tourism Office 2010), cultural festivals, sport and business events are the dominant events taking place in the city. Business and sport events impose certain barriers for local participation. Thus, cultural festivals, including religious, art related and important civic occasions are considered deemed appropriate for the research. The Macau Art Festival is of particular relevant to the research objective stated earlier, which is to explore the motivational factors of local residents in attending festivals. More importantly, this art festival falls into the category of community and cultural type of events, and in which local participation is not limited by religious belief. In addition, it is one of the oldest cultural festivals being organised for more than two decades in Macau.

## **THE MACAU ART FESTIVAL**

The Macau Arts Festival is one of the three annual art-related festivals hosted in Macau, Special Administrative Region (S.A.R.). The Macau Arts Festival is organized by the Cultural Affairs Bureau of the Macau S.A.R. Government. The festival has been held for the past twenty years. The festival is a kind of combined arts festival, which is defined as arts festival containing more than one genre of artistic performance, for example, music, drama, and visual arts event (Finkel, 2006). However, published reports on factors motivating event participants or event-related studies are not found. Little has been known regarding what local residents expect, how they perceive/evaluate the festival. Getz (1991) states that local residents dominate festival attendance and they, are part of the host community. Thus, certain level of understandings, particularly on attendance motivation is deemed necessary to sustain the event organization and success. We hope that by understanding the motivational factors, including push and pull ones, the festival management organization (the Culture Affairs Bureau of the Macau S.A.R. Government) could further develop the Macau Arts Festival, attract more non-participants and even tourists in the future to enhance the overall sustainability and success of the festival.

## **RESEARCH METHOD**

A survey was conducted on local residents attending the 2009 Macau Arts Festival. Questionnaire items were developed based on literature review and in-depth interviews with six local residents who had attended the Macau Arts Festival in the previous years. The questionnaire was composed of four sections. The first section was mainly used to collect demographic information. The second section of the questionnaire was about pull factors. In the third section, the intrinsic motives of festival attendees, i.e. the push factors, were investigated.

Questions in the last section were concerned with each respondent's extent of involvement in the festival, level of overall satisfaction, and behavioral intentions. Extent of involvement was indicated by the number of performances watched and the amount of money spent. Overall satisfaction was measured on a seven-point Likert scale. Behavioral intentions had two indicators. One was the likelihood to attend next year's festival. This indicator was also measured on a seven-point Likert Scale. Another was the amount of money each respondent was willing to spend in future.

The survey was administered in the first week after the end of the festival in order to ensure that the respondents' memory was still fresh. The convenience sampling method was used. A group of trained research assistants were sent to major streets of the city where pedestrians were randomly intercepted. Initial screening made it sure that only local residents, and in addition, those who had attended the 2009 Macau Arts Festival, were eligible for this study. Finally, a total of 159 valid responses were collected for statistical analysis. The statistical software employed was SPSS.

## RESEARCH FINDINGS

### Profile of the respondents

Male respondents accounted for 50.9% of the sample. Contributing to 33.8% of the sample, the age category 25-34 included the largest number of respondents, followed by 15-24 (26.1%), 35-44 (23.6%), 45-54 (14.6%), and 55 or above (1.9%). The educational attainment of the sample was considerably higher than that of the general public, indicating a strong relationship between education and arts festival participation. Specifically, up to 62.8% of the respondents had received tertiary education by the time of the survey, while the percentage based on the whole population was just around 10%.

With respect to monthly income, 33.6% of the respondents earned not more than MOP 10,000 (US\$1 is equal to MOP8), 50.6% within MOP 10,001-20,000, 14.5% within MOP 20,001-30,000, and 1.3% more than MOP 30,000. In terms of the times each respondent had attended the annual Macau Arts Festival, the sample could be divided into three groups, namely first time festival attendees (one time only), occasional festival attendees (two or three times), and frequent festival attendees (at least four times). The proportion of each group in the sample was 20.1%, 44.7%, and 35.2% respectively.

### Pull factors

Table 1 summarized the descriptive statistics on the respondents' perception of each festival feature. All the features except ticket pricing and effectiveness of publicity were rated well above 3, showing that in general Macau residents felt satisfied with the organization and operation of the festival. However, there was still much room for improvement since only two items were rated above 3.5 and none above 4.

The most highly recognized aspect of the festival was accessibility of performance venues. This research finding is not surprising because the organizer of the festival has been complimented for its creative efforts to integrate different types of arts performances with local culture, seeking to produce unique atmosphere and experience for the audience. A large proportion of performances were actually not held in the theatre but in historic houses and other heritage sites, most of which are distributed in the city center.

The least recognized pull factor was effectiveness of publicity. Despite that the festival has been long established by the Macau government as an important annual event of the city, it seems that the accessibility of local residents to festival-related information is still quite limited. A detailed analysis of the channels through which respondents got to know about the festival revealed that almost all respondents relied on multiple sources of information. The leading source was newspaper (mentioned by 76 respondents), followed by brochures (75), family and friends (71), billboard (69), Internet (58), TV (51), radio (46), and others (4). The prominence of family and friends as a source of information to some extent reflected the ineffectiveness of current marketing campaigns. It is somewhat unexpected that Internet, a powerful mass media and communications tool, was

relatively unimportant in this study. This might be explained by the small territory of Macau, which, less than 30 square kilometers, made the application of virtual and long distance technologies not so necessary.

**Table 1: Subjective perceptions of local attendees about the pull factors of the 2009 Macau Arts Festival (n = 159)**

<b>Pull factors (festival features)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>	<b>SD</b>
Performance number	3.2%	9.7%	37.7%	42.9%	6.5%	3.40	0.874
Performance variety	1.9%	11.5%	44.2%	38.5%	3.8%	3.31	0.800
Performance class	1.3%	4.5%	46.8%	42.9%	4.5%	3.45	0.714
Aesthetics of stage setting	0.7%	6.6%	50.0%	37.5%	5.3%	3.40	0.721
Accessibility of performance venues	0%	9.7%	29.0%	53.5%	7.7%	3.59	0.770
Performance scheduling	2.6%	7.7%	32.7%	50.6%	6.4%	3.51	0.831
Convenience of purchasing tickets	0.6%	14.7%	38.5%	39.7%	6.4%	3.37	0.835
Ticket pricing	5.1%	23.6%	40.8%	25.5%	5.1%	3.02	0.951
Effectiveness of publicity	5.7%	19.7%	49.0%	22.9%	2.5%	2.98	0.861

Further analyses were conducted to determine if there were any statistically significant differences among the subgroups of the sample based on demographic variables. In other words, do different types of people have different perceptions of those festival features? Either ANOVA or independent T tests were used, depending on whether or not the variables in question were dichotomous. Where a significant difference was found using ANOVA, the Tukey test was then used to determine which groups were different.

Income made a difference (after re-grouping to combine the 20,001-30,000 and 30,000 plus categories) with regard to accessibility of performance venues and ticket pricing. Compared with middle-income respondents (with monthly income of 10,000-20,000), high-income respondents (with monthly income of more than 20,000) felt much more satisfied with the transportation to performance venues. The difference might be due to the fact that high-income people are more likely to have private vehicles or use taxi services. These two subgroups of the sample also exhibited differences in ticket pricing: the perception of high-income respondents on the ticket pricing level was significantly lower than that of middle-income respondents. The reasoning behind is straightforward: the more one earns, the less important a certain fixed amount of money for him/her.

Another variable found to be significant is that of festival participation frequency. The three subgroups of the sample (i.e. first time attendees, occasional attendees, and frequent attendees) displayed significant differences in performance number, performance variety, aesthetics of stage setting, and effectiveness of publicity. Specifically, the means of performance number for first time attendees and occasional attendees were significantly lower than that for frequent attendees, and the mean of performance variety for first time attendees was significantly lower than that for frequent attendees. With respect to both aesthetics of stage setting and effectiveness of publicity, the means for first time attendees were significantly lower than those for occasional attendees and frequent attendees.

Principle component analysis (PCA) using orthogonal rotation (VARIMAX) was conducted to examine if any internal constructs among the pull factors existed. Three factors emerged, which accounted for 68.74% of the total variance. The factors were named "program quality", "convenience", and "program quantity"

respectively. The final solution was detailed in Table 2. Two festival features, namely ticket pricing and effectiveness of publicity, did not load on any factor due to their poor loading values.

**Table 2: Factor analysis on the pull factors of the 2009 Macau Arts Festival**

Pull factors (festival features)	Program quality	Convenience	Program quantity
Performance class	.78		
Aesthetics of stage setting	.67		
Accessibility of performance venues	.62		
Performance scheduling		.85	
Convenience of purchasing tickets		.76	
Performance number			.88
Performance variety			.68
Eigenvalue	1.67	1.64	1.50
Variance explained (percentage)	23.84	23.45	21.45
Cumulative variance explained (percentage)	23.84	47.29	68.74

## Push factors

Table 3 presented responses to the question: "How important were the following goals to you when attending and participating in the 2009 Macau Arts Festival?" In general, there were various reasons for local residents to attend the festival. Each goal had a mean above 3; in addition, all the goals had more than 40% of the respondents rating 4 or 5. Local attendees of the 2009 Macau Arts Festival were most driven by personal interest in arts appreciation. The mean of this goal was the highest. Two other goals, namely to improve arts skills and knowledge and to satisfy curiosity about unique performances, were also quite important. They had the third and fourth highest means respectively. The prominence of these three goals indicated that in Macau the level of interest in art itself was a critical factor affecting the participation of local residents in the festival. Another finding worth mention was that "to be together with family", a very popular goal as revealed in many other festival studies (Uysal, Gahan and Martin 1993, Crompton and McKay 1997, Nicholson and Pearce 2001, van Zyl and Botha 2004, Guzman, Leones, Taipa, Wong and deCastro 2006), was the least recognized one in this study. This may reflect a major difference between local residents and visitors in motives. Staying in usual living environment, local residents have daily interactions with their family and friends, so may not consider family togetherness or local social life special or stimulating.

**Table 3: The push factors of local attendees in the 2009 Macau Arts Festival (n = 159)**

Push factors (intrinsic motives)	1	2	3	4	5	Mean	SD
To meet my personal interest in arts appreciation	1.3%	7.0%	27.8%	52.5%	11.4%	3.66	0.820
To improve my arts skills and knowledge	1.9%	12.7%	24.1%	48.1%	13.3%	3.58	0.939
To kill time	7.6%	13.3%	33.5%	36.1%	9.5%	3.27	1.055
To relax	1.3%	7.6%	30.4%	50.6%	10.1%	3.61	0.820
To be together with my family	6.3%	22.2%	30.4%	29.7%	11.4%	3.18	1.097
To socialize with my friends	1.9%	17.1%	32.3%	38.6%	10.1%	3.38	0.948
To experience the atmosphere	0.6%	19.6%	31.6%	41.1%	7.0%	3.34	0.894
To satisfy my curiosity about unique art performances	1.3%	12.0%	30.4%	44.3%	12.0%	3.54	0.900

Similar to the analysis of pull factors, either ANOVA or independent T tests were used to determine if there were any statistically significant differences in push factors among the subgroups of the sample. Gender and age (after re-grouping to combine the two categories of 45-54 and 55 plus) demonstrated significant differences. Compared with male respondents, female respondents felt more motivated by meeting personal interest in arts appreciation. The respondents in the age category of 25-34 rated the motive "to improve my arts skills and knowledge" much more highly than those in the age categories of 35-44 and 45 plus. In addition, factor analysis was conducted. Four factors were identified, and explained 66.43% of the variance. They were named "education", "leisure", "novelty", and "socialization" respectively. The final solution was detailed in Table 4.

**Table 4: Factor analysis on the push factors of the 2009 Macau Arts Festival**

<b>Push factors (intrinsic motives)</b>	<b>Education</b>	<b>Leisure</b>	<b>Novelty</b>	<b>Socialization</b>
To meet my personal interest in arts appreciation	.78			
To improve my arts skills and knowledge	.86			
To kill time		.75		
To relax		.75		
To experience the atmosphere			.77	
To satisfy my curiosity about unique art performances			.79	
To be together with my family				.67
To socialize with my friends				.84
Eigenvalue	1.55	1.26	1.26	1.24
Variance explained (percentage)	19.36	15.79	15.77	15.52
Cumulative variance explained (percentage)	19.36	35.15	50.91	66.43

## **Festival participation, satisfaction and behavioral consequences**

As for the number of performances watched, on average the respondents watched 2.57 performances, and the median was two. Up to 32.9% of the sample watched only one performance, while less than 9% watched five or more. Those who watched two, three, or four performances constituted 21.4%, 18.2%, and 18.2% of the sample respectively. The maximum number of performances watched was ten. Regarding expense, the amount of money individual respondents spent during the festival ranged from nil to MOP 1,000, with the mean and median being MOP 212 and MOP 132.50 respectively. Notably, 63.3% of the sample spent not more than MOP 100. For up to 18.4% of the sample, their participation totally relied on free tickets provided by either the festival organizer or family and friends. Although the average number of free performances watched was just 0.85, majority of the respondents (52.5%) had watched at least one free performance during the festival. Without surprise, the number of performances watched and amount of spending were significantly correlated, indicating that the more performances watched, the more money spent.

Either ANOVA or independent T tests were used to determine if there were any statistically significant differences in the extent of involvement among the subgroups of the sample. Age, income, and festival participation frequency made a difference. Compared with other age categories, respondents in the age category 15-24 spent much less. The poor spending of this part of sample might be closely related to their low financial status. People aged at 15-24 are usually unemployed or have just worked for a couple of years, so their consumption must be relatively more constrained. With income being the grouping factor, ANOVA analysis revealed that the subgroup with the lowest level of income spent the least, a finding exactly consistent with the above explanation on age. Furthermore, it seemed that festival participation frequency influenced both the number of performances watched and the amount of money spent. It was found that the more times a respondent had participated in the festival, the more performances watched and the more money spent. In addition, the differences in both indicators between frequent attendees and the other two groups (first time and occasional

festival attendees) were significant. These findings suggested that the festival had been successful in attracting and maintaining a certain number of loyal attendees.

To explore the relative importance of the factors affecting participation, multiple linear regression was employed, with extent of involvement being the dependent variable. The independent variables included all pull and push factors, plus age, income, and festival participation frequency. Since the dependent variable had two indicators, namely number of performances watched and the amount of money spent, two multiple linear regression models were constructed. As summarized in Table 5, the same set of independent variables entered the two linear regression models. In addition, the ranking of importance of the independent variables was also exactly the same in both models. The Beta column demonstrated that festival participation frequency had the largest impact on the extent of involvement, followed by convenience of purchasing tickets, satisfying personal curiosity about unique performances, and meeting personal interest in arts appreciation.

**Table 5: Two multiple linear regression models on extent of involvement**

Method: Stepwise

Independent variables	Dependent variables			
	Number of performances watched		Amount of money spent	
	B	Beta	B	Beta
Festival participation frequency	.879	.395	114.668	.390
To satisfy curiosity about unique performances	.463	.249	62.679	.251
Convenience of purchasing tickets	.332	.163	52.298	.191
To meet personal interest in arts appreciation	-.312	-.156	-42.215	-.160
(Constant)	-.919		-277.304	

The respondents were asked to indicate their overall satisfaction with the festival, based on a 7-point Likert scale. The distribution of the responses to this question was as below: 1 (0), 2 (0.6%), 3 (10.8%), 4 (27.8%), 5 (33.5%), 6 (22.8%), 7 (4.4%). The mean was 4.80, suggesting that festival attendees generally felt satisfied. To figure out the most important factors impacting on satisfaction, multiple linear regression using the stepwise method was run. The dependent variable was overall satisfaction with the festival, and all pull and push factors formed the set of independent variables. Three independent variables entered the final model, namely performance variety, ticket pricing, and improving arts skills and knowledge. The standardized coefficients (i.e. the beta values) were 0.309, -0.274, and 0.190 respectively.

Regarding behavioral intentions, the sample expressed a clear inclination to return next year: the mean was 5.20 out of 7, with 47.1% of the respondents rating 6 or 7. The level of satisfaction on the part of festival attendees was expected to have a positive impact on their intention to return, a causal relationship well entrenched in the marketing literature. The data accorded strong support to this causality: the correlation coefficient of intention to return and overall satisfaction was significant at the 0.01 level. An examination of the planned expense for next year's festival showed that up to 79% of the respondents were willing to spend more, 15.3% would like to maintain the current consumption level, and only 5.7% chose to decrease their spending. The mean and median of the planned expense for next year's festival were MOP 375.23 and MOP 300 respectively, both considerably higher than their counterparts in 2009 (MOP 212 and MOP 132.50). This also indicated that for majority of the respondents, their experience with this year's festival was much desired.

## DISCUSSION AND CONCLUSION

This study reveals important push and pull factors to motivate festival attendance. Accessibility of performance venue is the most important pull factor. Macau is a very small city having an area of 29.5 sq. km. and the Historic Centre of Macau was successfully inscribed as a World Heritage Site. The Historic Centre of Macau is an urban area within the old city of Macau spanning eight squares and 22 historic buildings (Macau Cultural Affairs Bureau 2010). This finding demonstrates that the effort spent by the event organizer – housing

art performances in historical and unique venues is highly appreciated and motivate festival attendance. This effort should be promoted immensely not limited to local residents but tourists in order to make the most of Macau being a World Heritage Site. On the other hand, effectiveness of publicity is revealed as the weakest pull factor. It is a serious shortcoming in event marketing management. Multiple sources of communication channels are identified. They all share similar weight, except *newspaper* and *family and friends*. Newspapers are certainly an important communication channel to retain; while referral programme, group ticket purchase discount are suggested to further exploit *family and friends* being an important source of information.

When analysis was conducted based on demographic variables, participation frequency displayed significant differences among the three subgroups of the sample (i.e. first time attendees, occasional attendees and frequent attendees). A general trend was identified on all four pull factors (performance number, performance variety, and aesthetics of stage setting and effectiveness of publicity): the more times a respondent had participated in the festival, the higher his/her rating on each pull factor.

Three factors were generated from conducting the PCA as discussed in the findings section. They are *Program Quality*, *Convenience* and *Program Quantity* reflecting the construct of the pull factors in this study. Program quality is the most important factor composed with the variables of *performance class*, *aesthetics of stage setting* and *accessibility of performance venues*. Convenience being another factor is composed with *convenience of purchasing tickets* and *performance scheduling*. The results here indicate that program quality and convenience offered are important features to motivate participation.

The findings from the push factors reveal that *personal interest in arts appreciation*, *improve art skills and knowledge to satisfy curiosity about unique performances* are important factors driving female individuals to attend the festival. In addition, *Education* is revealed as an important push factor rather than socialization which was revealed in many previous studies (Uysal, Gahan and Martin 1993, Formica and Uysal 1996, Crompton and McKay 1997, Nicholson and Pearce 2001, van Zyl and Botha 2004, Guzman, Leones, Taipa, Wong and deCastro 2006). This research study was conducted in Macau, an Asian city, targeting local people, while many other previous studies were conducted in the western world and targeting tourists, except the study on Kenting Wind Chime Festival in Taiwan (Lee et. al. 2007). Thus, the result reveals that motivational factors for tourists and local people differ. In addition, Getz (1991) illustrated that many loyal return event participants are local residents, as a result, motivational factors concerning local participants are deemed for further investigation and study. Furthermore, this research finding provides important marketing information to the festival organizer. If the goal of the festival is to diffuse art education to the local, then the festival has achieved its goal and been doing a good job. On the other hand, if the goal of the festival is to enhance social cohesion, then the organizer may consider to offer programmes which are children and teenager friendly because Macau is a child-centric city. According to WHO (WHO2010), the total fertility rate was 1.0 birth per woman (aged 15-49) in 2009 and the population of aged 0-14 was 12.8%.

The finding reveals that several push and pull factors are important variables to satisfy participants. Performance variety and ticket pricing are the outstanding pull factors. In addition, the push factor – improving arts skills and knowledge has significant influence on the overall satisfaction level. In general, participants of the art festival are satisfied. It is an encouraging finding. Together with the 0.01 level of correlation coefficient of intention to return, these provide important insights on the event marketing strategic planning. As repeat participants are expected in the future, the festival organizer is suggested to maintain the variety of programming offerings and the ticket pricing scheme in order to retain repeat participants. Meanwhile, service quality of the entire festival organization is deemed for further consideration; for example, transportation arrangement and other supplementary services, namely availability of ticket distribution channels and performance information dissemination and etc. Experienced event participants are generally expecting more services when attending events. Although service quality dimension of the festival was not under the research framework of this study, it is an important research path to be cultivated in order to reveal important factors enhancing the festival popularity in the future.

This study seeks to understand the participatory behaviors of local residents in urban arts festivals, a research topic largely neglected in the previous literature. The survey produced a sample primarily consisting of young and middle-aged, well educated, and middle-income respondents. The overwhelming majority of the sample was returning festival attendees, and the proportion of male respondents was slightly more than that of

female respondents. Statistical analyses have been applied to a diversity of factors and outcomes relating to the participation of the respondents in the festival and the various relationships existing among them.

The pull-push analytic framework, which is widely adopted in marketing and consumer research, has proved appropriate and useful for researching arts festival participants. As evidenced by Table 5, both pull and push factors can greatly influence the extent of participation of local festival attendees. Also, there are two pull factors and one push factor entering the final regression model on overall satisfaction. This study also suggests that it is meaningful to treat local residents and visitors separately in festival management and research. In the case of Macau, local attendees did exhibit some important characteristics and behaviors that might be distinct from those of visitors. Future research should be encouraged to make more direct, systematic comparisons between the two types of festival attendees.

## REFERENCES

Allen, J., O'Toole, W., McDonnell, I., & Harris, R. (2008). *Festival and Special Event Management*, 4<sup>th</sup> Edition. Australia: John Wiley & Sons

Boo, S., M. Kim and Jones, D.L. (2009). "Comparative Analysis of Travel Related Characteristics Between Special Event Attendees and Non-Attendees in a Metropolitan City." *Convention and Event Tourism*, 10 (1): 50-71.

Bowen, H. and Daniels, M (2005) "Does the music matter? Motivations for attending a music festival." *Event Management*, 9(3), pp.155-164.

Crompton, J.L. (1979). "Motivations for Pleasure Vacation." *Annals of Tourism Research*, 6 (4):408-24.

Crompton, J.L. and S.L. McKay (1997). "Motives of Visitors Attending Festival Events." *Annals of Tourism Research*, 24 (2): 425-439.

Cultural Affairs Bureau of the Macau S.A.R. Government (2010, September 16) The Historic Centre of Macao. Retrieved from <http://www.wh.mo/wh/mhfileE.asp#>

Dann, G. (1977) "Anomic ego-enhancement and tourism". *Annals of Tourism Research*, 4(4), 184-193.

Faulkner, S., Fredline, E., Larson, M., and Tomljenovic, R. (1999). "A marketing analysis of Sweden's Storsjorran music festival." *Tourism Analysis*, 4:157-171.

Finkel, R. (2006). "Tensions between Ambition and Reality in UK Combined Arts Festival Programming: Case Study of the Lichfield Festival." *International Journal of Event Management Research*, 2 (1):25-36.

Formica, S., and Uysal, M. (1996). "A Market Segmentation of Festival Visitors: Umbria Jazz Festival in Italy." *Festival Management & Event Tourism*, 3 (4):175-182.

Getz, D (2005) *Event management and event tourism*, Cognizant Communication Corporation, New York, p.6.

Getz, D. (1991). *Festivals, special events and tourism*. New York: Van Nostrand Reinhold.

Guzman, A. B., Leones, J.D., Taipa, K.K.L., Wong W. G., and de Castro, B.V. (2006). "Segmenting Motivation." *Annals of Tourism Research*, 33(3):863-867

Iso-Ahola, S.E. (1982). "Towards a Social Psychology of Theory of Tourism Motivation: A Rejoinder." *Annals of Tourism Research*, 9 (2): 256-62.

Lee, C.T. , Yang, S.C.and Lo, H.Y. (2008). “Customer Satisfaction and Customer Characteristic in Festival Activity: A Case of 2006 Kenting Wind Chime Festival.” *International Journal of Culture, Tourism and Hospitality Research*, 2 (3):234\_249.

Macau Cultural Affairs Bureau (2010, November 15) The Historic Centre of Macau. Retrieved from <http://www.macauheritage.net/wh/indexE.asp>

Macau Government Tourism Office (2010, September 16) Events and Festivals Calendar. Retrieved from <http://www.macautourism.gov.mo/en/events/calendar.php?yr=2010>

Mohr, K., K.F. Backman, L.W. Gahan, and S.J. Backman (1993). “An Investigation of Festival Motivations and Events Satisfaction by Visitor Type.” *Festival Management and Event Tourism*, 1 (3):89-97.

Nicholson, R.E., and Pearce, D.G. (2001). “Why do people attend events: A comparative analysis of visitor motivations at four South Island events.” *Journal of Travel Research*, 39(4): 449-460.

Saleh. R. and C. Ryan (1993). “Jazz and Knitwear: Factors that Attract Tourists to Festivals.” *Tourism Management*, 14 (4):289-297.

Shone, A., & Parry, B. (2004). *Successful events management – a practical handbook*. 2nd Edition. London: Thomson Learning.

Uysal, M., L. Gahan, and B. Martin (1993). “An Examination of Event Motivations: A Case Study.” *Festival Management and Event Tourism*, 1 (1): 5-10.

van Zyl, C., and C. Botha (2004). “Motivational Factors of Local Residents to Attend the Aardklop National Arts Festival.” *Event Management*, 8 (4) :213-222.

World Health Organisation (2010, October 8) Macao Country Context. Retrieved from <http://www.wpro.who.int/countries/2009/mac/>

Yuan, J.J., L.A. Cai, A.M. Morrison and S. Linton (2005). “An Analysis of Wine Festival Attendees’ Motivations: A Synergy of Wine, Travel and Special Events?” *Journal of Vacation Marketing*, 11 (1):41-58.

# **THE IMPACTS OF HUMOROUS ADVERTISING AND FEAR APPEALS ON THE ADVERTISING ATTITUDES - THE MODERATING EFFECTS OF REGULATORY FOCUS**

**Yaonan Lin, Fu-Jen Catholic University, Taiwan**

**Chih-Chung Chu, Lunghwa University of Science and Technology, Taiwan**

**Pei-Ling Lin and Yu-Shan Tsao, Fu-Jen Catholic University, Taiwan**

## **ABSTRACT**

*This study assesses the impacts of three humorous advertising categories of cognitive mechanism (incongruity humor, incongruity-resolution humor, and non humor) and fear appeals (high/low) on advertising attitudes. Regulatory focus (promotion /prevention) was used as the moderate variable. The researchers developed different designs of ads in incongruity humor, incongruity-resolution humor, and non humor and fear appeals (low/high) to evaluate the ads attitudes. A total of 346 respondents participated in this study. An experimental method was used in this study, and data were analyzed by performing three-way ANOVA. There are three major findings in this study: (1) The ads of incongruity humor and incongruity-resolution humor have higher advertising attitude than the ads of non humor; (2) The ads of low fear appeals have higher advertising attitude than those of high fear appeals; (3) Regulatory focus does not moderate the impact of humorous ads on advertisement attitudes. This study suggested that advertisers should use humorous advertising matching appropriate level of fear appeals and apply distinct regulatory focused messages in the ads according to different kinds of products.*

## **INTRODUCTION**

Humorous ads account for 10-30% of the total expenses in America each year (Weinberger, Spotts, Campbell, & Parsons, 1995). It reveals the importance of humorous ads. Speaking of the humor type, the frequent classified way is from Spotts, Weinberger, & Parsions (1997), which classify humorous ads as three kinds: affective, cognitive and interpersonal. However, each type of humorous ads more or less contains incongruity elements, and the previous research proves that the affective and interpersonal type of ads often have unsteady results. As a result, we adopt the cognitive mechanism as the main classified method. On the other hand, fear appeal is another means for advertisers. Recently some advertisers have found that fear appeals in the ads is extremely effective (Shiv, Edell, & Payne, 1997). However, about the fear intensity, now there is still no consensus. Some researchers think high fear appeals would attain better advertising effectiveness (Sutton, 1982), and some researches approve low fear appeals. In addition, Janis and Feshbach (1953) point out the medial level of fear intensity is the most effective. The moderate variable is regulatory focus, it distinguishes the regulatory focus theory between promotion-focused and prevention-focused consumers, who possess different anticipations and perceptions due to their goal orientations. The promotion-focused individuals tend to pursue their ideal goals and are more sensitive to the positive results. Contrarily, the prevention-focused individuals would avoid unwanted outcomes and are more sensitive to negative results. The usage of the two kinds of messages is the other main point. This study attempts to assess the impacts and mutual effects among three humorous advertising categories of cognitive mechanism (incongruity humor, incongruity-resolution humor, and non humor) and fear appeals (high/low) in the design. Also, regulatory focus (promotion /prevention) was used as the moderate variable.

## **THEORETICAL BACKGROUND**

## Humorous Ads

Humorous ads mean ads containing humor ingredients and can make people feel interesting or laugh, and it could change customers' attitudes toward the ads, the brands, or the products into more positive. Speaking of the classification, Spotts, Weinberger, & Parsions (1997) classify humorous ads as three kinds of mechanism: affective, cognitive and interpersonal. Affective mechanism involves a release of energy, a safety valve for forbidden feelings (Freud, 1905:1960). The second mechanism is cognitive mechanism related to the structure of the message. Incongruity and rhetorical irony (Stern 1990) are characteristic cognitive devices. The incongruity theory was developed by McGhee (1979), which defines humor as a mental experience that could find or sense funny, absurd, or inconsistent things, thoughts or situations, and generally surprise or inconsistency is the most frequent way to produce humor. Furthermore, incongruity and incongruity-resolution are the two main kinds of the incongruity theory. Incongruity means an un-resolved discrepant condition containing funny, absurd or inconsistent things. In addition, incongruity resolution is a structural feature of humor characterized by the introduction of an incongruity which can be completely resolved (Galloway, 2009), and the need to process and resolve discrepant information from incongruity could cause more humor (Suls, 1983). In other words, it would give audience a sense of incongruity then solves the problem in the end to release customers' nervous feeling. We focus on the incongruity-resolution mechanism in this research. The last one is interpersonal mechanism relating to the social context. Laughter is the result of feeling superior to others (LaFave, 1972).

## Fear Appeal

Fear appeal is an advertising and marketing strategy that seeks to instill some degree of anxiety in consumers then offer a means of alleviating that anxiety by purchasing a specific good or service. And it often applies the following procedure: arouses consumers' attentions then change consumers' minds about the product in the advertisement. Finally, they might implement practical buying behavior of this product. Johnston & Warkentin (2010) claim that the required elements of fear appeal are inferences to the *severity* of a threat, the individual's *susceptibility* to the threat, as well as statements of *efficacy* in terms of a recommended response and the ability of the individual to perform the recommended response. Nowadays, it has been used in various areas such as hygiene, AIDS, sexual behavior, smoking, and so on. What's more, according to the design of the ad content, generally it can be divided into three degrees: high, medium, and low fear intensity to arouse consumers' distinct ad responses.

## Regulatory Focus Theory

Higgins (1997) distinguishes the regulatory focus theory between promotion-focused and prevention-focused consumers, who possess different anticipations and perceptions due to their goal orientations. What's more, regulatory focus system could be divided into the following categories: The first one is nurturance versus security needs (e.g., Chernev, 2004a; Friedman & Forster, 2001). The second category is ideals versus oughts (e.g., Chernev, 2004a; Friedman & Forster 2001), and gain- versus loss-related situations (e.g., Kim 2006) is the last one. According to the distinct focus of the subject, the promotion-focused group concentrates on the positive outcomes. On the contrary, the prevention-focused group would attend to negative outcomes (e.g., Aaker & Lee, 2001). The tendencies and the different focuses of these two groups relate to different emotional dimensions, such as cheerfulness for the promotion-focused groups or quiescence/agitation for the other groups (e.g., Higgins, 1987, 1997).

## Advertising Attitudes

According to the research of Lutz et al. (1986), it defines "advertising attitudes" as the preferences of responses to the stimulation of ads. Gardner (1985) mentions it's the opinions from audience after they receive the advertising messages. Speaking of "advertising attitudes", we talk about "advertising effectiveness", an important standard as measuring the effectiveness of advertisements through distinct media. Advertising effectiveness refers to market response to a firm's (or a brand's) advertising. Researchers have also examined the effects mentally like consumer awareness, attitudes, beliefs, and intentions.

# HYPOTHESIS

The Incongruity theory from McGhee (1979) defines humor as a mental experience which could find or sense funny, absurd, or inconsistent things, thoughts or situations. Surprise or inconsistency is the most frequent way to produce humor. What's more, incongruity-resolution and cognitive mastery theory mention that the need to process and resolve discrepant information from incongruity could cause more humor (Suls, 1983). On the other hand, According to the research of 1000 broadcasting ads from Stewart & Furse (1986), it found that the humorous content could increase the understanding of ads. McCollum & Spieman (1982) also point out the score of persuasiveness for ads which apply humor inside are higher than the total average score. Attributing to the above inferences, we therefore propose the following hypothesis:

H1: The incongruity-resolution humor ads have higher advertising attitudes than the incongruity humor ads; The incongruity humor ads have higher advertising attitudes than non-humor ads.

Fear appeal seeks to instill some degree of anxiety in consumers then offer a means of alleviating anxiety by purchasing a specific good or service (Carol & Thomas, 2008). In addition, the researches about fear appeals have different outcomes. Some think high fear appeals could attain the best advertising attitudes (Sutton, 1982), but some research outcomes reveal that excessive fear appeals would result in negative effects. For example, Leventhal & Niles (1964) point out extreme fear appeals may contribute to bad responses and even not take any action because of fear. On the other hand, low fear appeals would not cause extreme afraid behaviors. Furthermore, when individuals are in the negative emotions, it would push them to think more careful and systematic about the messages and consider relevance to themselves. Accordingly, the messages would be more persuasive. Therefore, we propose the following hypothesis:

H2: Low fear appeals have better advertising attitudes than high fear appeals.

According to the regulatory focus meter from Lockwood, Jordan, & Kunda (2002), it expresses the promotion-focused individuals prefer pursuing their own ideal results; whereas, individuals of prevention-focus favor avoiding their unwanted outcomes. In this research, we use humor ads and fear appeals simultaneously as the variables and emphasize the functions for the products. As a result, the negative messages which fear brings would urge customers adopt systematic and careful thinking to deal with the messages and consider the relevance for products to themselves (Morris, 1989). Attributing to this, comparing with the ads containing promotion-focused messages, consumers would attend to the prevention-focused messages emphasizing the curing effects for the product, and it also matches the design of fear appeals including two parts: the display of dangerous messages and suggestions to avoid the danger (Hovland, Janis, & Kelley, 1953). Therefore, we propose the following hypothesis:

H3: The prevention-focused messages have better advertising attitudes than the promotion-focused messages.

Leventhal & Niles (1964) mention that extreme fear appeals might contribute to bad responses and even not take any action. Accordingly, we think as the consumers see the high fear appeals ads, they might try to avoid because of fear. On the other hand, the regulatory theory from Cantanzaro (1990) points out when individuals are urged to have a kind of emotion, individuals could sense the emotion and try to apply some ways to change their behaviors or cognitions to deal with the emotion. Overall, we propose that the negative emotion produced by seeing the ads of high fear appeals could make them shift attention to things containing positive emotions like humor part in the ads which would make people feel happy and laugh. As a result, the incongruity-resolution and incongruity humorous ads would have higher advertising attitudes than non humor ads as individuals see ads of high fear appeals. We propose the following hypothesis:

H4a: Under high fear appeals condition, the incongruity-resolution humorous ads and incongruity humorous ads would have better advertising attitudes than non-humorous ads.

Low fear appeals promote people to adopt protective motions and automatically estimate the relevance of messages to themselves, and it would become more persuasive (Geuens & Pelsmacker, 1999). On the other hand, Schwarz & Clore (1983) mention that negative emotions such as fearful feelings would urge people to deal

with the received messages more effective and systematic. It matches “the model of cognitive regulatory theory” which describes people would focus on the messages and think systematically with the central route thinking mode. Especially for the incongruity-resolution humor ads, they are in the incongruity condition and would urge people to think cognitively. The application of frequent thinking and association with product to understand humor in the ads would contribute to better positive emotions. As a result, we propose the following hypothesis:

H4b: Under low fear appeals condition, the incongruity-resolution humor ads would have better advertising attitudes than incongruity humor ads and non-humor ads.

Keller, Lipkus, & Rimer (2003) point out that as consumers sense fear, they would try to avoid and refuse to think about the messages in detail. Under this condition, consumers have low considerations about the messages. On the other hand, Leventhal & Niles (1964) mention that extreme fear appeals might contribute to bad responses like ignore the messages or even not take any action. Accordingly, consumers would not observe the ads in detail no matter what kind of regulatory focus messages it applies. Therefore, we propose the following hypothesis:

H5a: Under high fear appeals, the promotion- focused and the prevention-focused messages have no difference in advertising attitudes.

Fear is defined as a negative emotion reflecting the degree of discomfort about a possible future goal-incongruent outcome, and people worry that if they could escape or avoid an unpleasant outcome. This negative emotion would promote people to do some changes in cognition or behavior for solving the negative condition. On the other hand, the prevention-focused messages emphasize the curing and prevention effects of the products, so it would offer a solution to the threat in the ads. Consequently, the prevention-focused messages would have better advertising attitudes than the promotion-focused messages, so we propose the following hypothesis:

H5b: Under low fear appeals, the prevention-focused messages would have better advertising attitudes than the promotion-focused messages.

The research from Higgins (1997) mentions the promotion-focused messages apply positive thinking and words like promote or increase to emphasize the benefits of the products, and it would be prone to arouse the customers’ positive emotions. Worth & Mackie (1987) also point out that as customers have positive emotion, they tend to not think about the received messages in detail. As a result, we suppose that the incongruity-resolution humor ads and incongruity humor ads would have no difference in advertising attitudes. On the other hand, we suppose the promotion-focused messages could combine with the humor ads because they all contain positive messages, so the incongruity-resolution humor ads and incongruity humor ads would have better advertising attitudes than non humor ads. Due to this, we propose the following hypothesis:

H6a: Under the promotion-focused messages, the incongruity-resolution humor ads and incongruity humor ads would have better advertising attitudes than non humor ads.

The research from Higgins (1997) describes the prevention-focused messages utilize negative thinking ways and apply negative words like decrease or prevent to confer the healing effects of the products. It’s similar to the negative words used in the negative messages from the concept of message framing developed by Levin & Gaeth (1988), and it’s easier to arouse the negative emotion of the customers. In addition, “the model of cognitive regulatory theory from Morris (1989) mentions that when people have negative emotion, they would be suspicious about everything surrounded because of sensing unsafe feeling. Furthermore, they would deal with the messages by analytical and systematic thinking. Consequently, customers would concentrate on it with the central route thinking model. This is similar to process of “incongruity-resolution” inclined to the central route thinking. As a result, we develop the following hypothesis:

H6a: Under the prevention-focused messages, the incongruity-resolution humor ads would have better advertising attitudes than incongruity humor ads and non humor ads.

# RESEARCH METHODS

## Pretest

The first part is the pretest of humorous ads. The goal is to make sure respondents identify the manipulation of the experiment. This study designs the following three kinds: incongruity, incongruity-resolution, and non-humor and undertake the pretest after 54 respondents see the plane ads. In the pretest questionnaire, there are 8 questions about the degree of humor and 3 questions about comprehension of humor ads. What's more, the pretest is launched with the followings: (1) make the degree of humor no difference among incongruity, incongruity-resolution, and non-humor ads; (2) the result of Post-Hoc reveals that both of the congruity and incongruity-resolution are better than non-humor ads. The result is found for support ( $p=.008^{**}$ ). The ads of incongruity humor ( $M=3.771$ ) and incongruity-resolution humor ( $M=3.667$ ) have higher advertising attitudes than the ads of non humor ( $M=2.116$ ). The second part is the pretest of fear intensity. This study designs the following two kinds of ads: high fear appeal and low fear appeal, and undertake the pretest after 54 respondents see the plane ads. In the pretest questionnaire, there are 5 indexes according to the research from Ruiter et al. (2003) and King & Reid (1990). What's more, the pretest is launched with the following rules: (1) make the degree of fear intensity no difference between high and low fear appeals ; (2) the result of Post-Hoc reveals that the ad of high fear appeal is better the ad of low fear appeal. The result is found for support ( $p=.000^{***}$ ). The ads of high fear appeals ( $M=3.270$ ) has higher advertising attitudes than the ads of high fear appeals ( $M=2.807$ ). The following is the result of the pretest of the fear intensity:

## Formal Test

345 participants from college students and graduate school students participated in the study. They were randomly assigned to cells of a 3 (cognitive ads : congruity, incongruity, and non humor)  $\times$  2 (fear appeals: high and low)  $\times$  2 (regulatory focus: promotion focused and prevention focused). A fictional brand of natto (for lowering cholesterol) was chosen as the experimental product. In order to measure and compare the advertising attitudes result from the different variables, this research designs 12 simplified versions of plane advertisements containing distinct combination of variables in the questionnaires. In addition, the complete draft is selected by specialists and professors in ads marketing to ensure the degree of humor of the following three designs: incongruity, incongruity-resolution, and non-humor. On the other hand, about the fear intensity, this research designs two kinds: high and low depending on the subjects of the ads and undertake a pretest to make sure that whether the fear intensity lives up to real feelings from respondents. Speaking of the moderate variable, prevention-focused messages and promotion-focused messages are added in each version along with items in the questionnaires to measure the regulatory focus tendency of respondents. Questionnaires are sent out in the class, and students are asked to fill in the questionnaires after they look at the advertisements for 30 seconds.

This hypothesis 7 is not supported. Significant direct preference are found for support , ( $F_{(2)}=.845$  ,  $p=.430$ ), These three variables: cognitive mechanism of advertising categories, fear appeals, and regulatory focus have no evident mutual interaction. The following Table 1 is the total results:

**Table 1: The Mutual Effects of Cognitive Mechanism of Advertising Categories, Fear appeals, and Regulatory focus**

	Source	Sum of Squares(df)	F	P-value
advertising attitudes	Cognitive mechanism of advertising categories	162.124(2)	4.451	.012
	Fear appeals	145.802(1)	4.003	.046
	Regulatory focus	76.310(1)	2.095	.149
	Cognitive mechanism of advertising categories	9.548(2)	0.262	.770

× Fear appeals			
Fear appeals			
× Regulatory Focus	486.622(1)	4.201	.000
Cognitive mechanism of advertising categories × Regulatory focus			
	15.434 (2)	13.361	.655
Cognitive mechanism of advertising categories × Fear appeals × Regulatory Focus			
	30.782(2)	.845	.430
Errors		3.987(762)	
* $p < .05$ ; ** $p < .01$ ; *** $p < .001$			

This hypothesis 1 is part supported. Significant direct preference are found for support ( $F_{(2)}=4.451$ ,  $p=.012^{***}$ , Sum of Squares=162.124), the ads of incongruity humor ( $M=29.659$ ) and incongruity-resolution humor ( $M=30.049$ ) have higher advertising attitudes than the ads of non humor ( $M=27.387$ ). This hypothesis 2 is supported. Significant direct preference are found for support, ( $t_{(1)}=-1.961$ ,  $p=.046^*$ , Sum of Squares=162.124), the ads of low fear appeals ( $M=29.8046$ ) has higher advertising attitudes than the ads of high fear appeals ( $M=28.5000$ ). This hypothesis 3 is not supported. Significant direct preference are found for support, ( $F_{(1)}=-1.354$ ,  $p=.176$ , Sum of Squares=162.124), the promotion-focused ads ( $M=28.7069$ ) and the prevention-focused ads ( $M=29.8046$ ) have no difference in advertising attitudes.

About the mutual interaction between variables, this hypothesis 4 is not supported. Fear appeals don't affect the cognitive mechanism of humor advertising categories on advertising attitudes. Significant direct preference are found for support ( $F_{(2)}=.262$ ,  $p=.770$ ), under high fear appeals condition, the incongruity-resolution humorous ads and incongruity humorous ads would have better advertising attitudes than non-humorous ads. On the other hand, hypothesis 6 is also not supported. Significant direct preference are found for support, ( $F_{(2)}=.424$ ,  $p=.655$ ), regulatory focus doesn't affect the cognitive mechanism of humor advertising categories on advertising attitudes. This hypothesis 5a is supported. Significant direct preference are found for support, ( $F_{(1)}=2.040$ ,  $p=.155$ , Sum of Squares=88.729), under high fear appeals, the promotion-focused ( $M=29.249$ ) and the prevention-focused ( $M=27.816$ ) messages have no difference in advertising attitudes. This hypothesis 5b is supported. Significant direct preference are found for support, ( $F_{(1)}=16.077$ ,  $p=.000^{***}$ , Sum of Squares=476.788), under low fear appeals, the prevention-focused ( $M=31.448$ ) messages have higher advertising attitudes than the promotion-focused messages ( $M=28.175$ ).

## GENERAL DISCUSSION

According to the results, we find that humorous ads have higher advertising attitudes than non humor ads. Nevertheless, the incongruity-resolution humor ads don't have higher advertising attitudes than incongruity humorous ads. Accordingly, hypothesis 1 is partly supported. Attributing to the reasons, it is because the incongruity resolution humor ads focus on the resolution of the products' functions in the ads, but it would not affect audience preferences toward the ads resulting from the humor in the ads. On the other hand, about the use of fear appeals, the advertising attitude of low fear appeals is higher than which of high fear appeals. Hypothesis 2 is supported. We propose appropriate fear appeals would fortify the advertising attitudes. About the regulatory focus, hypothesis 3 is not supported, which means the prevention-focused messages in the ads don't have better advertising attitudes than the promotion-focused messages. This may because the regulatory focus of the audience themselves might influence the results, and the negative words like treat or decrease would make them

tend to escape and not choosing this kind of ads. Exploring the mutual effects of the cognitive mechanism of humor advertising, fear appeals, and regulatory focus, there is no evident difference between them. The result of the mutual effect between the cognitive mechanism of humor advertising categories and regulatory focus is the same. What's more, there is evident difference between fear appeals and regulatory focus. To explain it clearer, we find that under high fear appeals, the promotion- focused and the prevention-focused messages have no difference in advertising attitudes. On the other hand, under low fear appeals, the prevention-focused messages would have better advertising attitudes than the promotion-focused messages, so hypotheses 5a and 5b are supported. In conclusion, this research proves that humorous ads, appropriate fear appeals are useful and effective to increase the advertising attitudes toward the ads, and the advertisers could design promotion-focused or prevention-focused messages in the ads depending on different kinds of products.

## REFERENCES

Aaker, Jennifer L., & Angela Y. L., "'I' Seek Pleasures and 'We' Avoid Pains: The Role of Self-Regulatory Goals in Information Processing and Persuasion," *Journal of Consumer Research*, Vol. 28, (June, 2001): 33–49.

Carol L. S., & Thomas B., *Fear Appeals Revisited: Testing a Unique Anti-smoking Film*. Springer Science + Business Media, LLC., 2008.

Catanzaro, S. J., "Measuring generalized expectancies for negative mood regulation: Initial scale development and implications," *Journal of Personality Assessment*, Vol. 54, 1990: 546-563.

Chernev, A., "Goal-Attribute Compatibility in Consumer Choice," *Journal of Consumer Psychology*, Vol. 14, 2004a: 141–150.

Freud, S., *Jokes and Their Relation to the Unconscious*, New York: Norton., 1960 (First German Edition 1905).

Galloway, G., "Humor and Ad Liking: Evidence That Sensation Seeking Moderates the Effects of Incongruity-Resolution Humor," *Psychology & Marketing*, Vol. 26, Iss. 9, 2009: 779-792.

Gardner, M. P., "Dose attitude toward the ad affect brand attitude under a brand evaluation set," *Journal of Marketing Research*, Vol. 22, Iss. 2, 1985: 192-198.

Geuens, M., & De Pelsmacker, P., "Affect Intensity Revisited : Individual Differences and the Communication Effects of Emotional Stimuli," *Psychology and Marketing*, Vol. 16, Iss. 3, 1999: 195-209.

Hovland, C. I., Janis, I. L. & Kelley, H. H., *Communication and Persuasion*, CT : Yale University Press, 1953.

Higgins, E. T., "Beyond Pleasure and Pain," *American Psychologist*, Vol. 52, (December, 1997): 1280–1300.

Janis, I. L. & Feshbach, S., "Effects of Fear-Arousing Communications," *The Journal of Abnormal and Social Psychology*, Vol. 48, Iss. 1, 1953: 78-92.

Johnston & Warkentin, "Fear Appeals and Information Security Behaviors: An Empirical Study," *MIS Quarterly*, Vol. 34, Iss. 3, 2010: 549-566.

Keller, P. A., Lipkus, I. M., & Rimer, B.K., "Affect, Framing, and Persuasion", *Journal of Marketing Research*, Vol. 40, Iss. 1, 2003: 54-64.

Kim, Y. J., "The Role of Regulatory Focus in Message Framing in Antismoking Advertisements for Adolescents," *Journal of Advertising*, Vol. 35, (Spring, 2006): 143–151.

King, K. W., & Reid, L. N., "Fear arousing anti-drinking and driving PSAs: Do physical injury threats influence young adults?" *Current Issues and Research in Advertising*, Vol. 12, Iss. 1, 1990: 155-175.

- LaFave, L., "Humor Judgments as a Function of Reference Group and Identification Classes," *Psychology of Humor*, J.H. Goldstein and P.E. McGhee, eds.. New York: Academic Press, 1972.
- Leventhal, H., & Niles, P., "A Field Experiment of Fear-Arousal with Data on the Validity of Questionnaire Measures," *Journal of Personality and Social Psychology*, Vol. 32, 1964: 459-479.
- Levin, I. P., & Gaeth, G. J., "How consumers are affected by the framing of attribute information before and after consuming the product," *Journal of Consumer Research*, Vol. 15, 1988: 374-378.
- Louro, M. J., Rik P., & Marcel Z., "Negative Returns on Positive Emotions: The Influence of Pride and Self-Regulatory Goals on Repurchase Decisions," *Journal of Consumer Research*, Vol. 31, (March, 2005): 833-840.
- Lockwood, P., Jordan, C. H., & Kunda, Z., "Motivation by positive or negative role models: Regulatory focus determines who will best inspire us," *Journal of Personality and Social Psychology*, Vol. 83, Iss. 4, 2002: 854-864.
- Mackenzie, S. B., Lutz, R. J. & Belch, G. E., "The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations," *Journal of Marketing Research*, Vol. 23, Iss. 8, 1986: 131.
- McCollum, Speilman & Co. Inc., "Focus on funny," *Topline*, Vol. 3, Iss. 3, 1982: 1-6.
- McGhee, P. E., *Humor: its origin and development*, San Francisco: Freeman, 1979.
- Morris, Mood: *The frame of mind*, NY: Springer-Verlag, 1989.
- Ruiter R. A. C., Kok, Gerjo, Verplanken, Bas & Van E. G., "Strengthening the persuasive impact of fear appeal: The role of action framing," *The Journal of Social Psychology*, Vol. 143, Iss. 3, 2003: 397-400.
- Schwarz, N., & Clore, G. L., "Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states," *Journal of personality and social psychology*, Vol. 45, Iss.3, 1983: 513-523.
- Shiv, B., Edell, J. A., & Payne, J. W., "Factors affecting the Impact of negatively and positively framed Ad messages," *Journal of Consumer Research: An Interdisciplinary Quarterly*, Vol. 24, Iss.3, 1997: 285-294.
- Spotts, H. E., Weinberger, M. G., & Parsons, A. L., "Assessing the use and impact of humor on advertising effectiveness: A contingency approach," *Journal of Advertising*, Vol. 26, Iss. 3, 1997: 17-32.
- Stewart, D. M., & Furse, D. H., *Effective Television Advertising*. Lexington, In. MA: D.C.: Heath and Company, 1986.
- Suls, "Cognitive Processes in Humor Appreciation," *Handbook of Humor Research*, Jeffery G., ed., New York: Springer-Verlag Inc., 1983: 39-57.
- Sutton, S., "Fear-arousing Communications: A Critical Examination of Theory and Research," *Social Psychology and Behavioral Medicine*, Eiser J. ed., Wiley: London, 1982: 303-337.
- Worth, L. T., & Mackie, D. M., "Cognitive mediation of positive affect in persuasion, *Social Cognition*," Vol. 5, 1987: 76-94.

# **THE RELATIONSHIPS AMONG GELOTOPHOBIA, HUMOR, SELF-ESTEEM, PLAYFULNESS, AND INNOVATIVE BEHAVIOR**

**Yaonan Lin and Yun-Chieh Liu, Fu-Jen Catholic University, Taiwan  
Chih-Chung Chu, Lunghwa University of Science and Technology, Taiwan**

## **ABSTRACT**

*The research purpose is to evaluate how the innovative behaviors of employees affect the organizations, and the relationship with gelotophobia, humor, self-esteem, and playfulness. Data were collected from 230 employees. The research model was analyzed using a rigorous structural equation modeling (SEM) which is being applied to examine the relationship of gelotophobia, humor, self-esteem, playfulness, and innovation. The findings have important implications for studying the development of innovation organization and the effect on cultivate the positive atmosphere in work place that utilize corporations. In addition, practical implications are discussed and directions for future research are suggested.*

## **INTRODUCTION**

Nowadays, “innovation” is an important issue toward individuals, groups and organizations in the development of knowledge economy. This study explores the employees’ behavior which affects the innovation of organizations. The ability of innovation is one of the main ideas of the knowledge-driven economy.

In the research of organization and corporate culture, gelotophobia is the latest research (Ruch & Proyer, 2008c). Individual behavior, including humor, playfulness, and innovation are often affected by people’s endurance of others’ laughter. Especially, people with unique perspective and innovation are different from normal people; they have to face others suspension as they show their viewpoints or perspectives. However, the reaction of fear of being laughed impedes the development of innovation and creativity. People who with continuous gelotophobes are hard to feel humor and laughter that show relax as well as happiness. They are always afraid of being laugh, causing low self-esteem, less activities, spontaneity, enjoyment and so on (Titze, 2008). For example, the more afraid of being laugh, the less humor, and that will affect the development of innovation and positive emotion.

Humor is necessary to develop a positive organization atmosphere. Organizational researchers claimed that a sense of humor is an important factor in determining the degree which also maintains whether an organization is productive and competitive or not. Some researches exhibited that sharing of humor among members of an organization is an important aspect of successful corporate culture (Clouse & Spurgeon, 1995). The advocacy of humor in the workplace often increases the levels at work which result in lots of benefits, including greater teamwork and cooperation, social interactions between workers and managers (Martin, 2007).

People feel self-confident, relax leisurely and change a frame of mind, and they may get some inspiration in work times. Moreover, there are many similarities between humor and play (Bergen, 2002). The concept of playfulness is compatible with work, encouraging people as confronting challenges or pressures. People incline to high playfulness showing unintentionally, and put more concentration into work. At the same time, Play and humor are both enjoyable, and they share similar characteristics regarding motivation, control, and reality.

As will be discussed, this study makes several contributions. The purpose of this study is to evaluate how the innovative behaviors of employees affect the organizations, and the relationship with gelotophobia, humor, self-esteem, and playfulness. Then, the study used to test these relationships is described and the findings reported. A discussion of the research and managerial implications of the findings concludes the paper.

## CONCEPTUAL BACKGROUND AND HYPOTHESES

Kaplan (1980) declared that youngsters with low self-esteem have frequently undergone unsatisfactory experiences in the conventional society-experiences that have created painful feelings of doubt about ridiculousness, and avoid improper performance in social situation. Hence, they carefully avoid situations as feeling of impending exposure to others (Titze, 1995, 1996). This fear can be traced back to early childhood experiences, and interactive relationship was confirmed between laughter and mental health, which can alternatively be highly positive or deeply negative (Ruch & Proyer, 2009). Furthermore, higher self-esteem appears to buffer individuals from stress (Guindon, 2002), and is significantly related to physical and mental well-being (Witmer & Sweeney, 1992). Besides, people who with consistent gelotophobes tend to misunderstand positively motivated smiling and laughter, and have lower values. That doesn't represent that they lose all components of humor. In addition, they have a low propensity to joy and a character to experience shame as well as fear, inclining to being introverted and neurotic, and they underestimate their own potential while not actually being less capable. Therefore, Gelotophobia makes people depressed or annoying, and sometimes might cause mental problems.

Rosenber (1972) indicated that people with high self-esteem have a positive attitude toward themselves; on the contrary, low self-confidence may have negative attitude. People with lower self-esteem may be gelotophobes that tend to misunderstand positively motivated smiling and laughter (Titze, 1995). They have a low propensity and self-confidence to joy, show energetic, and lack spontaneity which possibly lead to gelotophobia. Besides, Ruch and Proyer (2008) also provided preliminary evidence for the low self-esteem which shows the accuracy of gelotophobia (the fear of being laughed at) and hard to develop social ability.

H<sub>1</sub>: Self-esteem is related negatively with Gelotophobia

Self-esteem is the basic need of human being, and important symbols of the environment adaption as well as mental health. People who possess a strong sense of self-worth appear to be adjusted, happy, competent, and the evaluation of self-esteem is an initial step toward better understanding human motivation (Gilberts, 1983). Self-esteem can be negative, neutral and positive, and it even covers the personal values and self-concern. Generally speaking, self-esteem is composed by internal and external. Internal means generation of beliefs, ideas, and behaviors in their mind; while external implies the effect of outer environment (Branden, 1994). Therefore, self-esteem can extend to be an adaption of lives. Besides, humor motives people to laugh, to smile and to have pleasant emotion in widely spread situations. That means humor can develop amusement in our lives, improving skills of interpersonal relationship and also inseparable from mental and physical health. The humorous person seems friendly to be with, and cheers people up as they suffer pressure or have problems.

Martin & Lefcourt (1983) stated that humor is the same as the positive personality, and is able to make people adapt different environment. As a result of having self-confidence, people may have higher assessment of themselves. Humorous people considered to be with higher self-esteem (Martin & Kuiper, 1993). Therefore, enhancing value of people can generate humor and alternative emotion. In addition, Kuiper & Martin (1998) also supported the idea of high relatives between high self-esteem and humor that impact people on a positive way. In the research of Nezelek & Derks (2001), they pointed that people with high self-confidence must have humorous character. Therefore, people with high self-esteem tend to high humor (Martin, 2001).

H<sub>2</sub>: Self-esteem is related positively with humor.

Self-esteem has main or moderating effects on job performance, especially creativity. Self-esteem can be an overall positive or negative evaluation of oneself (Brown, 1993), and should be related to job performance (Pierce & Gardner, 2004). In addition, individuals with high self-esteem are motivated to do well on the job to maintain cognitive consistency with their high self-evaluations. High self-esteem provides a buffer as facing difficulties which impede workplace motivation and performance (Brockner, 1988). Additionally, the ability of innovation is an important issue toward organizations, and individual as well as groups provide appropriate

solutions as encountering great difficulties or challenges. Enhancing the innovative abilities of employees can increase corporate success through the creation of new corporate ventures (Pinchot, 1985; Kuratko & Montagno, 1989). Slappendel (1996) claimed that the point of newness is essential to the concept of innovation, serving to differentiate innovation from change, and the latest theme is especially closely linked between innovation and entrepreneurship which emphasize its substantial role in new venture creation and management.

Self-esteem has positively related to innovation in working performance. Besides, in order to maintain the positive self-esteem, people who regard creativity as personal identity will put them in the innovation. Furthermore, individuals who possess high self-esteem are not only in the work performance but also everything that they want to be innovative. Sternberg & Lubart (1995) claimed that innovation has closely connection with personality, including self-esteem, acceptance of challenge, etc. The self-esteem is positively associated with innovation employees with high self-esteem perceive themselves as important, meaningful, and worthwhile members of their employing organization, and then showing high innovation (Pierce et al., 1989, 1993)

H<sub>3</sub>: Self-esteem is positively related with innovation.

Gelotophobia is well-defined as the pathological fear of appearing to social companions as an object of laughter (Titze 1995, 1996, 1997), and considered as a specific change of shame-bound anxiety. Gelotophobes constantly fear being screened by others for evidence of oneself value, and directly impact on individual behaviors. On the contrary, people join in humor and laughter that arise spontaneously in the course of our normal relations with other people in daily life (Kuiper & Martin, 1998). In addition, they will feel more delight and joy, and then it can reduce pressure, annoyance. In general, in the research of humor, the scholars claimed that humor is the concept of multiple domains. It consists of the following six dimensions: appreciation humor, creative humor, public relation humor, coping humor, manner humor, and smile tendency.

People who are more afraid of being laughter lead to lower humor. However, showing higher humor, people may turn serious situation into relax, and they accept the stimulus of humor to generate laughing activities and enjoyment (Apter & Smith, 1977). Besides, gelotophobia seems humor or laugh as threat or negative emotion. Then, Titze (2008) conducted a research that mentioned gelotophobia cannot assess smile as well as laughter positively. Therefore, their fear leads to lack of humor in daily life. Ruch, Beermann, & Proyer (2009) stated that gelotophobia are hard to naturally express humor and participate in social activities, because they seldom perform humor and lack lively attitude. They researched that gelotophobia and humorlessness are being related.

H<sub>4</sub>: Gelotophobia is related negatively with Humor.

Humor is an essential part of developing effective organizations, and an enjoyable and playful activity which amuses people with happy feelings. Besides, it motives people to laugh, to smile or having pleasant emotion in a wide variety of situations. Martin and Lefcourt (1983) stated that the emotional-expressive component of humor is smiling and laughter. Humor and laughter are universal aspect of human experience, occurring in all cultures and virtually all individuals throughout the world (Apte, 1985).

In the present, modern people expect to enjoy careers and find pleasure in their jobs. Barnett (1991) indicated that the sense of humor scale is significantly correlated with a number of general playfulness in children, lending further support to the close link between humor and play. Humor originated in play and gradually becomes differentiated from other forms of play as the child's cognitive abilities develop (Bergen, 2003). The general characteristic of playfulness relates positively to individual creativity and to more exploratory behaviors during interactions with tasks (Glynn & Webster, 1992).

Lieberman (1977) advocated that humor is one of essential factor of playfulness. Besides, Papousek (1979) also provided that the development of playful experience which is not just the process, but also the foundation of creativity and humor. People who like to interact with others, express humor or talk jokes are often with playful character (Starbuck & Webster, 1991). In the work aspect, good humor and moderate playfulness is inseparable and working environment full of laughter benefits employee and work a lot (Gouldson, 2000). Wilson (2000) found that playfulness would encourage or support employee with humor, laugh and self-expectation. Therefore, people with high playfulness are considered with high humor.

H<sub>5</sub>: Humor is positively related with playfulness.

The concept of “playfulness” defines as the developing of enjoyable jobs. Playfulness is emerge at the similar age in infants, which means the quality of playing, and is the unintentional as well as spontaneous characteristic while children are playing or doing some leisure activities (Lieberman, 1974). The general characteristic of playfulness relates positively to individual creativity and to more exploratory behaviors during interactions with tasks (Glynn and Webster, 1992). That is to say, regardless of the tedious jobs, people with higher playfulness can through individual imagination, relax attitude or engaging on events interesting; further, jobs become pleasing as well as desirable and people will put more in that.

Innovation is considered as a basic component of entrepreneurship and a key element of business success. Drucker (1985) noted that mostly every definition of innovation focuses on the concept of newness. Generally, individual innovation has been conceptualized in terms of individual characteristics, traits, behaviors, and products (Goldsmith, 1986). The current study seeks to develop and test a multi-dimensional measure of individual innovative behavior. The general dimensions of innovative behavior with the following five factors seeming best to categorize behaviors associating with individual innovation: Opportunity exploration; Generativity; Formative investigation; Championing and Application. Base on above said, individual innovation contains multiple dimensions in a various way.

Lieberman (1977) claimed that playfulness is the necessity of innovation. Amabile (1997) also stated that the characteristic of creativity is obviously exhibited in playfulness. Additionally, people with creative skills are generated from innate imagination and playful ability. In the research of investigating American 300 different-region adults, Glynn & Webster (1992) found that playfulness, self-cognition as well as creativity are related. Another research in factors of playfulness shows that individually creative behavior is highly related to work performance. In other words, appreciating innovation in organization can create playful atmosphere and benefit people on work performance.

H<sub>6</sub>: Playfulness is related positively with innovation.

## RESEARCH METHODS

The researcher constructed the conceptual framework outlined above through intensive literature review. Quantitative research methodology was adopted for the empirical testing of this conceptual framework. Survey methodology was utilized for primary data collection. The conceptual framework is as Figure 1:

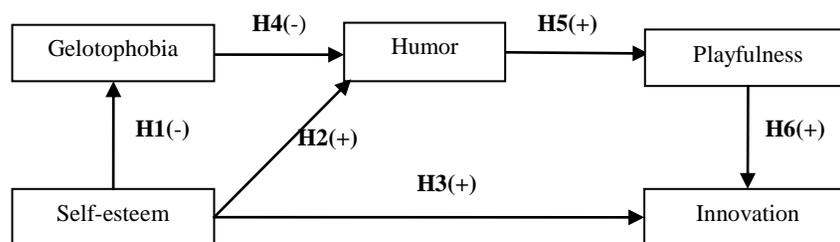


Figure 1: The Conceptual Framework

## Measures

Each construct in the model consisted of items measured using 5-point Likert scales, ranging from “1” (strongly disagree) to “5” (strongly agree). The research instrument was developed in English, translated into Chinese, and back-translated into English. The face validity was evaluated by four bilingual (English and Chinese) employees. The scales for self-esteem are measured by 10 items of the Rosenberg Self-Esteem Scale (Rosenberg, 1989). Academic self-esteem (our specific self-esteem) is based on a 3-item index. The scales for perceived Gelotophobia (Ruch & Proyer, 2008) are measured by 15-item questionnaire for the subjective assessment of the fear of being laughed at. The scales for a sense of humor is a 39-item questionnaire were from (Lin, 2010) , and scales for the behavior of innovation (Tsai, 2004) measured by 6-item questionnaire for the

assessment of employees' innovative behaviors. The items for perceived playfulness of (Yu, 2004) are measured by 29-item questionnaire for the subjective assessment of enjoyment in work.

## RESULTS

### Samples Collection

The sampling frame is a convenience sample. 250 questionnaires were distributed to different generations in Taiwan. An introductory letter explaining the research purpose and survey instruction was included in the questionnaire. After the filter questions to select the respondents, 230 valid questionnaires were obtained. Responses from these representative samples of consumers in Taiwan were analyzed. Descriptively, most of them are male (62.2%); ages are ranging from 18 to 24 (39.1%); education is at college (55.2%); their occupation level is most of basic employee (73.9%) and their average personal monthly income is between \$25001 and \$40000 NT Dollars (33.9%). Most of their working experience is over 7 years (34.3%).

### Reliability

Internal consistency is the extent to which tests assess the same quality. It is a measure of the precision between the observers or of the measuring instruments used in a study. The data analysis of Cronbach Alpha assessed the reliability of the above dimensions: (1) Humor (.928); (2) Gelotophobia (.933); (3) Self-esteem (.864); (4) Playfulness (.935); (5) Innovation (.204). All Reliability Coefficients Alphas are more than .60, according to Cronbach (1951). We believe the constructs have good internal reliability.

### Model Estimation

To evaluate confirmatory factor analysis, the constructed model was examined with Structural Equations Modeling (SEM). The items applied the above result scale are with the 99 items, five dimensions: humor, self-esteem, Gelotophobia, playfulness, innovation, as the above mentioned. As Table 3 indicated that the fit indices of the model are acceptable level as follows: the  $\chi^2 = 698.49$  ( $p < .05$ ); Comparative fit index (*CFI*) = .90; Incremental fit index (*IFI*) = .90; Non-normed fit index (*NNFI*) = .88; Root mean squared error of approximation (*RMSEA*) = .14; Standardized root mean residual (*SRMR*) = .11; and Parsimony Goodness of Fit Index (*PGFI*) = .57. The other fit indices are below the recommended cut-off as the previously notes: *GFI* = .74; *NFI* = .90; *PGFI* = .57. Excluding  $\chi^2$ , *GFI*, *SRMR*, *RMSEA*, *NNFI*, and *AGFI*, most indices fit the following overall model standards.

**Table 1 : Overall Model Fit**

Fit Indices	$\chi^2$	<i>df</i>	$\chi^2/df$	<i>GFI</i>	<i>SRMR</i>	<i>RMSEA</i>
Model	698.49	145	4.82	.74	.11	.14
Overall Model Fit Standard	$p > .05$		$< 3$	$> .90$	$< .06$	$< .08$
Fit Indices	<i>NFI</i>	<i>NNFI</i>	<i>CFI</i>	<i>IFI</i>	<i>PGFI</i>	<i>AGFI</i>
Model	.88	.88	.90	.90	<b>.57</b>	.66
Overall Model Fit Standard	$> .90$	$> .90$	$> .90$	$> .90$	$> .50$	$> .90$

Furthermore, in the following Table 4, the results in the study supported some hypotheses in path diagram. The details are as follows: (1)  $H_1$  examines the influence of Gelotophobia on humor. It is supported by our empirical results (standardized  $\gamma_1 = -0.22$ ,  $t = -2.99$ ), which indicates that employees who have higher Gelotophobia will have lower levels of humor. (2)  $H_2$  examines the influence of self-esteem on Gelotophobia. It is supported by our empirical results (standardized  $\gamma_2 = -4.47$ ,  $t = -0.31$ ), which indicate that employees who perceive higher levels of Gelotophobia will have lower levels of self-esteem. (3)  $H_3$  examines the influence of self-esteem on humor. It is not supported by our empirical results (standardized  $\gamma_3 = 0.44$ ,  $t = 5.04$ ), which indicate that employees who perceive higher levels of self-esteem will not have higher levels of humor. (4)  $H_4$  examines the influence of self-esteem on innovation. It is not supported by our empirical results (standardized  $\gamma_4 = 0.54$ ,  $t = 5.97$ ), which indicate employees who perceive higher levels of self-esteem will not have higher levels of innovation. (5)  $H_5$  examines the influence of humor on playfulness. It is supported by our empirical results

(standardized  $\gamma_5=0.92$ ,  $t=5.21$ ), which indicate that employees who perceive higher levels of humor will have higher levels playfulness. (6)  $H_6$  examines the influence of playfulness on innovation. It is supported by our empirical results (standardized  $\gamma_6=0.36$ ,  $t=3.47$ ), which indicate that employees who perceive higher levels of playfulness will have higher levels innovation.

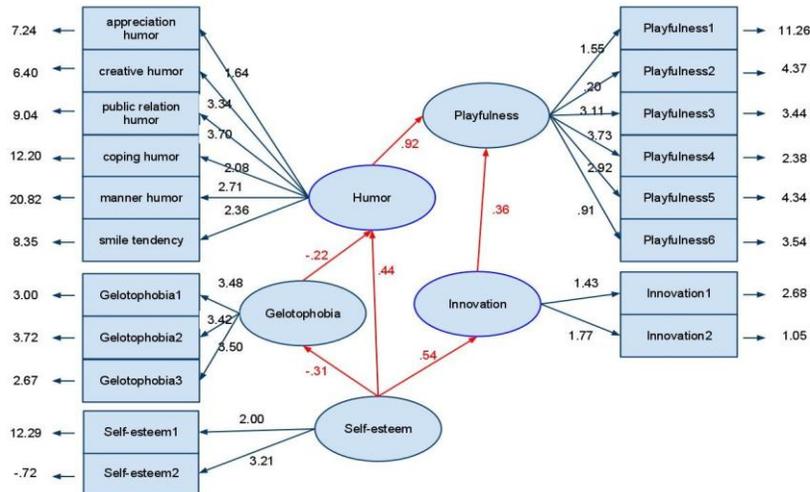


Figure 2: The Path among Humor, Gelotophobia, Self-esteem, Playfulness, and Innovation

Table 2: Estimation Result Path Model

Hypothesis	Parameters	Standardized Coefficients	t-value
H1	Gelotophobia -> Humor	-.22	-2.99**
H2	Self-esteem -> Gelotophobia	-.31	-4.47**
H3	Self-esteem -> Humor	.44	5.04**
H4	Self-esteem -> Innovation	.54	5.97**
H5	Humor-> Playfulness	.92	5.21**
H6	Playfulness -> Innovation	.36	3.47**

## GENERAL DISCUSSION

The results of this study indicate that when gelotophobes constantly fear being laughed, people show lower levels of humor. It demonstrated that gelotophobia and humorlessness are being related (Ruch, 2009). And, lower self-esteem leads to high gelotophobia. Individuals who show lower self-esteem may misunderstand positive motivation of laughter possess gelotophobia (Titze, 1995). That shows gelotophobia will cause negative inclination of the establishment of innovative behavior. In the contrary, higher self-esteem contribute to higher levels of humor and innovation. People with higher self-confidence must have higher sense of humor (Nezlek & Derks, 2001). Higher level of humor generates higher playfulness. Also, higher playfulness brings about higher innovation. Playfulness is the necessary element of innovation (Lieberman, 1977). Finally, the contributions of this study to further research are twofold. First, the findings of this study weren't thoroughly discussed before, and this study provides corporations an opportunity to evaluate how the innovative behaviors of employees affect the organizations. Second, this study could make an important contribution to the organizational culture as they want to build an innovation atmosphere. In addition, there are several future research directions that will further an understanding of the relationship between individuals and innovation. It's important to establish good atmosphere in organizations, especially in the knowledge-driven economy. The good atmosphere can make the employees more cohesive. People are encouraged to cultivate the positive emotion, including humor, playfulness and no gelotophobia that are the essential characteristic in workplace. The working environment while workplace full of humorous issues, playfulness, and laughter, it will easily gain more innovative ideas and creativities. Therefore, both optimistic employees and great working environment are substantial to the development of innovation.

## REFERENCES

- Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, 40 (1), 39-58.
- Apter, M. J., & Smith, K. C. P. (1977). Humor and the theory of psychological reversals. In *It's a funny thing, humour*. Oxford: Pergamon.
- Barnett, L. A. (1991). "The Play Child: Measurement of Disposition to Play," *Play and Culture*, 4 (1):51-74.
- Bergen, D. (2002). Finding the humor in children's play. In J. Rooparine (Ed.), *Conceptual, social-cognitive, and contextual issues in the field of play (Play and Culture Studies)*, 22 (4):209-220.
- Branden, N. (1994). *Six pillars of self-esteem*. New York: Bantam.
- Brown, J.D. (1993). Self-esteem and Self-evaluation: Feeling is believing, In J. Suls (Ed.), *Psychological perspectives on the self*, 4:27-58. Hillsdale, NJ: Erlbaum.
- Drucker, P. F. (1985). *Innovation and entrepreneurship: Practice and principles*. London: Heinemann.
- Goldsmith, R. (1986). Convergent validity of four innovativeness scales, *Educational and Psychological Measurement*, 46: 81-87.
- Glynn, M. A., & Webster, J. (1992). The adult playfulness scale: An initial assessment. *Psychological Reports*, 71 (1):83-103.
- Gouldson, T. (2000). Does humor belong at work? *Canadian Electronics*, 15 (3):6.
- Guindon, M. H. (2002). Toward accountability in the use of the self-esteem construct. *Journal of Counseling & Development*, 80(2): 204-214.
- Jaussi, K. S., Randel, A. E., & Dionne, S. D. (In press). I am, I think I can, and I do: The role of personal identity, self-efficacy, and cross-application of experiences in creativity at work. *Creativity Research Journal*.
- Jöreskog, K.G., and D. Sörbom (1996) *LISREL 8: User's Reference Guide*, Chicago: Scientific Software International.
- Kaplan, Howard B. (1980). *Deviant Behavior in Defense of Self*. New York: Academic Press.
- Karahanna, E., Evaristo, J.R., & Srire, M. (2002). *Methodological Issues in MIS Cross-Cultural Research*. *Journal of Global Information Management*, 10(1): 48-55.
- Kuiper, N. A. & Martin, R. A. (1993). Humor and concept. *Humor*, 6 (3):251-270.
- Kuiper, N. A. & Martin, R. A. (1998). Laughter and Stress in Daily Life: Relation to Positive and Negative Affect. *Motivation and Emotion*, 22:133-153.
- Kuratko, D.F. & Montagno, R.V. (1989). The intrapreneurial spirit. *Training and Development Journal*, 43 (10): 83-87.
- Lieberman, J. N. (1974). *Explorations in teacher characteristics: Playfulness in the classroom teacher*.
- Lin, Y. N. (2010) Measurement of Frontline Workers' Sense of Humor in the Food and Beverage Industry 16(2): 139-164

- Martin, R.A., & Lefcourt, H. M. (1983). Sense of humor as a moderator of the relation between stress and moods. *Journal of Personality and Social Psychology*, 45(6):1313-1324.
- Martin, R. A. (2001). Humor, laughter, physical health: Methodological issues and research findings. *Psychological Bulletin*, 127: 504-519.
- Martin, R. A. (2007). *The Psychology of Humor: An Integrative approach*. Oxford: Academic Press
- Nezlek, J., & Derks, P. (2001). Use of humor as a coping mechanism, psychological adjustment, and social interaction. *Humor: International Journal of Humor*, 12 (14): 395-413.
- Papousek, H (1979). From adaptive responses to social cognition: the learning view of development. In *Psychological development from infancy: image to intention* (ed. M. H. Bornstein and W. Kessen), 251-67.
- Pierce, J. L., & Gardner, D. G. (2004). Self-esteem within the work and organizational context: A review of the organization-based self-esteem literature. *Journal of Management*, 30: 591-622.
- Pinchot, G. (1985) *Intrapreneuring: Why You Don't Have to Leave the Corporation to Become an Entrepreneur*, Harper and Row, New York.
- Rosenberg, M. (1972). *Society and the Adolescent Self-image (3rd ed.)*. New Jersey: Princeton University Press.
- Rosenberg, Morris Carmi Schooler, & Carrie Schoenbach. (1989). "Self-esteem and Adolescent Problems: Modeling Reciprocal Effects." *American Sociological Review* 54:1004-18.
- Ruch, W., Beermann, U., & Proyer, R. T. (2008). Investigating the humor of gelotophobes: Does feeling ridiculous equal being humorless? *Humor: International Journal of Humor Research*, 22 (1/2): 111-143.
- Ruch, W., & Proyer, R.T. (2008c). Extending the study of gelotophobia: On gelotophiles and katagelasticians. *Humor: International Journal of Humor Research*, 22 (1/2), 183-212.
- Ruch, W. & Proyer, R.T. (2009). "Investigating the humor of gelotophobes: Does feeling ridiculous equal being humorless?" *Human international journal of human research*, 22 (1/2): 111-144.
- Slappendel, C. (1996) "Perspectives on innovation in organizations", *Organization Studies*, 17 (1):107-29.
- Starbuck, W. H., & Webster, J. (1991). When is play productive? *Accounting, Management, and Information Technology*, 1(1):71-90.
- Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*, New York: Free Press.
- Titze, M. (1996). The pinocchio complex: overcoming the fear of laughter. *Humor & Health Journal*, 5: 1-11.
- Titze, M. (2008). Gelotophobia: The fear of being laughed at. *Humor: International Journal of Humor Research*, 22(1/2), 27-48.
- Tsai, C. T. & Chuan, C. F., (2004). The Study of Leadership Style, Domain-Relevant Skills, Motivational Orientation, and Employee Creativity for Hospitality Industry in Taiwan 21(5):571-592.
- Witmer, J. M., & Sweeney, T. J. (1992). A holistic model for wellness and prevention over the life span. *Journal of Counseling & Development*, 71: 140-148.
- Yu, P. (2004). Enjoy Fun at Work: An Explorative Study of Organizational Playfulness.

# THE ROLE OF SACRIFICES IN COMPLAINT HANDLING

Martti Lindman, University of Vaasa, Finland

## ABSTRACT

*Value which can be created for customers has become the key issue in terms of customer management and is generally considered a precondition of customer satisfaction. An ability to produce more value for customers than competitors implies that complaint management becomes topical because dissatisfaction of customers may lead to exit and/or negative word-of-mouth. In this respect the moderating effect of sacrifice upon the relation between perceived complaint handling and future buying behaviour has been investigated. The results indicate that when factorized a set of key complaint handling variables can explain future buying behaviour as one may expect but, as to the applied moderating variables, no statistically significant effect could be identified.*

## INTRODUCTION

Generating and delivering superior customer value is universally considered as the key of firm success (e.g. Payne and Holt, 2001; Slater and Narver, 2000) suggesting that the better customers are served and managed the higher perceived customer value can be achieved. By definition value can be added in many ways through a firm's product offering, pricing strategy or delivery systems which together form the overall platform or value chain along which generation of customer value can take place (e.g. Chernatory *et al.*, 2000; Gilmore *et al.*, 1999). As Smith and Colgate (2007) more precisely state, organizations can create four major types of value namely, functional/ instrumental value, experiential/ hedonic value, symbolic/ expressive value and cost/sacrifice value. Functional/instrumental value is largely related to the product characteristic and attributes once the two next value types have their origin in the mental world of customers. The last suggested type of value, the benefits/costs models in turn presume that customers can make judgments regarding the price and expected benefits (e.g. Sánchez-Fernández and Iniesta-Bonillo, 2007). Under this state of affairs customer value is generally considered an assessment which results from the difference between benefits and sacrifices which emerge in the purchasing of a given product (e.g. Tam, 2004; Woodall, 2003; Lapierre, 2000).

As a whole, from theoretical point of view, a clear shift has taken place from the context of value-in-exchange towards the one where customers produce value through value-generating-processes when products are consumed and used (Grönroos, 2006). The central claim of the underlying service dominant logic of marketing - that value is co-created - means that application and integration of resources is not only the function of firms but also of the customers, individuals and households (e.g. Vargo and Lusch, 2004). As a whole, one may expect that the actual experience from the product or service may cause a considerable change of the original value assessment which led to the purchase (e.g. Meyer and Schwager, 2007; Homburg *et al.*, 2006). Any failure accordingly has a clear potential to strongly damage the positive value which may be have reached in earlier phases of the purchasing. Because human behaviour by its very nature is apt to cause mistakes in businesses too (e.g. Bolkan and Daly, 2008; Uusitalo *et al.* 2008), avoidance of all subsequent undesirable effects a product or service failure may bring with becomes topical. Even if customers generally may accept occasional failures one cannot avoid the risk that without proper handling of customer complaints customers may be lost (e.g. Schneider and Bowen, 1999).

## IMPETUS OF COMPLAINT HANDLING

When consumers in particular are in focus, some common definitional ground of value can be found if it is agreed that value is basically perceived and it is focused on in the context of user situations. Given the dimensions of human value formation (e.g. Schwartz, 1992; Maio and Olson, 1995; Higgins, 2006), a number of mental images and cognitive representations underlie the value creation and the final consumer purchase and choice (e.g. Sánchez *et al.* 2006; Bowman and Ambrosini, 2000; Chernatory *et al.* 2000). Such aspects as search of ideas, inspiring knowledge, hunting a good bargain, enjoying shopping atmospheres, the possibility of a social presence, imaging one's home decoration or simply the pleasure of owning a product typically create considerable value personally (e.g. Smith and Colgate, 2007; Cox *et al.*, 2005; Baumgartner and Steenkamp, 1996; Lai, 1995). As to the corresponding context of failure, it is by definition subject to the precondition that consumers have to acknowledge the failure at first which is why the understanding of the antecedents of customer recovery becomes the basis of effective complaint management. In the background, the so-called recovery paradox is also worth noticing in stating that customers may be even more satisfied after a strong recovery than in case the whole failure had never happened (Priluck and Lala, 2009).

In linking their customers, products and available resources in different ways, companies do not only define what are their views regarding the needs of their customers and what they do value but, also create customer experiences through their company offerings (Meyer and Schwager, 2007). According to Verhoef *et al* (2009) customer experience forms a holistic construction, which includes different phases of consumption. As customer value is perceived in each phase (Sweeney and Soutar, 2001), the overall customer value is reflected by the differences between the total benefits and total sacrifices which are due to the consumption as a whole (e.g. Lam *et al.* 2004; Sánchez-Fernández and Iniesta-Bonillo, 2007). In this respect benefits typically comprise a number of quality attributes, services, solutions or product attributes with corresponding outcomes once sacrifices comprise all possible monetary and non-monetary costs like psychological or relationship costs in addition to the time and effort the purchasing may require (Woodall, 2003). Based on disconfirmation theory, negative value and hence dissatisfaction is basically created every time when customer expectations and reality do not match be it then whatever operational mistake, inconvenience of purchasing or unfriendly personnel (e.g. Hansemark and Albinsson, 2004; Eggert and Ulaga, 2002; Raval and Grönroos, 1996).

Having the risk of value loss the basic idea of complaint management is to normalize and sustain the customer relationship in case of failure. There is some evidence indicating that over half of the dissatisfied customers might repurchase if their complaints are managed satisfactorily (Singh and Widing II 1991). However, not all customers complain which may be due to the fact that consumers consider that complaining is not worth attempting and managers besides tend to doubt the honesty of complaining (e.g. Huppertz 2007, Bosch and Enriquez 2005, Stephens and Gvinner, 1998). In any case poor recovery may lead to the loss of customers (e.g. Maxham III and Netemeyer, 2002) once well-managed customer complaining can increase both customer satisfaction and retention (Nyer, 2000, Broadbridge and Marshall, 1995). Accordingly, lenient complaint practises may turn out to be useful in order to get dissatisfied customers to speak about their experiences (e.g. Huppertz, 2007). Much depends on to which extension retailers are interested in investing their time and effort in complaint management and, correspondingly, are willing to encourage or discourage their customers to make complaints (e.g. Bell and Luddington, 2006; Davidow 2000). Whatever the case the prior purchasing value can differ considerably from the value which is constructed later, because customers may apply different attributes and value base depending on the stage of their buying process (e.g. Woodruff, 1997). Perceived value by definition presumes an interaction between the customer and product which takes place always when customers and products meet, be it then of physical or mental origin. As a consequence also retailing comes to the fore too because there is a strong interaction between the consumers' decision-making processes and retailers (Grewal and Levy, 2007). The topics is approached here by reporting the results of a consumer survey focusing on the perceived complaint handling in the context of furniture retailing in Finland.

## **RESPONDING CUSTOMER COMPLAINTS**

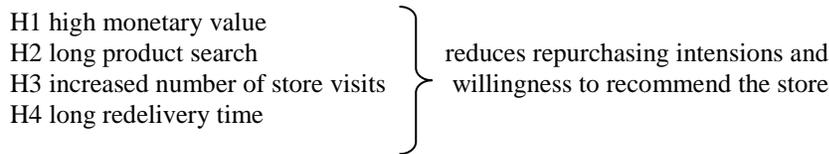
According to Davidow (2003) organizational response dimensions of complaint handling consists of timeliness, facilitation, redress, apology, credibility and attentiveness which all has an impact on the repurchase intention and company attitudes customers may perceive. Timeliness refers to the speed of response, facilitation to the policies and procedures which are effective in complaint handling once redress regards compensation in

one way or another. Davidow more specifically takes it for granted that apology too should be perceived as compensation but now as a psychological one. Credibility again refers to any explanations indicating what happened and why and, finally, attentiveness deals with the interaction of the customer relationship. As a whole one may expect that recovering perceived customer value and sustaining a high level of customer satisfaction has a favourable impact on future purchasing behaviour (e.g. Varela-Neira *et al.*, 2010; Rigopoulou *et al.*, 2008; Boehm and Brady, 2007; Zairi, 2000). Ravald and Grönroos (1996) in particular suggest that not only value adding strategies are worth consideration but customer relationship costs too are the sacrifice which one has to try to minimize because customer satisfaction and hence future buying behaviour depends on sacrifice too. According to the authors sacrifice comprise a number of possible indirect and psychological supplier costs which incidentally emerge without that the customer has been aware of them in making the decision to buy. As a consequence incidental costs emerge as moderating variables which shape the overall evaluation of the total value and satisfaction of purchasing.

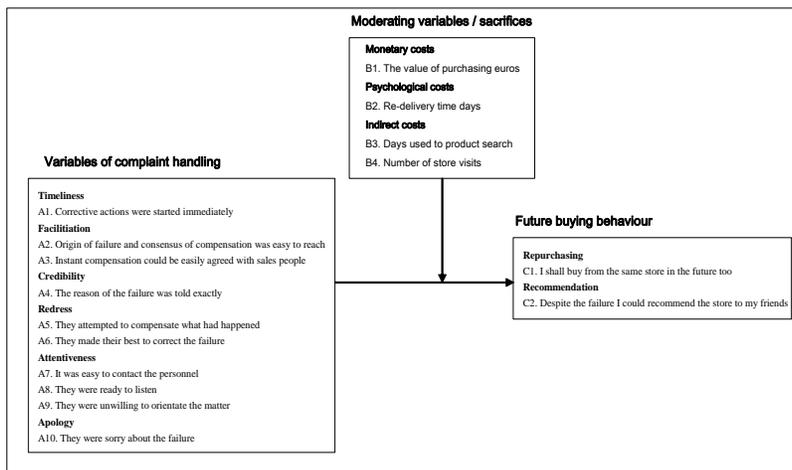
By definition moderating variables either in the form or strength have some effect upon the relationship between the dependent and independent variable (e.g. Walsh *et al.*, 2008). In this respect as relevant moderating sacrifices could be applied the monetary value of the purchase, the time and effort of searching and finding a proper product and the psychological supplier costs which are due to the waiting time of any redelivery. As to the actual quality of the retailers' complaint handling, the response dimensions of Davidow (2003) as the basis a set of corresponding variables indicating how customers have perceived complaint handling were defined in line with preliminary discussions with two local furniture manufacturer's sales managers and a small number of selected consumers which had experienced a failure. The level of quality by variables was measured in a scale of 1-5 (fully agree – do not agree at all). Variables are presented in Figure 1.

As any value loss can by social exchange and equity theory depend on the magnitude of failure (Smith *et al.* 1999), the key premise of this study is that the higher the incidental sacrifice the bigger the magnitude of perceived failure. Some products are more important than others just because they are more expensive (e.g. Blodgett *et al.* 1995) but also time and effort which is spent in the search and identification of a proper product may represent considerable indirect costs in addition to the supplier psychological costs a long redelivery time can in many ways cause as to human stress and frustration.

Given the quality of complaint handling, the moderating variables and their underlying logic of effect in case of failure is summarised as follows:



**Figure 1.** Sacrifices as moderating variables



The applied survey questionnaire was open for two weeks' time in spring 2010 in two furniture retail chains' web pages, yielding in total over 1000 customer responses comprising about 200 customers which had faced a failure. However, it turned out that one third had never told about the failure to the retailer which is why the actual number of acceptable responses remained 130. As a whole, 12 % of the failures were observed even before the product was taken out from the package, about half of the failures were found immediately after the delivery when the package was opened and around 26 % of the failures were found when the product was started to use. Only some 10 % of the failures were observed when the product had been used for a longer time.

## RESULTS

Pearson Correlations in Table 1 express to which extent each variable indicating the perceived practice of complaint handling can explain the future buying behaviour. All figures are significant at 0.01 level (2-tailed) and positive except the variable A 8 which logically has a negative value. As it can be seen, starting the corrective actions immediately and trying to make one's best can explain most of the future buying behaviour either in terms of intending to buy further or being ready to recommend the store to others

**Table 1.** Future buying behaviour by degree of explanation by perceived complaint handling in case of failure

Variables of complaint handling		Future buying behaviour	
		Repurchasing	Recommendation
		$r^2$	$r^2$
A 1.	Corrective actions were started immediately	.608	.663
A 2.	Origin of failure and consensus of compensation was easy to reach	.572	.608
A 3.	Instant compensation could be easily agreed with sales people	.450	.539
A 4.	The reason of the failure was told exactly	.416	.525
A 5.	They attempted to compensate what had happened	.319	.473
A 6.	They made their best to correct the failure	.667	.781
A 7.	It was easy to contact the personnel	.441	.488
A 8.	They were ready to listen	.548	.621
A 9.	They were unwilling to orientate the matter	-.478	-.434
A 10.	They were sorry about the failure	.485	.570

As it is indicated in Appendix 1, all variables A1-A10 were highly inter-correlated implying that the variables were basically measuring the same thing. The internal consistency of all variables was hence tested via Cronbach's Alpha too, the numerical value of which (0.863) was clearly above 0.60 considered in general an acceptable minimum (e.g. Metsämuuronen 2006). Against this background an exploring factor analysis was made for the next leading to a one factor model (F1) with an initial eigenvalue of 5,567 and the capability of explaining 55,7% of the total variance of the future buying behaviour. Given that the minimum acceptable numerical value of communality of a variable is generally considered to be 0,3 (e.g. Sass, 2010; Tabachnik and Fidell, 2000; Tinsley and Tinsley, 1987), all incoming variables were reasonably loaded to one factor only having the values A 1. = .763; A 2. = .495; A 3. = .582; A 4. = .345; A 5. = .351; A 6. = .770; A 7. = .353; A 8. = .721; A 9. = .322 and A 10. = .428. All other factors had eigenvalues < 1.00 and where hence unacceptable under the thumb rule that the minimum acceptable eigenvalue is 1.00 (e.g. Metsämuuronen, 2006).

Acknowledging that a moderating effect of a factor z to b can be expressed in the general form  $y = b_0 + b_1 x + b_2 xz + \epsilon$ , a corresponding regression analysis was made based on the established factor F1. In this respect over 50 % of the variance of future buying behaviour ( $R^2 = .0506$ ) could be explained, indicating that the quality of complaint handling is not at all meaningless. However, as to the moderating variables, none of them had any statistical effect as to their interaction between the practice of complaint handling and corresponding impact on future buying behaviour. Variables where excluded as the summary statistics of the stepwise procedure in Table 2 indicates. Beta coefficients remain in a relatively low level and the statistical significance of all four moderating variables is according to t-test far away even from the significance level of 0.05.

**Table 2.** Regression analysis: summary statistics (N= 114).

Model	Excluded variables			
	Variable	Beta	t	Stat.Sig.
1	B1	-.043	-.642	.522
	B2	-.039	-.510	.611
	B3	-.032	-.473	.637
	B4	-.052	-.781	.436
	Interaction F1x B1	.081	.468	.641
	Interaction F1x B2	-.192	-.981	.329
	Interaction F1x B3	.312	1,559	.122
	Interaction F1x B4	-.099	-.515	.608

Predictors in the model: Factor 1 (F1)

Dependent variable: Future buying behaviour (C1 + C2)

## CONCLUSIONS

As in any human affair, also purchasing and delivery of consumer products may cause customer dissatisfaction due to inherent product or delivery failures. In case of failure it is generally expected that by handling complaints properly retailers can gain confidence and sustain their reputation (e.g. Broadbridge and Marshall, 1995). By applying a set of 10 variables as indicators of the perceived complaint handling of customers a one factor model could be established explaining over half of the total variance of the future buying behaviour. The quality of the retailers' complaint handling accordingly has an impact on customer's future buying behaviour as in fact has been found elsewhere by largely applying a similar type of quality indicators (e.g. Rigopoulou et al. 2008). However, the key premise of the study - the higher the incidental sacrifice the higher its effect will be upon the perceived complaint handling and its impact on future buying behaviour (cf. Roehm and Brady 2007) - is not supported by the results. In line with the views of Ravald and Grönroos (1996) and Smith *et al.* (1999) the applied incidental moderating variables - indirect or supplier psychological costs in terms of money, time, effort and redelivery time – seem to have a negative impact but nevertheless it is not strong enough to create reasonable statistical significance. In short, the quality of the customer complaint handling has statistically significant impact on customer's future buying behaviour independent of the level of incidental sacrifices.

In case the time and effort used in searching for a proper product is in question one has to be cautious because there are people who instead of sacrifice rather enjoy shopping and hunting for bargains (e.g. Cox *et al.* 2003). Also worth noting is that despite the fact that benefits and sacrifice may be perceived universally by human beings on a global basis there are also cultural differences which define which specific things are valued most and vice versa. In this respect it is highly recommended that a similar type of study will be done separately in each market. Also a much larger audience would be desirable in order to identify considerably larger number of customers who have experienced a failure just in the near past because the inherent problem in this respect regards the human memory. Also the measurement basis of sacrifices deserves to be studied more in detail by adding a number of other relevant sacrifices in addition to the few ones applied in this study.

### Appendix 1. Correlation matrix variables A1 - A10

	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A10
A 1	1.00	.655	.646	.511	.478	.790	.595	.766	-.525	.531
A 2	.655	1.00	.699	.450	.561	.728	.455	.716	-.533	.458
A 3	.646	.699	1.00	.498	.573	.655	.389	.585	-.352	.448
A 4	.511	.450	.498	1.00	.441	.552	.357	.482	-.298	.481
A 5	.478	.561	.573	.441	1.00	.568	.354	.437	-.259	.413
A 6	.790	.728	.665	.552	.568	1.00	.513	.749	-.489	.592
A 7	.595	.455	.389	.357	.354	.513	1.00	.552	-.385	.409
A 8	.766	.716	.585	.482	.437	.749	.552	1.00	-.548	.660
A 9	-.525	-.533	-.352	-.298	-.259	-.489	-.385	-.548	1.00	-.350
A10	.531	.458	.448	.481	.413	.592	.409	.660	-.350	1.00

## REFERENCES

- Baumgartner, H. and Steenkamp, J-B. E.M. "Exploratory consumer buying behaviour: Conceptualization and measurement", *International Journal of Research in Marketing*, Vol. 13 No.2, (1996): 121-137.
- Bell, Simon. J. and Luddington, James. A. "Coping with customer complaints" *Journal of Service Research*, Vol. 8 (2006): 221-233.
- Blodgett, Jeffrey. G., Wakefield, Kirk. L. and Banes, James. H. "The effects of customer service on consumer complaining behaviour" *Journal of Services Marketing*, Vol. 9, No. 4 (1995): 31- 42.
- Bolkan, San and Daly, John. "Organizational responses to consumer complaints: A re-examination of the impact of organizational messages in response to service and product-based failures". *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 21 (2009):1-22.
- Bosch, Verónica. Gonzáles. and Enriquez, Francisco. Tamayo. "TQM and QFD: exploiting a customer complaint management system." *International Journal of Quality and Reliability Management*, Vol. 22, No.1 (2005): 30-37
- Bowman, C. and Ambrosini, V. "Value Creation versus Value Capture: Towards a Coherent Definition of Value in Strategy." *British Journal of Management*, Vol. 11, No.1 (2000): 1-15.
- Broadbridge, Adelina and Marshall, Julie. "Consumer complaint behaviour: the case of electrical goods" *International Journal of Retail and Distribution Management*, Vol. 23, No. 9 (1995):8-18
- Chernatory de Leslie., Harris, Fiona. and Dall'Olmo Riley, Francesca. "Added value: its nature, roles and sustainability" *European Journal of Marketing*, Vol. 34, No.1/2 (2000):39-56.
- Cox, Anthony.D.; Cox, Dena and Anderson, Ronald. "Reassessing the pleasures of store shopping" *Journal of Business research*, vol. 58 (2005):250-259.
- Davidow, Moshe. "Organizational responses to customer complaints: What works and what doesn't" *Journal of Service Research*. Vol. 5, No. 3 (February 2003): 225-250.
- Davidow, Moshe. "The bottom line impact of organizational responses to customer complaints". *Journal of Hospitality & Tourism Research*, Vol. 24 (2000): 473-490.
- Eggert, Andreas. and Ulaga, Wolfgang. "Customer perceived value: a substitute for satisfaction in business markets." *Journal of Business & Industrial Marketing*, Vol. 17, No. 2/3 (2002):107 - 118
- Gilmore, A., Carson, D., O'Donnell.A. and Cummins, D. " Added value: A qualitative assessment of SME marketing." *Irish Marketing Review*, Vol.12, No.1 (1999): 27-35.
- Grewal, D. and Levy, M. "Retailing research: Past, present, and future." *Journal of Retailing*, Vol. 83, No.4 (2007): 447-464.
- Grönroos, C. " On defining marketing: finding a new roadmap for marketing." *Marketing Theory*, Vol. 6, No. 4 (2006):395-417.
- Hansemark, O. C. and Albinson, M. "Customer Satisfaction and Retention: The Experiences of Individual Employees." *Managing Service Quality*, Vol.14, No.1 (2004):40-57
- Higgins, E T. "Value from Hedonic Experience and Engagement." *Psychological Review*, Vol. 113, No. 3 (2006): 439-460.

Homburg, Christian., Koschate, Nicole and Wayne D. Hoyer. "The Role of Cognition and Affect in the Formation of Customer Satisfaction: A Dynamic Perspective". *Journal of Marketing*, Vol. 70 (2006): 21–31

Huppertz, John.W. "Firm's complaint handling policies and consumer complaint voicing". *Journal of Consumer Marketing*, Vol.24, No. 7 (2007):428-437.

Lapierre, J. "Customer-perceived value in industrial contexts. *Journal of Industrial and Business Marketing*, " Vol. 15, No. 2/3(2000): 122-40.

Lam, Shun. Yin., Shankar, Venkatesh. and Murthy, M.Krishna. Erramill. Bvsan. "Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context". *Journal of the Academy of Marketing Sciences*, Vol.32, No. 3 (2004): 293-311

Maio, G R. and Olson, J M. "Relations between Values, Attitudes, and Behavioural Intentions: The Moderating Role of Attitude Function." *Journal of Experimental Social Psychology*, Vol.31, No.3 (1995): 266-285.

Maxham III, James G. and Netemeyer, Richard.G. "Modeling customer perceptions of complaint handling over time: the effects of perceived justice on satisfaction and intent" *Journal of Retailing*, Vol. 78 (2002): 239-252.

Metsämuuronen, Jari. (2006), *Tutkimuksen tekemisen perusteet ihmistieteissä*. Gummerus Kirjapaino Oy. Jyväskylä

Meyer, Christopher. and Schwager, Andre. "Understanding customer experience". *Harvard Business Review*, (February 2007): 117-126.

Nyer, Prashanth.U. "An investigation into whether complaining can cause increased customer satisfaction". *Journal of Consumer Marketing*, Vol. 17, No.1 (2000): 9-19

Payne, A F T., Holt, S. "Diagnosing customer value creation in relationship marketing." *British Journal of Management*, Vol.12, No. 2 (2001): 159-82.

Priluck, Randi and Lala, Vishal."The impact of the recovery paradox on retailer-customer relationships." *Managing Service Quality*, Vol. 19, No.1 (2009):42-59.

Ravald, A. and Grönroos, C. "The value concepts and relationship marketing." *European Journal of Marketing*, Vol. 30, No. 2 (1996): 19-30.

Rigopoulou; Irini.D.; Chaniotakis, Ionnis.E.; Lymperopoulus, Constantine and Siomkos, George.I. "After-sales service quality as an antecedent of customer satisfaction." *Managing Service Quality*, Vol. 18, No. 5 (2008):512-527

Roehm, Michelle.L. and Brady, Michael.K. "Consumer responses to performance failures by high-equity brands." *Journal of Consumer Research*, Vol. 34 (December 2007):537-545

Sánchez-Fernández, R. and Iniesta-Bonillo, M A. "The concept of perceived value: a systematic review of the research." *Marketing Theory*, Vol.7, No.4 (2007): 427-451.

Sánchez, J., Callarisa, L., Rodríguez, R M. and Moliner, M A. "Perceived value of tourism product." *Tourism Management*, Vol. 27, No.3 (2006): 394-409.

Sass, Daniel.A. "Factor loading estimation error and stability using exploratory factor analysis." *Educational and Psychological Measurement*, Vol. 70, No. 4 (2010): 557-577.

Schneider, Benjamin and Bowen, David. E. "Understanding Customer Delight and Outrage" *Sloan Management Review*, (Fall 1999): 35-45.

- Schwartz, S H. "Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries." *Advances in Experimental Social Psychology*, Vol. 25 (1992): 1-65.
- Singh, Jagdip and Widing II, Robert. "What occurs once consumers complain?. A theoretical model for understanding satisfaction/dissatisfaction outcomes of complaint responses." *European Journal of Marketing*, Vol. 25, No. 5 (1991): 30-46
- Slater, S F., Narver, J C. "Intelligence Generation and Superior Customer Value." *Journal of the Academy of Marketing Science*, Vol. 28, No.1 (2000): 120-127.
- Smith, B J. and Colgate, M. "Customer value creation: A practical framework." *Journal of Marketing Theory and Practice*, Vol. 15, No.1 (2007): 7-23.
- Smith, Amy. K., Bolton, Ruth. N. and Wganer, Janet. "A model of customer satisfaction with service encounters involving failure and recovery" *Journal of Marketing Research*, Vol. 36 (August 1999): 356-372.
- Stephens, Nancy and Gwinner, Kevin. P. "Why Don't Some People Complain? A Cognitive-Emotive Process Model of Consumer Complaint Behavior". *Journal of the Academy of Marketing Science*, Vol. 26, No. 3 (1998): 172-189.
- Sweeney, J.C. and Soutar, G.N. "Consumer perceived value: The development of a multiple item scale." *Journal of Retailing*, Vol. 77, No. 2 (2001): 203-230.
- Tabachnik, Barbara.G. and Fidell, Linda.S.. *Using multivariate statistics*, Fourth Edition, Boston, MA: Allyn and Bacon, 2000.
- Tam, J L M. "Customer Satisfaction, Service Quality and Perceived Value: An Integrative Model", *Journal of Marketing Management*, Vol. 20, No. 7/8 (2004): 897-917.
- Tinsley, Howard E A. and Tinsley, Diane J. "Uses of factor analysis on counseling psychology research." *Journal of Counseling Psychology*, Vol. 34, No. 4 (1987): 414-424.
- Uusitalo, Kari; Hakala, Henri and Kautonen Teemu. "Customer complaints as a source of customer-focused process improvement: A constructive case study." *International Journal of Business Science and Applied Management*, Vol. 3, Issue 1 (2008):2-13
- Varela-Neira, Concepción; Vázquez-Casielles, Rodolfo and Iglesias, Victor. "Explaining customer satisfaction with complaint handling". *International Journal of Bank Marketing*, Vol. 28, No.2 (2010):88-112.
- Vargo, Stephen. L. and Lusch, Robert. F. "Evolving new dominant logic for marketing". *Journal of Marketing*, Vol. 68 (2004): 1-17.
- Verhoef, P C., Lemon, K N., Parasuraman, A., Roggeveen, A., Tsiros, M. and Schlesinger, L. "A Customer Experience creation: Determinants, Dynamics and Management Strategies." *Journal of Retailing*, Vol. 85; No.1 (2009): 31-41.
- Walsh, Gianfranco; Evanschitzky, Heiner and Wunderlich, Maren. "Identification and analysis of moderator variables." *European Journal of Marketing*, Vol. 42, No.9/10 (2008): 977-1004.
- Woodall, T. Conceptualizing value for customer: An attributional, structural and dispositional analyses. *Academy of Marketing Science Review* 12 (2003), from <http://www.amsreview.org/articles/woodall12-2003.pdf>
- Woodruff, R B. "Customer Value: The Next Source for Competitive Advantage." *Journal of the Academy of Marketing Science*, Vol 25, No. 2 (1997): 139-153.

# STRATEGIC ALLIANCE GOVERNANCE

**Renato R. Lyra and T. Diana L. van Aduard de Macedo-Soares**  
**Pontifical Catholic University of Rio de Janeiro, Brazil**

## ABSTRACT

*The aim of this article is to present the results of a bibliographical investigation, which sought to provide guidelines regarding recommended governance practices for firms involved in strategic alliances at domestic and international levels, by identifying the principal factors that should be considered when choosing the most appropriate governance form for a new strategic alliance. This article contributes to the body of knowledge regarding factors that influence the choice of governance form in strategic alliances, by seeking to incorporate concepts and proposals available in the internationalization and corporate governance literature to the alliance governance field. In addition, it intends to be a source of guidance for executives involved in the development of international partnerships.*

## INTRODUCTION

The main studies of alliances between firms focus on the formation of strategic alliances, how alliances create value and the evolution of strategic alliances. In contrast, relatively little research has been carried out on alliance governance. Yet, as Kale and Singh (2009) argue, governance plays a key role for the successful management of strategic alliances. This is relevant because many alliances fail (Bamford, Gomes-Casseres and Robinson, 2004) and one of the reasons is a lack of alliance management mechanisms, especially governance mechanisms (Kale and Singh, 2009), and another reason is a member's opportunistic behavior (Das 2005).

The objective of this article is to present the results of a bibliographical investigation, which sought to identify the principal factors that should be considered when choosing the most appropriate governance form for a new strategic alliance. Thus it intends to be a source of guidance regarding governance practices and forms for executives of domestic and international firms involved in strategic alliances.

This article has a particular concern with international alliance governance because there are differences between countries that influence the governance forms adopted by firms. These differences are typically related to cultural aspects, legal systems and the enforcing of laws (Smirnova, Naudé, Henneberg, Mouzas and Kouchtch, 2011, Wang, 2007, Naicker and Saungweme, 2009).

## STRATEGIC ALLIANCE GOVERNANCE

The research at issue here used Gulati's (1998) definition of strategic alliances: **strategic alliances** are voluntary arrangements between firms involving the exchange, sharing or co-development of products, technologies and services. According to Thorelli (1986), strategic alliances are quite common in international business, due largely to the importance of trust in trade between nations. Other motives are the risks and difficulties associated with international trade.

**Corporate governance** (Carvalho, 2006) refers to a system that organizes and balances organisms and powers within a firm. The term is usually related to the management, control, and distribution of rights and responsibilities between a firm's various participants and the monitoring mechanisms established by its controlling shareholders. Carvalho observes that the different definitions of corporate governance agree that it

consists of “a set of principles and practices that seek to minimize potential conflicts of interest between the firm’s agents”.

Carvalho’s analysis of corporate governance suggests that the study of governance between two firms began with **Agency Theory**. According to this theory, an alliance or network consists of an association of firms with a network of explicit and implicit contracts that establish the functions, rights and duties of all participants. In this case, companies use imperfect contracts to achieve balance between conflicting objectives, given that it is difficult to foresee all potential future conflicts between shareholders and a firm’s management. According to this theory, a governance structure’s main concern is to develop efficient mechanisms that assure alignment between member firms.

In an alliance or network, governance involves the use of authority and collaboration structures in order to manage resource allocation, and to coordinate and control actions of the organizations involved (Provan and Kenis, 2008). In recent years, the analysis of governance mechanisms in strategic alliances has focused on contracting efficiency, in which a trade-off between contractual and hierarchical arrangements determines the form of governance, the latter typically considering joint venture formation (Mitsuhashi, Shane and Sine, 2008).

Another approach to alliance governance involves relational analysis. Morgan and Hunt (1994) distinguish between discrete transactions with a short duration and well-defined beginning and end, and relational transactions that are related to previous agreements and last longer. These authors suggest that commitment and trust constructs are essential to a relation because they help to preserve it, increase resistance to the adoption by one of the parties of alternatives outside the relation and reduce the risk perceived by both parties in the relation.

In line with these arguments, Das (2005), in an analysis of the risks of strategic alliances, considers that risk in alliances may be divided into performance risk and relational risk. The former is similar to what occurs naturally in a single firm (without considering the effects of an alliance or network), while the latter – relational risk – is typical of strategic alliances or networks. Relational risk in alliances and networks arises from the possibility of one of the parties behaving in an opportunistic or selfish mode, such as withholding or distorting information that is relevant to the partners, or failing to engage in activities or provide resources that are necessary for the alliance’s success.

In order to minimize relational risk, Das suggests the use of governance mechanisms designed to improve the relationship. These mechanisms involve contracts (supply relationships, R&D agreements, licensing), equity-based agreements (joint ventures or minority stakes), relationship specific assets, monitoring, a participative decision-making process and training on alliance processes and behaviors.

The academic terminology describing governance processes and structures has no consistent pattern, and the meaning of terms and classifications varies considerably. This research adopted a distinction used by Hoetker and Mellewigt (2009), characterizing governance in its formal and relational mechanisms. Other categorizations of governance used in the literature are “contractual governance” (Nielsen, 2010, Lee and Cavusgil, 2006, Ferguson, Paulin and Bergeron, 2005), “procedural governance” (Nielsen, 2010) “informal governance” or “informal control” (Dekker, 2004, Puranam and Vanneste, 2009). In some cases, the term relational governance describes alliance governance in general, not distinguishing between formal and informal alliance governance mechanisms (Macedo-Soares, 2011).

Formal governance mechanisms are non-personalized processes (independent of the people involved), based on objective metrics and supported by contracts. Relational governance mechanisms, on the other hand, are based on relations characterized by a high level of communication, exchange of information and trust. These relational mechanisms are usually linked to particular individuals and their relationships (Eisenhart, *apud* Hoetker and Mellewigt 2009). Some examples of relational mechanisms are the creating of inter-organizational teams, task forces, committees, direct inter-organizational contacts, a shared decision-making process, and alternative ways of resolving disputes or even the transfer of managers between alliance partners. In order to analyze relational governance mechanisms it is also necessary to define the concept of **relational capital** which refers to the level of trust, respect and friendship that develops between partners due to individual-level interactions between parties (Kale, Singh and Perlmutter, 2000).

## FORMAL GOVERNANCE MECHANISMS

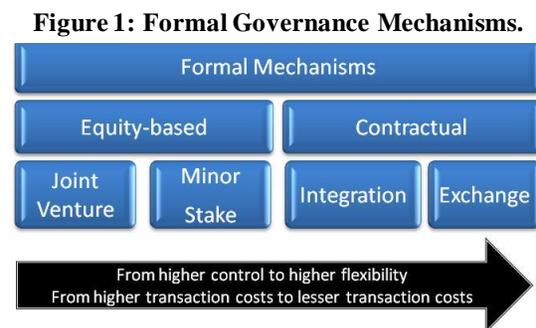
According to the literature, the main formal governance structures in alliances and networks are joint ventures, contractual alliances and alliances with minority stakes. Equity-based alliances can be divided into joint ventures and alliances with minority stake (Gulati and Singh, 1998), with greater hierarchical control in the former than in the latter. Osborn and Baughn (1990) argue that equity-based alliances are the best formal governance structure to align objectives and to reduce the possibility of opportunistic behavior, as the partner companies distribute results (positive or negative) obtained through the joint venture. In addition, it is easier to implement monitoring mechanisms in a joint-venture as it does not require a complete specification of activities, behaviors or processes. These authors warn that it may be difficult to manage shared ownership in a joint venture, and this may lead to slower decision-making.

Another formal governance structure involves the use of contracts as a control mechanism. Some authors – for example, Chen and Chen (2003) – argue that the use of contractual controls offers advantages over the use of joint ventures, such as a greater flexibility, easier dissolution, lower public impact, easier negotiation (comparing to equity negotiation) and a lower legal liability. However, the effectiveness of using contracts as control mechanisms in alliances may be limited in cases where there is a significant concern with appropriation in the alliance. In this situation, a structure that allows a greater degree of hierarchical control may be desirable.

According to Das (2005), contracts determine the policies and procedures that should be followed by alliance partners, but their preparation is costly in terms of resources (managerial, legal or financial). As the contract gets more detailed, its marginal benefits become lower and its incremental cost becomes greater. In addition, it would be illusory to expect that contracts – no matter how detailed – could provide a complete protection against future uncertainties.

In addition to the distinction between alliances controlled through equity or contracts based on the transaction cost theory, Chen and Chen (2003) propose a second distinction within the contractual alliance group: alliances involving the exchange of resources and those involving integration, in which partners share resources. They argue that the exchange or sharing of resources influences the choice of the appropriate governance mechanism – joint venture or contractual.

Based on these classifications, Figure 1 shows different types of formal governance mechanisms. The level of control associated with each mechanism reduces as we look at Figure 1 from left to right, in opposition



to the flexibility of the firm in relation to the alliance. In other words, a joint venture is the formal governance mechanism that allows for a greater level of control, but at the cost of less flexibility. In contrast, contractual exchange alliances represent lower control levels, but are more flexible. The transaction costs associated with each governance mechanism are expected to diminish as the firm moves from joint ventures towards contractual governance mechanisms.

Regarding factors that lead firms to select a formal governance structure, Osborn & Baughn (1990) analyzed 153 alliances and verified that firms that wish to conduct research tend to form joint ventures to reduce the risk of appropriation – in line with other results presented in the literature (Teng and Das, 2008, Gulati and Singh, 1998). On the other hand, in environments characterized by high levels of technological uncertainty, firms prefer to use contractual structures owing to their greater flexibility.

In another study, Teng and Das (2008) examined 765 alliances in order to verify the influence of most critical factors in the choice of forms of governance, considering only formal mechanisms. In their sample, they verified that the following factors were significant: alliance objectives (e.g. R&D development or joint marketing), managerial experience on alliances and existence of international partners (international alliances

tend to be based on equity, a formal mechanism). Gulati and Singh (1998) show that when alliances involve international partners, European firms tend to have greater use of equity-based agreements, in contrast with Japanese and U.S. firms, where this behavior is not particularly significant.

## RELATIONAL GOVERNANCE MECHANISMS

Most studies of strategic alliance governance have analyzed the formal aspects of these relations. However, academics in the corporate strategy area are increasingly focusing on the relational aspects of governance. Dyer and Singh (1998), for example, who consider that one way of gaining competitive advantage in an alliance is through effective governance mechanisms, identified two relational factors that can facilitate effective governance. These are i) partners' skills in the use of self-enforcing mechanisms, i.e. those that do not involve third parties (e.g. trust and reputation), and ii) partners' skills in the use of informal mechanisms that sustain the alliance. They observe that governance based solely on contracts would rely on judicial or arbitration courts to solve conflicts, which is money and time consuming.

According to Dyer and Singh (1998), self-enforcing mechanisms are more effective than mechanisms that involve other parties (such as the judicial system, for example), because they reduce transaction costs and maximize initiatives that create value.

According to Kale *et al.* (2000), relational capital creates a basis for learning and the transfer of knowledge, as well as for reducing the risk of opportunistic behavior by one of the parties involved. Indeed, in a survey of 212 firms, Kale *et al.* (2000) verified that relational capital is significantly related to the degree of learning attained and that a conflict management process based on intensive contacts and communication is positively related to learning success. They also found a positive and significant relation between the use of relational governance mechanisms and the protection of proprietary assets.

**Figure 2: Relational Governance Mechanisms**



Trust constitutes one of the main aspects of relational capital. It influences governance structure and alliance performance, as shown by the study undertaken by Gulati and Nickerson (2008). They analyzed how preexisting inter-organizational trust influences the choice of governance structure and hence the relationship's performance, and found that a high level of inter-organizational trust increases the likelihood of a less formal (and less expensive) governance structure. These authors suggest that trust causes a substitution effect in the choice of governance structure, improves the relationship's performance and reduces the level of inter-organizational conflict, no matter which type of governance is used.

In a relational governance structure, various mechanisms allow conflicts to be resolved based on open communication and a preference for achieving solutions that benefit both parties (Kale *et al.*, 2000). However, a relational governance structure cannot be created overnight. A series of interactions between teams from each firm is necessary to develop personal ties that foster cooperation and growth in inter-organizational trust (Hoetker and Mellewigt, 2009).

Although the use of relational governance mechanisms has several advantages, one must not ignore the disadvantages. The first is that such mechanisms cannot be enforced (or are, at least, difficult to enforce) in relations between firms with a short history of contacts and that have not yet been able to develop the personal processes and relationships needed to establish relational mechanisms. Secondly, it may take longer to set up a relational agreement than a formal one. This is the case of relational societies that require a certain degree of trust between parties before a relation can be developed. Thirdly, firms may end up prolonging a low-performance relationship due to a greater acceptance of unexpected aspects (e.g. costs) in order to maintain the relationship (Hoetker and Mellewigt, 2009). However, we should point out that maintaining an underperforming relation is above all a managerial decision and not inherent to the relational governance model (although it may be induced by this model).

Adopting a different approach, Nielsen (2010) defines contractual governance as the distribution of rights between the alliance partners through the use of contracts, directly affecting the alliance's structure. He uses the term **processual governance** to describe the coordination of procedures and interactions related to the knowledge management process during an alliance's evolution. In his view, an efficient governance structure is the result of an adaptation process and that procedural governance refers to the continuous coordination between parties, through which the related firms learn to adjust their activities to those of their partners. The approach proposed by Nielsen addresses aspects of formal governance (in the contractual case) and relational governance (in the relational case) that do not conflict with the other proposals regarding governance presented above.

Based on these classifications, Figure 2 presents a list of relational governance mechanisms. Relational mechanisms of an organizational nature have a greater level of control than relational mechanisms of an individual kind. The latter are usually associated with executives (such as an account director) who manage to develop partnerships with other firms based on their personal relations.

## INTERNATIONAL CONTEXT

The relation between firms and the governance model adopted depends on the context of each country in which these firms are located. Although corporate governance typically deals with the relationships between stakeholders in a single firm, cross-border comparisons of governance systems may serve to illustrate countries' different characteristics. For example, in countries where family firms or small groups of shareholders with effective control of firms (in contrast to firms with diluted control) predominate, the level of conflict between a firm's shareholders and agents is relatively low. This is so because the person or group that controls the firm (controlling shareholder) also usually controls the firm's managers. In these firms, the greatest conflicts exist between the controlling shareholder and minority shareholders (Carvalho, 2006). This is the case in Brazil, where the corporate governance structure focuses on protecting minority investors. In countries which use the Anglo-Saxon corporate governance model, in which control is diluted among a large number of shareholders, the main conflict of interest addressed by the corporate governance structure occurs between a firm's managers and its shareholders.

Corporate governance systems also vary according to countries' respective legal environments, especially with regard to law enforcement. La Porta, Lopez-De-Silanes, Schleifer & Vishny (1998) classify corporate governance models according to the legal system: the common law system, which exists in most English speaking countries, and the French civil law system, which is based on Roman law. These authors consider that many countries have low levels of legal investor protection due to their civil law system.

This is the case of some Latin America and Southeast Asia countries, where a highly concentrated ownership structure involving a small number of shareholders characterizes the governance system. There is often a single controlling family and a clear separation between dividend and control rights (Carvalho, 2006).

Data from the World Bank's "Doing Business" project ([www.doingbusiness.org](http://www.doingbusiness.org)) is an evidence of the low level of protection afforded to investors in some countries. This project assesses the business environment in various countries and one of the main points assessed is contract enforcement. This indicator assesses the time, cost and number of procedures involved from the beginning of the court case to the end of the dispute, for small and medium-sized firms. Table 1 shows some examples of differences in the ease – or feasibility – of enforcing contracts in some countries or regions (2010 figures). Note that it takes an average of 300 days to resolve a commercial dispute in the USA - typically absorbing 14.4% of the amount claimed, and a court case in India takes on average 1.420 days and absorbs almost 40% of the amount claimed. Thus, contractual mechanisms are not particularly efficient in countries where it is difficult to execute these court cases or where the cost of doing so is remarkably high.

**Table 1: Ease of enforcing contracts (source: [www.doingbusiness.org](http://www.doingbusiness.org)).**

Economy	Num. of procedures	Amount of Time (days)	Cost (% claimed)
East Asia and Pacific	37.3	531.8	48.5
Latin America & the Caribbean	39.8	707	31.2
Australia	28	395	20.7
Brazil	45	616	16.5

Chile	36	480	28.6
China	34	406	11.1
Germany	30	394	14.4
India	46	1.420	39.6
Japan	30	360	22.7
Mexico	38	415	32.0
Russia	37	281	13.4
South Africa	30	600	33.2
Unites States	32	300	14.4

Besides each country's legal context, another factor to be considered is the fact that some markets – especially in emerging countries – are in a transition stage. For example, Smirnova *et al.* (2011) made a study of Russian firms and found that inter-organizational relationships were strongly influenced by the country's transition process, its business culture and personal relations. They called attention to the fact that trust between firms in present-day Russia is low, but can be compensated by interpersonal trust.

Nielsen (2007), in a study of Danish firms' alliances with foreign firms, also found significant differences between alliance performance and the characteristics of partner firms' countries of origin. In his research, he evidenced significant relations between alliance performance and factors such as collaborative knowledge, trust, complementarity and cultural distance – with this last factor showing how perceived cultural differences can affect an international alliance's performance.

Cultural aspects also play a prominent role in governing alliance structure, remarkably in societies that value inter-personal relationships in negotiations, as in the case of China, Japan and Brazil. It is thus argued here that, in such societies, companies should develop an appropriate balance between formal and relational governance, avoiding too formal governance structures based solely on contracts and monitoring mechanisms. This view contrasts with that of Johnson and Neave (2006), for example, who believe (based on a transactional approach) that managing cultural differences in cross-national alliances requires a higher degree of monitoring.

Wang (2007) highlights the differences between concepts usually addressed in the relationship between firms and the corresponding concepts used in China as, for example, in the case of the differences between relationship marketing and Chinese *Guanxi*, or between trust and *xinyong*. The term ***Guanxi*** (formed by the words Guan [door / gate] + xi [connection]) usually refers to social relationships or connections based on mutual interest and benefit, and a link between partners related to the existence of reciprocal obligations and the expectation of continuous cooperation. In the case of trust, Wang indicates that there are significant differences between the concept of trust and ***xinyong*** – the closest equivalent in Chinese – and that it has little impact on the development and maintenance of *guanxi* (in contrast to the central role usually attributed to trust in the study of relationships between Western firms). Wang suggests that, instead of trust between parties, obligations and mutual assurances guide the relationship in *guanxi*. In addition, the author emphasizes the universal nature of relationship marketing: the relationship network is open to other partners, especially as trust between the parties involved characterizes Western societies. In contrast, a more closed network characterizes a *guanxi* because Chinese society limits trust to those who are the closest ones (typically members of the same family).

In sum, besides the characteristics of different types of formal and relational mechanisms (with their advantages and disadvantages), the choice of governance model for an alliance or network between firms from different countries should take into consideration aspects such as the ease of enforcing legal contracts, cultural differences in relationships and other characteristics of the countries involved, such their level of development.

## STRATEGIC ASPECTS

The main issue regarding the governance of an inter-firm relation is to select an appropriate control mechanism. It should maximize results and minimize the risk of opportunistic behavior in the partnership. Academic literature illustrates different factors that influence the choice of governance mechanisms, such as alliance objectives, the industry in which the firm operates, its size, the level of technological uncertainty, the resources involved, inter-organizational trust and previous relationship ties (see examples in Table 2). These diverse factors are typically related to the efficiency of governance mechanisms in terms of their ability to reduce

transaction costs. However, academic research into firms' global strategies has shown that, when setting up alliances or networks, multinational firms are more concerned with establishing their global strategic positioning than with transaction costs per se (Osborn and Baughn, 1990).

In line with the issue of the influence of strategic factors on governance structures, Hoffman (2007) analyzes how firms manage a portfolio of alliances, using a classification of three different strategies that can enable them to face a complex environment characterized by change. Thus, firms can: 1) **adapt** reactively to changes in their environment 2) actively **shape** the development of the environment, or 3) seek to **stabilize** the environment, avoiding organizational change.

In order to develop the second strategy, firms may engage in a large number of alliances in order to develop new resources, new capabilities or exploit existing opportunities. In this situation, firms need to use flexible ways of managing this set of relations efficiently. Even in the case of an environmental adaptation strategy, firms need to enhance their resource use and flexibility without undertaking large investments. They also need to develop flexible mechanisms to manage the various alliances they establish. Only firms that are seeking to stabilize their environment can use more formal and rigid mechanisms, as in the case of longer term supply or distribution contracts.

**Table 2: Examples of factors affecting the choice of governance mechanisms.**

<b>Factors</b>	<b>References</b>
<b>Strategic fit</b> between partners	Macedo-Soares (2011), Nielsen (2010)
<b>Enforcement</b> of agreements	Dyer and Singh (1998), La Porta et al. (2000)
Type of <b>asset</b> involved	Chen and Chen (2003), Kale et al. (2000), Hoetcker and Mellewigt (2009)
Partner <b>commitment</b>	Morgan and Hunt (1994), Pillai and Sharma (2003)
<b>Trust</b> between partners	Morgan and Hunt (1994), Dyer and Singh (1998), Gullati and Nickerson (2008), Pillai and Sharma (2003)
<b>Cultural</b> aspects	Wang (2007), Smirnova et al. (2011)
Management <b>experience</b> of partners	Teng and Das (2008)
Technological <b>uncertainty</b>	Osborn and Baughn (1990)
<b>Non-availability</b> of other partners	Dyer and Singh (1998)
Asset <b>interconnection</b>	Dyer and Singh (1998)
<b>Relation-specific investments</b>	Dyer and Singh (1998)
Organizational <b>moment</b>	Mitsuhashi et al. (2008)
Alliance <b>objectives</b>	Hoffmann (2007), Teng and Das (2008)
Existence of <b>international partners</b>	Teng and Das (2008)
Joint <b>research and development</b>	Osborn and Baughn (1990), Teng and Das (2008)
<b>Ownership</b> structure of firms involved	Carvalho (2006)
<b>Number</b> of alliances managed	Hoffmann (2007)
<b>Network of relationships</b> of parties involved	Rowley et al. (2000)
Pre-existing <b>relationships</b>	Hoetcker and Mellewigt (2009)
<b>Reputation</b> of partner firms	Dyer and Singh (1998)
<b>Size</b> of firms	Osborn and Baughn (1990), Chen and Chen (2003)

Besides formal and relational aspects and those related to the firm's strategic goals, it may be necessary to consider the effect of the **organizational moment** on the choice of a form of inter-organizational governance. Mitsuhashi et al. (2008) examined the choice of a form of governance in 1510 franchises operating in North America. They suggest that the form of organizational governance evolves over time. Therefore, the organizational moment – defined as the tendency to maintain or expand the emphasis and direction of previous strategic actions – may be used to predict the form of governance adopted by the firms analyzed and an explanation of the choice of the forms of governance should incorporate dynamic processes.

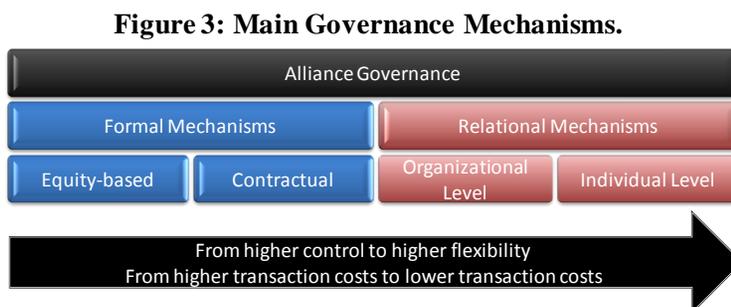
The question of the organizational moment can be associated with the use of relational governance mechanisms, which depend on the development of a minimum level of trust and communication between the firms involved that may not exist at the beginning of an alliance or network between firms. In this case, even if the firms consider that relational governance mechanisms are the most appropriate for the relation they are building, they may begin the relationship by instituting formal governance mechanisms. This would be the case

of a technology-development agreement characterized by a high level of innovation and uncertainty that, at the beginning would use more detailed contracts, stringent monitoring processes and conflict-resolution processes involving third parties.

This view is in line with Hoetker and Mellewig (2009), who argue that formal governance mechanisms are not so dependent on pre-existing interactions, and suggest that the initial activities of an alliance should involve more agreements related to proprietary assets than knowledge-based assets. Firms could thus adopt relational governance mechanisms progressively, as trust and other relational attributes develop. This thesis is also corroborated by Mitsuhashi *et al.* (2008), who argue that even the efficient use of contracts (as a form of governance) does not take into consideration the dynamic processes involved in the evolution of a firm's governance. Reuer and Ariño's (2007) findings also support the idea that prior alliances between firms lead them to specify fewer provisions relating to the coordination of the alliance. This reduction in the contractual provisions for alliance coordination suggests that these provisions could have been replaced by relational governance mechanisms.

In relation to the progression from formal governance to relational governance (in situations where the latter is more appropriate), Gopalakrishna Pillai and Sharma (2003) observe that at each stage of the relation, both transactional and formal factors are present, and the factors linked to a relational approach may diminish after having attained a peak. This reduction in relational factors may signal the beginning of a disagreement or a change of strategy by one of the parties involved. The importance of complementing formal with relational governance mechanisms is also defended by Macedo-Soares (2011).

Finally, from the perspective of gaining sustainable competitive advantage through alliances or relationship networks, Dyer and Singh (1998) suggest that formal mechanisms are easier to imitate than informal ones (relational). The authors argue that informal mechanisms are socially complex, specific to each relation, and take longer to develop than formal ones, characteristics that contribute to the inimitability of informal mechanisms and consequently their competitive advantage.



## FINAL CONSIDERATIONS

This article presents the results of research that identified the main factors that should be considered when choosing the most appropriate governance form for a strategic alliance. Special emphasis was put on international relations as they involve each country's different characteristics that may influence the choice of governance mechanisms. Existing governance mechanisms were classified into formal and relational mechanisms as this classification is simple enough to be used by other researchers and broad enough to classify any governance mechanism. A summary table with the main strategic alliance governance mechanisms is given in Figure 3 (Lower level classifications are not shown for the sake of simplicity, as they were presented in Figures 1 and 2).

In the literature, it became obvious that alliance management requires a suitable balance between formal and relational mechanisms. Therefore, firms in alliances should evaluate both their formal and relational governance mechanisms so as to strike the right balance between these and contribute to more effective alliance governance and, consequently, performance. Further research is thus recommended on how to carry out this assessment and ensure the desirable balance between governance mechanisms.

## REFERENCES

Bamford, J.; Gomes-Casseres, B.; Robinson, M., *Envisioning collaboration: Mastering alliance strategies*, San Francisco: Jossey-Bass, 2004.

Carvalho, A. L., *Governança corporativa e sucesso empresarial: Melhores práticas para aumentar o valor da firma*. São Paulo: Saraiva, 2006.

Chen, H.; Chen, T.-J., "Governance structures in strategic alliances: transaction cost versus resource-based perspective," *Journal of World Business*, v. 38, n. 1, (2003): 1-14.

Das, T. K., "Deceitful behaviors of alliance partners: potential and prevention." *Management Decision*, v. 43, (2005): 706-719.

Dekker, H. C., "Control of inter-organizational relationships: evidence on appropriation concerns and coordination requirements." *Accounting, Organizations and Society*, v. 29, n. 1, (2004): 27-49.

Dyer, J. H.; Singh, H., "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage." *The Academy of Management Review*, v. 23, n. 4, (1998): 660-679.

Ferguson, R.; Paulin, M.; Bergeron, J., "Contractual governance, relational governance, and the performance of interfirm service exchanges: The influence of boundary-spanner closeness." *Journal of the Academy of Marketing Science*, v. 33, n. 2, (2005): 217-234.

Gopalakrishna Pillai, K.; Sharma, A., "Mature relationships: Why does relational orientation turn into transaction orientation?" *Industrial Marketing Management*, v. 32, n. 8, (2003): 643-651.

Gulati, R., "Alliances and networks." *Strategic Management Journal*, v. 19, n. 4, (1998): 293-317.

Gulati, R.; Nickerson, J. A., "Interorganizational Trust, Governance Choice, and Exchange Performance." *Organization Science*, v. 19, n. 5, (September 2008): 688-708.

Gulati, R.; Singh, H., "The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances." *Administrative Science Quarterly*, v. 43, n. 4, (1998): 781-814.

Hoetker, G.; Mellewigt, T., "Choice and performance of governance mechanisms: matching alliance governance to asset type." *Strategic Management Journal*, v. 30, n. 10, (2009): 1025-1044.

Hoffmann, W. H., "Strategies for managing a portfolio of alliances." *Strategic Management Journal*, v. 28, n. 8, (2007): 827-856.

Kale, P.; Singh, H. "Managing strategic alliances: what do we know now, and where do we go from here?" *Academy of Management Perspectives* v. 23, n. 3, 2009.

Kale, P.; Singh, H.; Perlmutter, H., "Learning and protection of proprietary assets in strategic alliances: building relational capital." *Strategic Management Journal*, v. 21, n. 3, (2000): 217-237.

La Porta, R.; Lopez-De-Silanes, F.; Shleifer, A.; Vishny, R. W., "Law and Finance." *Journal of Political Economy*, v. 106, n. 6, (1998): 1113-1155.

Macedo-Soares, T. D. L. van Aduard de., "Ensuring Dynamic Strategic Fit of Firms that Compete Globally in Alliances and Networks: Proposing the Global SNA - Strategic Network Analysis - Framework." *Revista de Administração Pública - RAP*. v.45, n.1, (2011).

Mitsubishi, H.; Shane, S.; Sine, W. D. "Organization governance form in franchising: efficient contracting or organizational momentum?" *Strategic Management Journal*, v. 29, n. 10, (2008): 1127-1136.

- Morgan, R. M.; Hunt, S. D., "The Commitment-Trust Theory of Relationship Marketing." *Journal of Marketing*, v. 58, n. 3, (1994): 20-38.
- Naicker, V.; Saungweme, P., "Strategic alliance governance in Zimbabwe policy and strategy." *African Journal of Business Management*, v. 3, n. 8, (2009): 325-332.
- Nielsen, B. B., "Determining international strategic alliance performance: A multidimensional approach." *International Business Review*, v. 16, n. 3, (2007): 337-361.
- \_\_\_\_\_, "Strategic fit, contractual, and procedural governance in alliances." *Journal of Business Research*, v. 63, n. 7, (2010): 682-689.
- Osborn, R. N.; Baughn, C. C., "Forms of Interorganizational Governance for Multinational Alliances." *The Academy of Management Journal*, v. 33, n. 3, (1990): 503-519.
- Provan, K. G.; Kenis, P., "Modes of Network Governance: Structure, Management, and Effectiveness." *Journal of Public Administration Research and Theory*, v. 18, n. 2, (April 2008): 229-252.
- Puranam, P.; Vanneste, B., Trust and Governance: Untangling a Tangled Web. *Academy of Management Review*, v. 34, n. 1, (2009): 11-31.
- Smirnova, M.; Naudé, P.; Henneberg, S. C.; Mouzas, S.; Kouchtch, S. P., The impact of market orientation on the development of relational capabilities and performance outcomes: The case of Russian industrial firms. *Industrial Marketing Management*, v. 40, n. 1, (2011): 44-53.
- Teng, B.-S.; Das, T. K., Governance structure choice in strategic alliances: The roles of alliance objectives, alliance management experience, and international partners. *Management Decision*, v. 46, n. 5, (2008): 725-742.
- Thorelli, H. B., Networks: Between markets and hierarchies. *Strategic Management Journal*, v. 7, n. 1, (1986): 37-51.
- Wang, C. L., Guanxi vs. relationship marketing: Exploring underlying differences. *Industrial Marketing Management*, v. 36, n. 1, (2007): 81-86.

# SMALL AND MEDIUM-SIZED BUSINESS DEVELOPMENT IN LITHUANIA

**Antanas Makštutis and Juozas Vijeikis,  
Mykolas Romeris University, Lithuania**

## ABSTRACT

*The article provides an analysis of the condition of small and medium business (further SMB), factors conditioning the availability of financing, and obstacles in the availability of financing. An analysis of business development factors was carried out, and the role of the State in the policy related to the availability of SMB financing was assessed. With the application of statistical data, sociological research findings, graphical, grouping, data comparison and generalization methods, the factors that have an impact on the choice of business financing have been analyzed and SMB indicators were presented. The analyzed data of sociological research reveal the main problems of SMB financing, hindering the effective performance of this business sector. The work gives conclusions on the condition of SMB in Lithuania, the opportunities of financing; the main reasons, impeding the improvement in the availability of business financing, were put forward; the SMB development strategy, conclusions and proposals are presented.*

## INTRODUCTION

SMB is a sector, dynamically growing and taking a still more important place in the economy. Prior to the middle of the 20<sup>th</sup> century, this sector of the economy was treated as of no importance for the development of the country's economy, and today it creates more than a half of the added value of labour in the European Union (EU) countries and is considered as the basis of economic development. The SMB process is constantly changing; its participants adapt rapidly to the conditions of business environment and ensure the development of the sector in the global economy. SMB is very fast in evaluating changes in the market prices, adapts to them and selects the business strategy. In this respect, SMB reduces business risk and is important for the national economy and global business development. With account taken of SMB importance, the development of national economy, the competitiveness of markets in the EU and the world, the financing of this business is becoming an urgent problem. Attention for SMB financing is accorded by public and financial institutions, whereas the Lithuanian SMB participants have doubts as regards the stability of financing in the national and EU common market. At the present moment, an opinion is being formed and a question arises to the market players, whether SMB financing strategy, which will predetermine the SMB development in the future, is appropriate. In this situation, it is necessary to analyze the SMB financing perspectives and its environmental factors, to assess the shortcomings of financing and to predict the future opportunities for SMB development.

*The objective of research* is to analyze, evaluate and predict the environmental factors for Lithuanian SMB development, to identify the reasons for the availability of SMB financing, to reveal problems and prepare the trends in their solution, which would ensure the improvement of the conditions for SMB financing availability. *The object of research*: Lithuanian SMB development and financing environment. *Research tasks*: to conduct an analysis of the condition of small and medium-sized enterprises (SMEs), to evaluate the policy of public and financial institutions, to identify the needs of business support and services, to formulate and provide conclusions and proposals. *Research methods*: comparative data analysis, sociological survey, graphical, analysis and synthesis, case analysis, and prediction.

*Methodology of effective management* is expressed by comparative efficiency computations with the application of mathematical model:  $k_E = A_R / A_N$ , where:  $k_E$  – coefficient of comparative efficiency, the value of

which is  $0 - 1$ ;  $A_R$  – real labour result of the use of human potential;  $A_N$  – real labour normative of the use of human potential.

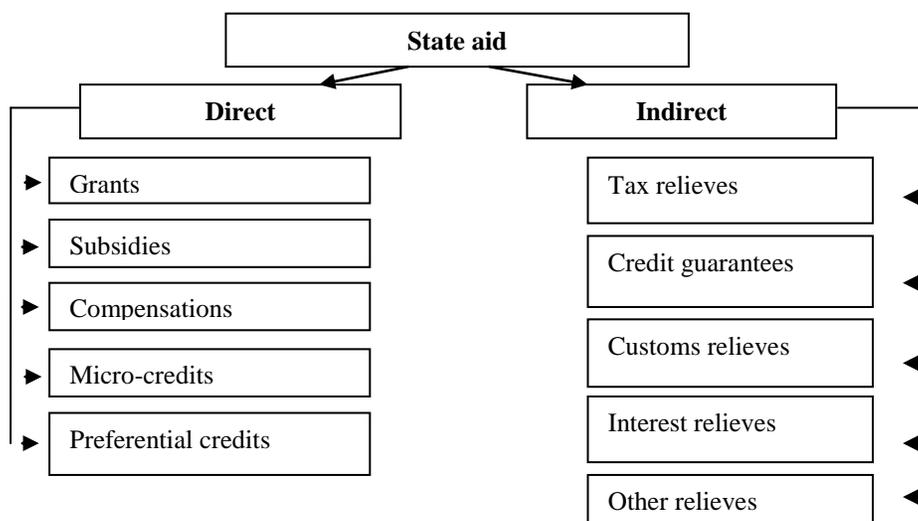
## STATE POLICY ON SMB DEVELOPMENT

Lithuania, like other EU countries, have limited resources, therefore equal opportunities should be afforded for all business enterprises, while research results revealed that SMB development was necessary in the national economy and for that purpose the State support policy was required.

The opinion of the world researchers in respect of the State policy for SMB development varies. Two basic principles for SMB development, prevailing in Lithuania, may be distinguished: privileges (exceptions) are not adjusted to the competitiveness of the national market, therefore, the State regulation policy is unacceptable; upon the evaluation of the tendencies of the national market competitiveness in 2006–2010, it was determined that SMB development was a necessity. Lithuanian scientists and practitioners-experts in their works approve in the essence the SMB development, with consideration of the economic regional policy and local conditions in the country for the implementation of EU policy of equal opportunities (Adomaitienė, 2007, Bartkus 2010, Fleischhauer, 2007, Henriques, 2009, Kuizinaite, 2008, Rajan, 2003, Rudzkis, 2007, Garuckas, 2007, Stripeikis, 2004, 2007, 2008, Smagurauskienė, 2009, Šivickas, 2010, Štreimikienė, 2007, Žvinklys, 2006, Vijeikis, Makštutis, 2009, Vijeikis, Baležentis, 2010).

Currently, other forms of support by public institutions for SMB development have been already identified, and their impact will be determined in the future. State aid, direct and indirect, is presented in Fig. 1. (Kausteklienė, 2010).

**Figure 1: Distribution of State aid**



It was determined by research that SMB development is one of the most important goals in implementing State policy (Measuring, 2008). The State, while implementing this task, in 2008 adopted the amendment to the Law on SMB development (Law, 2010), where the following forms of SMB development were identified (SMB, 2010):

- tax relieves and relieves on charges;
- financial support (granting of loans on favourable terms, partial or full payment of interest);
- provision of guarantees (credit insurance, investment of risk capital);
- reduction of costs (expenses related to fees on incorporation and research, guarantee fees, credit insurance premiums, acquisition of quality certificates and compensation of other expenses, subsidies for creation of new jobs);
- consulting of the owners, managers and specialists of the enterprises, personnel training and qualification improvement or requalification on favourable terms;

- establishment of business incubators, business centres, and technology parks;
- establishment of risk funds.

*Direct aid*, when funds are allocated to the enterprise (grants, subsidies, compensations, micro-credits, preferential credits). *Indirect aid*, which does not grant funds to the enterprise, but offers tax relieves, regulates customs, and provides other guarantees (Chang, 2009).

Financial measures assist SMEs in achieving business development goals; therefore, it is necessary to analyze the conditions of the availability of SMB financing and their factors that create proper conditions for SMB development under the conditions of Lithuania in the EU common market.

## ANALYSIS OF THE CONDITION OF SMEs

At the present moment, SMEs in Lithuania account for 99.4% of all operating undertakings, whereas large enterprises represent just 0.6%; in the EU, SMEs average is 99.8% (Bartkus, 2010). In total, in 2010 in Lithuania 63840 enterprises operated, of which 63447 were SMEs and only 393 large enterprises. In the total number of SMEs, the major part belongs to very small enterprises with up to 10 employees. Within 2006–2010, very small enterprises constituted more than 70% of all SMEs operating in Lithuania. In 2006–2010, the number of registered enterprises exceeded the number of enterprises that were removed from registration. In 2010 in Lithuania 6405 enterprises were registered and 4593 enterprises were removed from registration; the difference was 1812 enterprises. The majority of all SMEs in Lithuania constituted private limited liability companies (PLLC) and individual enterprises (IE). In the period under analysis they generally covered over 97% of the total number of SMEs in Lithuania: part of PLLC in the total SMEs in 2006–2010 accounted for 54.5% – 71.4% (in total: 14509 enterprises); part of IE in the total SMEs in 2006–2010 was 42.8% – 26.4% (reduction amounted to 16.4%, 7421 enterprises were closed). It is a fact that part of IE was replaced by PLLC, Table 1.

**Table 1: Number of SMEs in 2006–2010**

<b>Year</b> <b>Legal form</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2010–2006 changes, %</b>
State enterprise	103	94	94	92	91	88.3
Municipal enterprise	61	58	54	49	47	77.0
General partnership	263	240	222	204	174	66.2
Limited partnership	70	59	57	51	46	65.7
Private limited liability company	30774	35187	39191	43306	45283	147.1
Public limited liability company	314	286	262	264	255	81.2
Agricultural company	423	415	338	401	372	87.9
Foreign company subsidiary	1	0	0	100	115	11500.0
Cooperative company	282	273	273	272	330	117.0
Individual enterprise	24154	23098	22696	20491	16733	69.3
Other enterprises	6	1	0	0	0	0
<b>Total:</b>	<b>56451</b>	<b>59712</b>	<b>63187</b>	<b>65232</b>	<b>63447</b>	<b>112.4</b>

Source: <http://www.stat.gov.lt/lt/pages/view/?id=1126>, LSD, February 15, 2010.

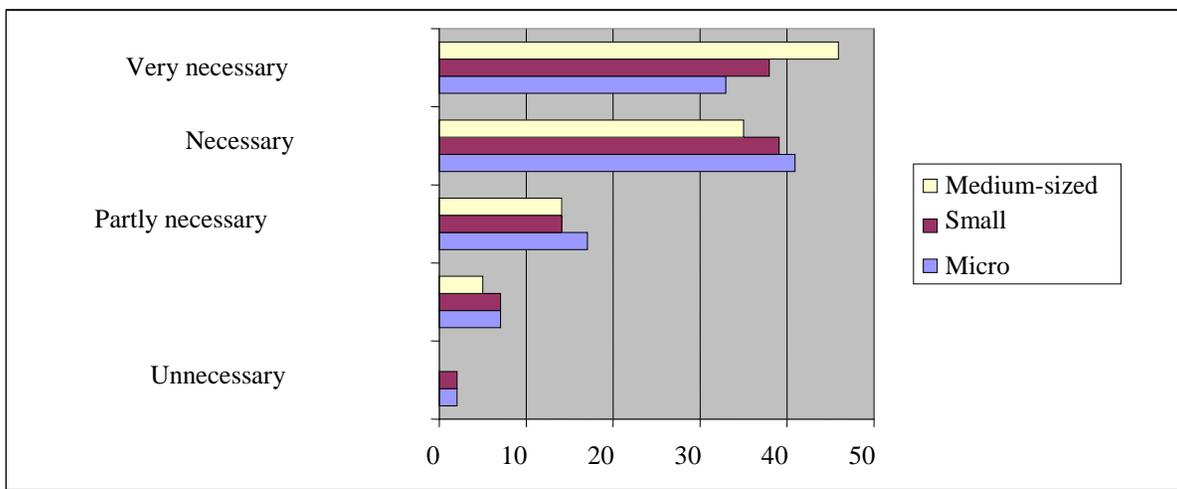
According to the Classification of Economic Activities (EVRK), in 2010 the major part of all SMEs constituted: retail trade 25%, wholesale 13%, construction of buildings and specialized construction 12%, land transport and transportation by pipes 8.3%, catering and supply of beverages 4.8%, enterprises, involved in other activities 36.9%. SMEs in Lithuania are distributed very unevenly. The greater part of SMEs is concentrated in the regions, siting the major cities of Lithuania. In the Vilnius region, in 2010, SMEs accounted for 37.5% of the total number of SMEs in the country, whereas in the Kaunas region 20.5%, the Klaipėda region 12.9%, and in the remaining 7 regions of the country 29.1%

Changes in SMEs predetermined the number of the personnel. In 2010, 910.9 thous. employees were employed in the national economy, constituting: in SMEs 720.5 thous. employees, large business enterprises (LE) 190.4 thous. employees (average per LE is over 250 employees). The biggest number of SMB employees in 2010 was in medium-sized enterprises (ME) 39.5%, small enterprises (SE) 38.2% and very small enterprises (VSE) 22.3%. SMB accounts for 60% of the added value created in the national economy (increasing with every year), and the remaining 40% of added value belongs to large business. It has been determined that SMEs create more jobs and higher added value, but the activity of large enterprises is more effective, since here the added value created per employee is twice as much.

**Presumptions for evaluation of the availability of business financing.** With the application of research methods, like statistical data analysis and questionnaires, in July 2010 the evaluation of the availability of SMB financing was performed. *Research sample.* To define the size of the sample, the statistical register of enterprises was used. According to the data of the Lithuanian Department of Statistics, 84,574 enterprises participated in business in 2009, of which SMEs numbered 65,252 (77.15%). In the course of research, 402 SMEs were surveyed, of which 312 SMEs were selected for the activity data eligible for research (74.29%). SMEs respondents in the questionnaire survey were subdivided according to three specific features of business entities: size, activity duration and venue, and this predetermined the reliability of research under the conditions of Lithuania in the EU common market.

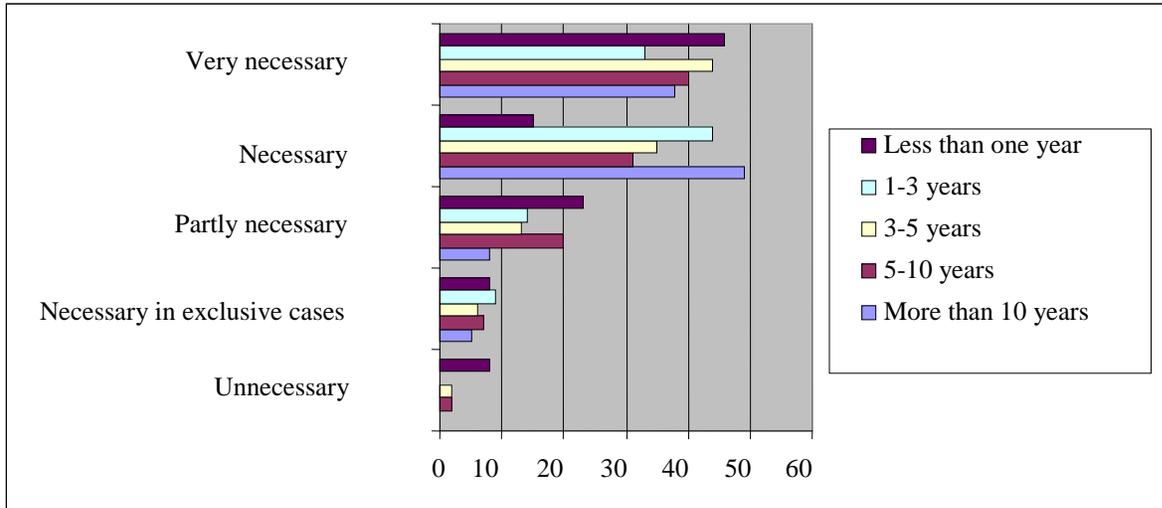
**Evaluation of support for SMB development.** After conducting research, it was established that the SMB development programme by size of enterprises (Fig. 2) was best evaluated by the medium-sized enterprises (46 %) and was worst evaluated by micro-enterprises (33%). Over 40% of micro-enterprises and 39% of small enterprises gave evaluation of business support for small enterprises as necessary, only up to 15% of SMEs estimated it as partly necessary, and it was not determined whether support was unnecessary.

**Figure 2: Evaluation of business support by size of SMEs (%)**



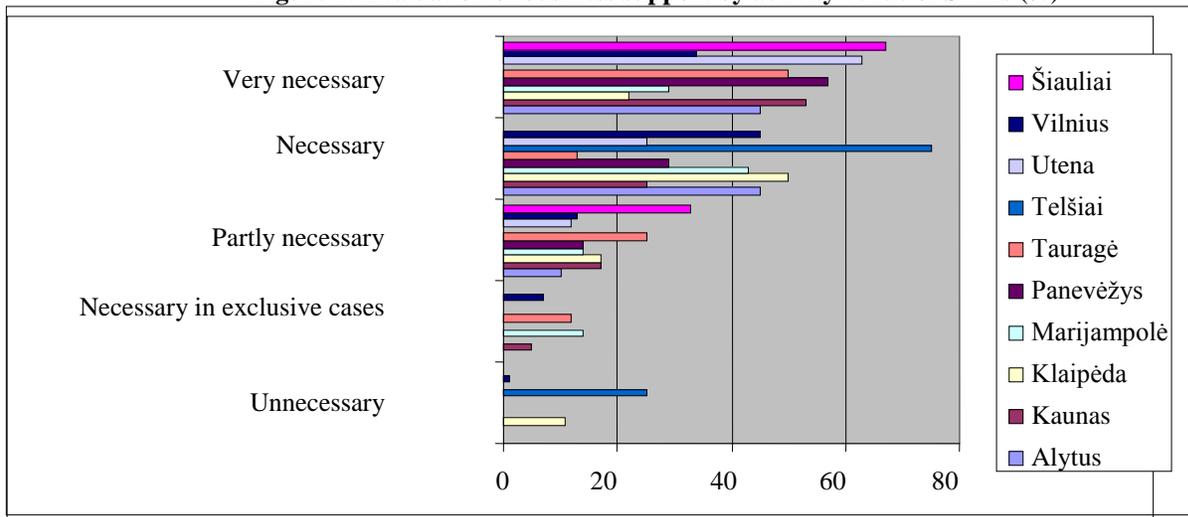
Making analysis of support by activity duration of SMEs (Fig. 3), the interdependence of factors has become evident. SMEs, possessing small experience in their activity, estimated business support as very necessary (47%), 44% SMEs (operating for 3–5 years) estimated as very necessary, SMEs (operating over 10 years) acknowledged business support as necessary (49%), SMEs, operating for less than a year and for 5–10 years recognized business support as partly necessary. Evaluation of support by SMEs activity venue (Fig. 4) varies conditionally. Most necessary is business support for SMEs, operating in the Šiauliai (68%), Utena (63%) and Panevėžys (57%) regions. SMEs (75%) in the Telšiai region evaluate support as necessary. SMEs in the Šiauliai (33%) and Tauragė (25%) regions evaluated business support as partly necessary. As unnecessary the support was evaluated by SMEs in the Telšiai (24%) and Klaipėda (12%) regions.

**Figure 3: Evaluation of business support by activity duration of SMEs (%)**



Evaluation of SMEs being made according to three criteria: size, activity duration and venue, it has been established what support is needed for SMEs and how they evaluate State aid for SMB development under the conditions of Lithuania in the EU common market.

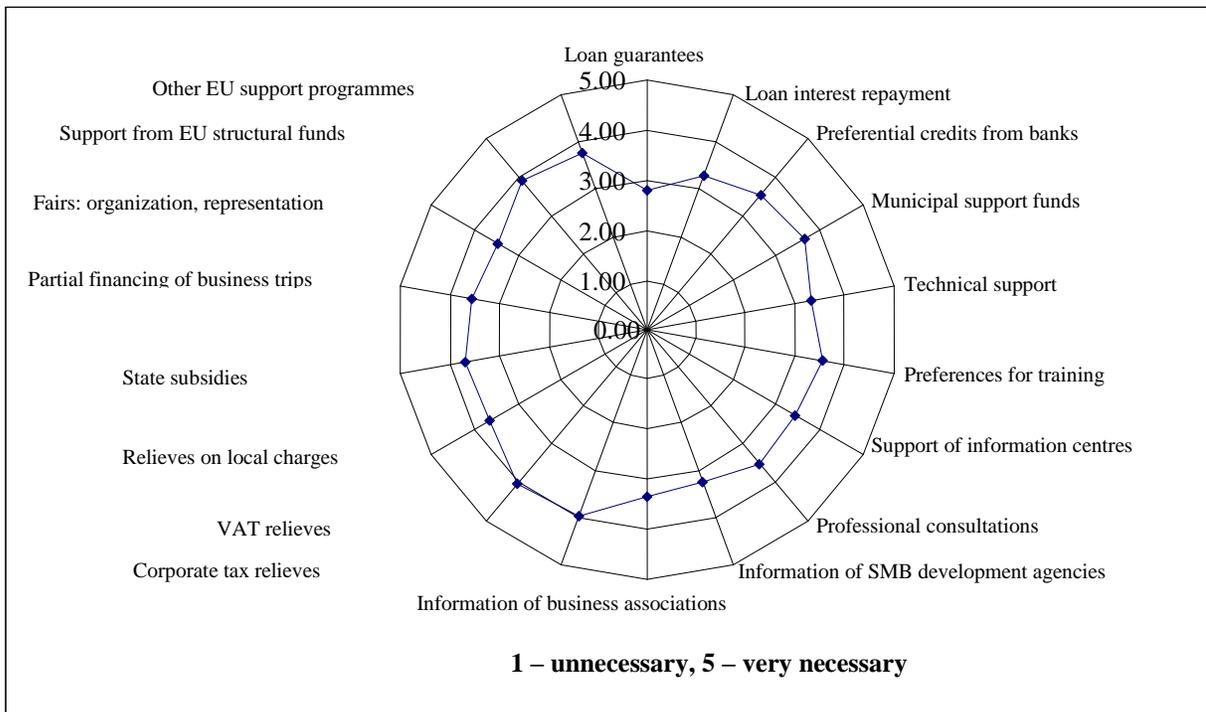
**Figure 4: Evaluation of business support by activity venue of SMEs (%)**



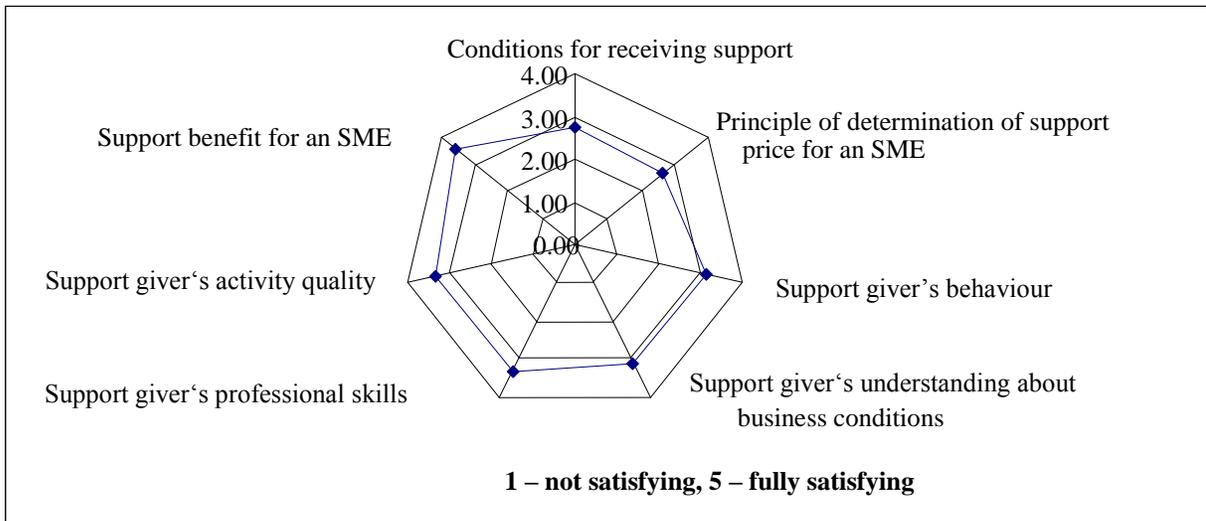
SMEs, involved in services business (Fig. 5), evaluated support as partly necessary (3.0) and necessary (4.0). They distinguish the support from the EU structural funds, State subsidies, relieves on local charges and corporate tax relieves, personnel trainings on favourable conditions, support from local municipal institutions, SMEs support funds, and preferential credits from commercial banks. SMEs distinguish as partly necessary support: loan guarantees, loan repayment, and information from information centres on SMB development under the conditions of Lithuania in the EU common market.

After analysis of support factors that had an effect on SMEs in 2010 (Fig. 6), one may notice that all factors were evaluated as partly positive. It is possible to distinguish the benefit of support to an SME and less beneficial support (2.6). The main obstacles (Fig. 6), which hinder the use of State aid, are: bureaucratic obstacles, lack of information, non-conformity of support to SMEs and SMB development under the conditions of Lithuania in the EU common market.

**Figure 5: Real evaluation of State aid (mean)**



**Figure 6: SMEs satisfaction with State aid in 2010 (mean)**



Exploratory results revealed that obstacles of financing have a direct effect on SMB development under the conditions of Lithuania in the EU common market. Conclusions and proposals for improvement of SMB development under the conditions of Lithuania are provided.

## CONCLUSIONS

1. The State and local municipal institutions must improve the efficiency of management and transfer the decision-taking and designing, their implementation at the level of local communities to the municipalities, with the better use of the EU support funds at the level of local national resources under the conditions of the EU common market.

2. The role of the State policy on SMB development is of special importance for establishing business priorities in the economic regions of the country, implementing the policy of business development in the regions and applying the EU priorities in terms of implementing equal opportunities for business development policy while rationally using all local national resources.

3. The main financial measures of the State policy on support, which today are used by SMEs, are the support from the EU structural funds, State subsidies, relieves on local charges and corporate tax, personnel trainings on favourable conditions, support from municipal SMB support funds and preferential credits from commercial banks.

4. The main obstacles, which hinder the use of State aid for SMB development in Lithuania are bureaucratic risks related to the receipt of support, lack of information, the quality of support for SMEs, professional skills in the provision of support, receipt of credits, prices for services provided by the banks and conditions for the receipt of the services.

5. After performance of statistical data analysis of SMEs activity and SMB development factors, it has been established that in 2010 SMEs in Lithuania represented 99.4%., large enterprises 0.6% percent of the total business environment, whereas in the total number of SMEs the major part belongs to very small enterprises with less than 10 employees, which in 2006–2010 constituted over 70% of all the SMEs operating in Lithuania.

6. SMEs in Lithuania created the major part of added value, in 2010 the added value created by SMEs accounted for 60%, whereas large enterprises created the remaining part, amounting to 40%, and that part is on the decrease with each year, but SMEs by their efficiency do not equal large enterprises, therefore the added value per employee in large enterprises is twice as much than the added value created per employee in SMEs.

7. During data analysis it has been established that SMEs evaluate the availability of financing as unsatisfactory due to high interest rates of credits and stringent requirements for asset pledges, complicated documentation and a long procedure of execution, this making a negative effect on the financial condition of SMEs, which increases the SMEs development risk.

## REFERENCES

Adomonienė R., Trifonova J. *State Support for SMB in Lithuania.*//Journal. Management of Organizations: Systematic Research. 2007, No. 41. 7–10. (In Lithuanian)

Bartkus E.V. *SMB Development Forecasts in Lithuania at the Beginning of Economic Crisis.*//Journal. Economics and Management, 2010. No. 15. 390–393. (In Lithuanian)

Chang X., Dasgupta S. *Target Behavior and Financing: How Conclusive is the Evidence?*//Journal of Finance. 2009, Vol. 64, No. 4. 1767–1796.

Fleischhauer K.J. *A Review of Human Capital Theory: Microeconomics.*//Discussion Paper. Department of Economics University of St. Gallen, 2007, No. 1. 48 .

Garuckas R. et al. *Lithuania's SMB Competitiveness in the EU Context.*// Journal. Management of Organizations: Systematic Research. 2007, No. 42. 39–53. (In Lithuanian)

Henriques P. L., Curado C. *Pushing the Boundaries on Mentoring: Can Mentoring Be a Knowledge Tool?*//Journal of Business Economics and Management. 2009, Vol. No. 1. 85–97.

Kausteklienė I. *SMB Financing Modelling*//Young Scientist 2010: Collection of Articles. [http://www.lzuu.lt/jaunasis\\_mokslininkas/smk\\_2010/JM\\_2010\\_straipnis\\_rinkinys.pdf](http://www.lzuu.lt/jaunasis_mokslininkas/smk_2010/JM_2010_straipnis_rinkinys.pdf) [viewed on 2010 04 03]. (In Lithuanian)

Kuizinaitė V., Paliulytė I. *Analysis of Capital Structure Impact on Financial Indicators of the Activity of Enterprises.*//Works of Young Scientists. – Šiauliai: Šiauliai University. 2008, No. 1(17). 138–144. (In Lithuanian)

*Law on SMB of the Republic of Lithuania.* [http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc\\_l?p\\_id=191571](http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=191571) [viewed on 2010 11 12]. (In Lithuanian)

*Measuring Entrepreneurship: a Digest of Indicators.*//OECD – Eurostat Entrepreneurship Indicators Program. 2008, p. 3–30.– URL: <http://www.oecd.org/dataoecd/53/23/41664409.pdf> [viewed on 2010 10 11].

Rajan R.G., Zingales L. *The Great Reversals: the Politics of Financial Development in the 20th Century.*//Journal of Financial Economics. 2003, Vol. 69. 5–50.

Rudzki R., Dikčius V., Dulskis D. *The Condition of Small and Medium-sized Enterprises in Lithuania and Tendencies of Their Development.*//Lithuanian Economy in Europe and Global Space: Collection of Articles. – Vilnius: Standartų Publishing House, 2007. 267–285. (In Lithuanian)

Smaguraskienė L. *Financial Business Promotion System in Lithuania.*//Journal of Annales Geographicae. 2009, No. 42(1–2). 55–61. (In Lithuanian)

*SMB Success Factors.* <http://www.stat.gov.lt/lt/news/view/?id=1814> [viewed on 2010 10 09]. (In Lithuanian)

Stripeikis O., Žukauskas P. *SMB Environment in Lithuania and EU Markets.*//Journal. Management of Organizations: Systematic Research. 2004, No. 31. 209–227. (In Lithuanian)

Stripeikis O. *Entrepreneurship Formation in Lithuanian SMEs.*//Scientific Works: the Science of Management and Studies – for the Development of Rural Businesses and Their Infrastructure. 2008, No. 15 (4). 1–11. (In Lithuanian)

Stripeikis O. *Small Business in Lithuania: Challenges and Development Opportunities.*//Journal. Management of Organizations: Systematic Research. 2007, Nr. 44. 141–149. (In Lithuanian)

Šivickas G. et al. *Assessment of the SMB Support Impact on the Harmonious Development.*//Journal. Economics and Management. 2010, No. 15. 792–798. (In Lithuanian)

Štreimikienė D. et al. *Evaluation SMB Support Efficiency.*//Journal. Economics. 2007, No. 80. 84–94. (In Lithuanian)

Vijeikis J., Baležentis A. *SMB Development Problems and Perspectives in Lithuania's Regions.*//Journal of Management Theory and Studies for Rural Business and Infrastructure Development. 2010, No. 20(1).163–167. (In Lithuanian)

Vijeikis J., Makštutis A. *Small and Medium-sized Business Competitiveness in Lithuania.*//Journal. Economics and Management: Topical Issues and Perspectives. Scientific Works./Šiauliai University. The Faculty of Social Sciences – Šiauliai: Šiauliai University Publishing House. 2009. 328–338.

Žvinklys J., Vabalas E.V. *On Business Language.*//Journal. Money Studies: Topical Issues and Comments. 2006, No. 1. 105–112. (In Lithuanian)

# **THE VALIDITY OF THE EMULMENT ATTACHMENT ORDERS OBTAINED BY CREDIT PROVIDERS AGAINST CONSUMERS WHEN APPYING FOR A LOAN**

**Nkhangweni Jerry Malange  
Tshwane University of Technology, South Africa**

## **ABSTRACT**

*Since the beginning of our constitutional democracy, many consumers have applied for loans and the credit providers are exploiting the situation. When the consumers apply for loans, they are made to sign consent to judgement by credit providers and thereafter (credit providers) apply for default judgement and proceed with the attachment emolument order to deduct the monthly installment from the consumer`s salary. This paper will examine the problems encountered by the consumers and the debt counselors during the debt review applications. The paper adopts research approach of literature review. The paper becomes more relevant, when one considered that hitherto, the research opinions of academics have not had much influence on the issue of the validity of the emolument attachment orders by credit providers when consumers apply for loans. This paper is concluded on the outcome of the research findings that if ever possible to do; section 58 of the Magistrate Act 32 of 1944 court should be amended (South Africa).*

## **INTRODUCTION**

The word “emoluments” basically refers to a wage or salary. An emolument attachment order is granted by the clerk of the court in the magistrate’s court. It grants the creditor the opportunity to receive weekly or monthly instalments from the debtor/consumer through a process of monthly deductions made from the debtor’s wage or salary by the debtor’s/consumer’s employer before the debtor receives such wage or salary. The debtor’s employer is obligated by court order to make such deductions, and in this instance is referred to as the garnishee-employer. The garnishee-employer pays the deductions directly to the creditor or his legal representative e.g. attorney.

Section 34(1)(b) of the Basic Conditions of Employment Act, 1997 states that an employer may not make any deduction from an employee’s remuneration unless the deduction is required or permitted in terms of a law, collective agreement, court order or arbitration. Section 34(4) of the same Act stipulates that an employer who deducts an amount from an employee’s remuneration for payment to another person must pay the amount to the person in accordance with the time period and other requirements specified in the agreement, law, in accordance with the time period and other requirements specified in the agreement, law, court order or arbitration award. The deductions must comply with these provisions.

The situation is different when dealing with government employees. In terms of Public Finance Management Act 1 of 1999 the employer can refuse the deduction if the emoluments attachment order would cause more than 40% of the employee’s salary to be subjected to deductions. This does not apply to employees in the private sector.

## **THE PURPOSE AND OBJECTIVES OF THE STUDY**

The objectives of this paper were:

- To make a detailed analysis of the processes for obtaining and dispersing garnishee orders.
- To identify the gaps/loopholes; finding solutions and recommendations;
- To conduct a literature review and the relevant legislation on the scale of the garnishment of wages and its potential risk areas for irregularities in South Africa.

## **LITERATURE REVIEW, CASE LAW AND LEGISLATION**

A literature study of the relevant legislation and procedural requirements for obtaining emoluments attachment orders by creditors at court, including competencies of courts and court officials was conducted. The relevant sections of the Magistrate's Court Act, 1944 (as amended), the National Credit Act, 2005, the Basic Conditions of Employment Act, 1997 (as amended), and the Public Service Act, 1994 (as amended) were examined. The Treasury Regulations of 2001 were also visited.

The procedures used for the enforcement of an emoluments attachment were examined by attending court proceedings where emolument attachment orders were applied for. This involved the studying of the legal requirements, duties and responsibilities, including legal relationships, of all stakeholders involved in the process. A number of relevant reports, academic articles, textbooks and sources from the internet were examined.

## **GUIDELINES ON HOW THE EMOLUMENT ATTACHMENT ORDERS SHOULD BE HANDLED**

There are guidelines developed by legislation, literature and reports and are summarized as follows:

### **The drafting, issue and service of emolument orders**

Section 65J(3) of the Magistrates Act 32 of 1944 provides an emolument attachment order is drafted by the creditor or his Attorney and signed by either the judgment creditor or his attorney and thereafter sent to the clerk of the civil court for issuing. The clerk of the court must also sign it. It should be served on the garnishee-employer by the sheriff of the Court in terms of the rules of the court. The issue of the jurisdiction is always ignored by both the judgement creditors and clerks of court. As a result, orders were issued by the wrong courts. Sometimes false orders are processed through fraudulent documentation forwarded to employers. In some instances, service is not made by the sheriff but by an agent or lay person. These are some of the incidences of undesirable practices relating to emoluments attachment orders in South Africa.

Many emoluments attachment orders perused contained alterations effected in pen. It was unclear whether these were effected before or after issuing of such orders and who was responsible for these alternations. In some cases, more than one judgement and/or more than one emolument attachment orders arising from the same debt were obtained. This is a duplication of orders on the same debt.

### **Requirements for obtaining emolument attachment orders**

Section 65(J) (2) provides that emoluments attachment orders may be granted in the following three instances:

#### **(a) Where the judgment debtor has consented in writing to the emoluments attachment order**

The consents can legally be obtained when the debtor arranges for payment or consents to judgment conditionally in terms of section 57, unconditionally in terms of section 58 or after judgment in terms of section 65.

In *Russells (Ceres) v Manyashe en 'n ander* 2005 (4) SA 380 (C) the Cape Provincial Division upheld an appeal arising from consent to judgment in terms of section 58(1) and consent for the granting of an emoluments attachment order.

The magistrate held that consent to emoluments attachment order could only validly be granted after judgment had already been granted. On appeal the high court held that the Magistrate's Court Act did not prohibit the debtor from consenting before judgment to an order for the payment of the future judgment debt in instalments and to the issuing of an emoluments attachment order in terms of section 65J.

Most clerks of court issue emoluments attachment orders without default judgements. Orders obtained by the creditors immediately after granting loans are void if default judgements were not obtained first.

### **(b) Where the court authorises it**

In terms of section 65(A) (1) of the Magistrate's Court Act 32 of 1944 a judgment debtor is by way of a notice in terms of required to appear in court where an enquiry into his financial position is held. The court may then make an order for periodic payments and authorise an emoluments attachment order. The judgment debtor may upon receipt of such notice make an offer of payment by way of periodic instalments coupled without an emoluments attachment order. The court may in terms of section 65E (1) (C) grant an emoluments attachment order. T

his means that an emolument attachment order obtained by the creditor immediately after granting a loan is invalid and can be rescinded by the court on application.

### **(c) Notice in terms of section 65(A) (2)**

If a written consent from the debtor or authorisation by the court is not obtained as referred to above, the judgment creditor or his attorney must first send a registered letter to the judgment debtor at his last known address advising him of the amount of the judgment debt and unpaid costs and warn him that an emoluments attachment order will be issued if the said amount is not paid within 10 days of the date on which the registered letter was posted.

Thereafter, the judgment creditor must file an affidavit or affirmation or a certificate by his attorney confirming the sending of such registered letter as well as setting out the amount of the judgment debt, the specific instalments due, costs payable from date of order, payments received and the outstanding amount.

This section cannot be applied for emolument attachment orders obtained by creditors against the debtors immediately after approving their loans.

## **GROUND FOR GRANTING DEFAULT JUDGEMENT IN THE MAGISTRATE'S COURT:**

### **(a) Failure to serve notice of intention to defend by the Defendant/debtor**

If the creditor/plaintiff issues summons against the defendant/debtor, the defendant/debtor must immediately after receipt of same enter appearance to defend the action against him/her. If he fails to do so, the plaintiff creditor is entitled to request default judgment within the prescribed period of five court days.

The clerk of the court may grant default judgment if the claim is for a liquidated amount, for example claims for the purchase price of goods sold and delivered. If the claim is for an unliquidated amount, for example claims for damages, the matter is referred to a magistrate for judgment. In the proceedings before the magistrate the plaintiff has to provide oral or written evidence in the form of an affidavit stipulating the quantum of the claim.

If the creditor and the debtor agree that the debtor will pay the approved loan by monthly instalment, he must do so without fail. If he defaults, the creditor may apply for default judgement against him. The creditor cannot grant a loan to the debtor and immediately apply for default judgement and emolument attachment order. If he does this, the order will be illegal and can be rescinded by the court.

## **(b) Section 58 of the Magistrates Court Act 32 of 1944 -Consent to judgment**

In terms of section 58 of the Magistrate's Court Act 32 of 1944, upon receipt of a letter of demand or summons claiming an outstanding debt, the defendant may give an unconditional written consent for judgment in favour of the judgment creditor. The Defendant/debtor provides his/her unconditional consent to judgment. The creditor or his legal representative may make an application to the clerk of the court requesting judgment for the debt amount and the cost of the summons or letter of demand. A copy of the demand, if there is no summons, should be brought with the application, along with the written consent of the judgment debtor. The judgment debtor may also consent to judgment for the repayment of the debt and agreed costs in specified instalments. The debtor may also at this stage consent to an emoluments attachment order. The method of the letter of demand followed by obtaining consent to judgment by the debtor and consent to an emoluments attachment order is frequently used.

Concerns were raised about credit providers utilising section 58 to obtain judgment against consumers without these consumers being afforded adequate protection under the provisions of the National Credit Act. There were also concerns that clerks of the Magistrates Court were simply acting as a rubber stamp in granting judgment without looking at the lawfulness of the credit agreement.

Section 58 of the Magistrates Courts Act (consent to judgment proceedings in the Magistrates Court) is a quick and cost effective method for credit providers to obtain a judgment against consumers. The main feature of the section 58 procedure involves consumers providing written consent to the credit provider applying for judgment against them.

In *African Bank Limited v Magistrate Myambo* and others case no.34793/2008 the court held that the commencement of the National Credit Act, 34 of 2005, did not repeal section 58 of the Magistrates' Courts Act, 32 of 1944 or render it nugatory in respect of debts to which the National Credit Act applies. In order to obtain judgment in terms of section 58 of the Magistrates' Courts Act, where the original cause of action was a credit agreement under the National Credit Act, a plaintiff must comply with the provisions of section 58 of the Magistrates' Courts Act and attach to the request for judgment (Form 5B) a true copy of the section 129-notice contemplated in the National Credit Act. Such a plaintiff must in the summons or letter of demand, as the case may be, deal with each one of the relevant provisions of section 129 and 130 of the National Credit Act and allege that each one has been complied with. It is not sufficient to make a general allegation that "section 129 and section 130 of the National Credit Act have been complied with".

The court further held that in cases to which the National Credit Act applies, clerks of the court may refer the request for judgment in terms of section 58 to the court in terms of rule 12(7) of the Magistrates' Courts' Rules. In many instances clerks of the court must refer such requests to the court, especially when they are uncertain as to whether the consumer has been given the full benefit of protective measures provided for in the National Credit Act. Where a plaintiff seeks judgment by consent in terms of section 58 of the Magistrates' Courts Act, magistrates are entitled to interrogate the application for judgment and in so doing they may require proof by a plaintiff of any fact or document pertaining to the underlying cause of action so as to determine whether a credit agreement under the National Credit Act is at issue.

Where a plaintiff seeks judgment by consent in terms of section 58 of the Magistrates' Courts Act, based on a cause of action arising from a credit agreement under the National Credit Act, magistrates are entitled to interrogate the application for judgment and they may require proof by a plaintiff of any fact or document so as to enable the court to determine whether the granting of the credit in question was an instance of the granting of reckless credit or not.

Where a plaintiff seeks judgment by consent in terms of section 58 of the Magistrates' Courts Act, based on a cause of action arising from a credit agreement under the National Credit Act and where it is alleged that the defendant is over-indebted, clerks of the court must refer the application to the court. In such a case, magistrates are entitled to interrogate the application for judgment and in so doing they may require proof by a plaintiff of any fact or document so as to enable the court to determine whether it should act in terms of the section 85 of the National Credit Act.

Where a plaintiff seeks judgment by consent in terms of section 58 of the Magistrates' Courts Act, based on a cause of action arising from a credit agreement under the National Credit Act, magistrates are entitled to interrogate the application for judgment and in so doing they may require proof by a plaintiff of any fact or document:

-so as to enable the court to establish whether the plaintiff is registered as a credit provider with the National Credit Regulator

-pertaining to the computation of the admitted debt .

This only applies when the debtor is in default. Some credit providers process the loan applications, approve them and thereafter obtain default judgements and emoluments attachments orders against the debtors without their knowledge. Such orders are void.

After judgment has been granted in the debtor's absence, the creditor or his lawyer should immediately inform the debtor of such order by way of registered mail. The creditors who obtain judgments against the consumer immediately after granting those loans do not inform them as they are supposed to do.

### **(c) Section 57 of the Magistrates Court Act 32 of 1944 -Consent to judgment**

The Defendant/debtor can give his conditional consent to judgment in terms of section 57. The Defendant/debtor may after receipt of a letter of demand or a summons admit liability to the plaintiff for the amount of the debt and costs claimed in the letter of demand or summons or for any other amount. In the event of the debtor failing to pay, the creditor may without further notice to the debtor apply for default judgment. Such request for default judgment is accompanied by an affidavit from the creditor, alternatively a certificate by his attorney confirming non-payment. This applies only in the event the debtor failed to pay the monthly instalments as per agreement or the order of the court.

### **(d) Where the defendant consents to judgment in terms of rule 11 of the Magistrate's Court rules**

The Defendant/debtor may in the prescribed form upon receipt of summons or after entry of appearance in order to settle the claim or part thereof; consent to judgement in terms of the Magistrates Court Rule 11. The debtor files the consent to judgment with the clerk of the court who then records the judgment on the file and this is not applicable to the debtors who applied for loans and pay instalments without fail.

### **(e) Failure by the party (either Plaintiff or Defendant) to appear at the hearing**

Rule 32(1) and (2) of the Magistrates Court Rules provides that default judgment can be granted against a party should he fail to attend a hearing or any other court proceedings personally or by way of legal representation. This is not applicable.

### **(f) Defendant fails to serve plea within the prescribed period**

This occurs when the defendant/defendant failed to serve his plea within the prescribed period after serving his notice of intention to defend. The creditor is required to serve a notice of bar in terms of rule 12(1)(b) on the defendant giving him five days to serve his plea, failing which he/she can apply for default judgment. The clerk of the court will grant default judgement. This is not applicable.

## **THE NATIONAL CREDIT ACT 34 of 2005 AND ITS EFFECT ON EMULUMENT ORDERS**

In terms of section 4 of the National Credit Act, the Act only applies to credit agreements between parties dealing at arm's length made within or having an effect within the Republic. The credit agreement is defined in section 8 as a credit facility, credit transaction, credit guarantee or a combination.

If an agreement qualifies as a credit agreement in terms of the Act, the general enforcement procedures are expanded in terms of the section 129 and section 130 of the National Credit Act.

This effectively means that it is expected that certain extra requirements must be adhered to before a credit provider/creditor may commence with enforcement procedures. Namely:

(a) Section 129(1)(a) provides that if a consumer is in default under a credit agreement, section 129(1)(a) states that the credit provider may draw the default to the notice of the consumer in writing and inform the consumer of certain rights that he has in terms of the Act. The credit provider must propose that the consumer refer the matter to a debt counsellor, alternative dispute resolution agent, consumer court or ombud, with the intention that the parties resolve any dispute or agree on a plan to bring the payments up to date.

This section states that the credit provider "may" bring the default to the notice of the consumer, and section 129(1)(b) states that a credit provider may not commence any enforcement proceedings before providing such a notice.

(b) In terms of section 130 of the Act, a credit provider may only approach a court for an order to enforce a credit agreement if the consumer is in default and has been in default for at least 20 business days and at least 10 business days have elapsed since the section 129 (1) notice was sent to the consumer. These two periods may run concurrently.

## CONCLUSION

In this regard, the study focused on the Magistrate's Court Act 32, 1944 and the Magistrate Court Rules as well as the National Credit Act 34, 2005.

The emoluments attachment orders obtained by credit providers against consumers immediately after granting them loans are legal if the consumers voluntarily signed written consents to judgments either in terms of sections 57 or 58 of the Magistrates Act 32 of 1944.

My findings and recommendations are as follows:

-Lack of basic financial and legal literacy skills and knowledge by consumers.

They fail to challenge defective or fraudulently obtained orders. The National Consumer Regulator is supposed to educate the public in terms of the National Credit Act but it is not doing enough.

-Irregularities regarding an abuse of processes by the creditors or credit providers and the clerks of court.

There is an abuse of judicial oversight and control by some clerks of the courts. Clerks of the court lack the necessary knowledge and skill to effectively and efficiently administer these orders.

- There are gross irregularities concerning consent to judgment by defendants/debtors. In many cases the debtors never signed consent to judgment even though judgment was granted. Some debtors sign by duress or misrepresentation by signing blank consents and incomplete documentation.

-Section 65J (3) of the Magistrates Act 32 of 1944 requires the emoluments attachment order to be served on the employer by the sheriff and is not served on the employee. The debtor will hear about judgment granted against him/her for the first time when he/she receives the pay slip from the employer. The need for amending this section is necessary so that the order can be served on both employer and the employee/debtor.

-There is a lack of statutory cap on amount to be attached. Regulation 23.3.6 in terms of the Public Finance Management Act 1 of 1999 caps the emoluments attachment to 40% of the state employee's salary. No such cap exists for debtors employed in the private sector. Caps are applicable in most European countries including the United States of America.

-The debtors are exploited by some creditors because they apply for default judgement and thereafter emoluments attachment orders immediately after granting consumers loans.

- They always ignore the issue of the jurisdiction. As a result, orders were issued by the wrong court, mostly for the sake of the collector's convenience frustrating redress. Sometimes false orders were processed through

fraudulent documentation forwarded to employers. Service is, in some instances, not affected by the sheriff but by an agent or lay person. These are some of the incidences of undesirable practices relating to emoluments attachment orders in South Africa.

-The manner of service of the emolument attachment order. In some instances, service is not made by the sheriff but by an agent or lay person. These are some of the incidences of undesirable practices relating to emoluments attachment orders in South Africa.

- In some cases, more than one judgement and/or more than one emolument attachment orders arising from the same debt were obtained. This is a duplication of orders on the same debt.

## REFERENCES

Allwright, P 'On guard against abuse of garnishee orders' (2006) 'Without Prejudice' February at 32 – 33

Anonomous 2003 'Workers face avalanche of garnishee orders' 27 SA Labour Bulletin 49

Gardner, C 2007 'The complexity of emoluments attachment orders' HR Highway 1:7 October 21 22

Theophilopoulos, C & Rowan, AWT & Van Heerden, CM & Boraine A (2006) Fundamental principles of civil procedure Durban: Butterworth

Du Plessis, JC & Goodey, J (2003) Practical guide to debt collection Durban: Butterworths

Harms, LTC & Van der Walt, I & Harms, D & Faris, J & Louw, C & Neukircher, B (2007) Civil Procedure in the Magistrate's Court Durban: Butterworths

Paterson, T (2001) Eckard's principles of civil procedure in the Magistrates' Courts Cape Town: Juta

Pete, S (ed) Civil procedure: a practical guide Claremont: New Africa

Van Loggerenberg, D E (ed) (2000) Jones & Buckle: the civil procedure of Magistrate's Court in South Africa (Vol I The Act) Cape Town: Juta

Report on the incidence of and the undesirable practices relating to garnishee orders in SA – University of Pretoria Law Clinic - July 2008

Magistrate's Court Act 32 of 1944

Magistrate's Court rules

National Credit Act 34 of 2005

Public Finance Management Act 1 of 1999

# **LEARNER PREGNANCY: THE LEGAL IMPLICATIONS**

**A Marais, SK Mokoena, MS Mukhola, A Mji, I Mokgobu  
Tshwane University of Technology, South Africa  
and  
CN Phiri, Venda University, South Africa**

## **ABSTRACT**

*In South Africa, as in a number of other countries, concern exists about the number of learners at school falling pregnant, and dropping out of school as a result of this pregnancy to have, and care for, the baby. This paper will investigate the legal issues surrounding learner pregnancy, in terms of schooling, access to social grants and pregnancy as a result of rape or sexual assault. The research methodology used will be a combination of qualitative and quantitative methods based on literature studies and questionnaires distributed to 387 learners in the Mpumalanga- and Limpopo provinces of South Africa.*

## **INTRODUCTION**

Teenage pregnancy is not an unusual occurrence in South Africa, especially under the poor black and coloured population of the country. The majority of learners falling pregnant are between 17 and 19 years of age. Statistics South Africa released data on teenage fertility in 2007 indicating that 54 teenagers out of one thousand fall pregnant. For most of these girls the pregnancy is an unplanned event, hugely impacting on their young lives. Even if the learner planned the pregnancy it often was an uninformed decision, which has an adverse effect on them.

Falling pregnant whilst still at school has various implications for the teenage mother. Many learners drop out of school after falling pregnant and giving birth to the baby. This negatively impacts not only on their future, but the future of their baby as well. In a country with a 25% unemployment rate it is extremely difficult for young people to find employment if they did not complete their schooling. A number of learner mothers do not return to school after the birth of the child because they feel they are discriminated against by their peers, educators and the community.

In a society still plagued by many people living in desperate circumstances of poverty, young girls often have to choose between their economic survival and their health. In these cases the learner will then trade sex for material benefits, such as food or shelter. In these circumstances, the female has no say in whether contraception is used, or even if she is a willing partner, or not. This creates an increased risk of teenage pregnancy.

## **RESEARCH METHODOLOGY**

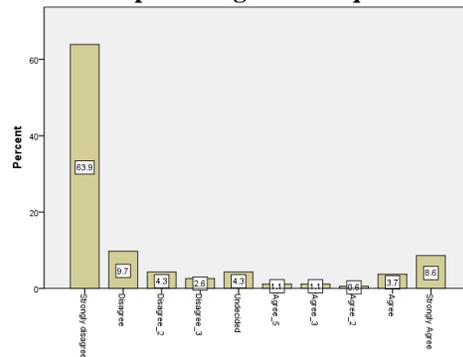
This paper will make use of a combination of qualitative and quantitative research methodologies. Literature studies will be utilised to discuss the legal rights pregnant learners are entitled to. Relevant legislation, programmes and policies, which impacts on learner pregnancy will also be reviewed. Questionnaires were distributed to 387 female learners, with a median age of 18 years, in the Nkomazi region of Mpumalanga and the Makhado region of the Limpopo Province. The questionnaire included a section on biographical data, as well as

open and closed questions on different aspects of learner pregnancy, as this paper forms part of a discussion on the impact of learner pregnancy on various aspects of the learner’s life, health, education, legal rights and relevant legal issues pertaining to the topic.

## PLANNED VS UNPLANNED PREGNANCY

It is important to determine whether the pregnant learner planned to fall pregnant, or not, as different legal implications exist for both instances. The vast majority of the learners interviewed indicated that they did not plan the pregnancy (figure 1). Nearly two thirds of the learners strongly disagreed with the statement that she planned to fall pregnant. Only a relatively small number of learners (12.9%) indicated that they actually planned the pregnancy.

**Figure 1: Frequency distribution in percentages to the question: I planned to fall pregnant**

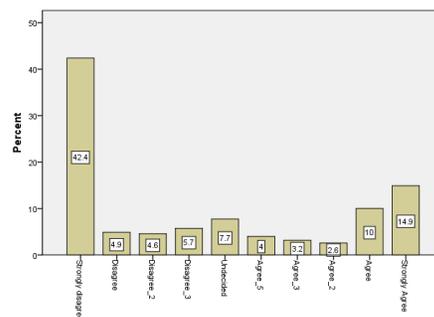


## RELEVANT LEGISLATION

### Constitution of the Republic of South Africa, 108 of 1996

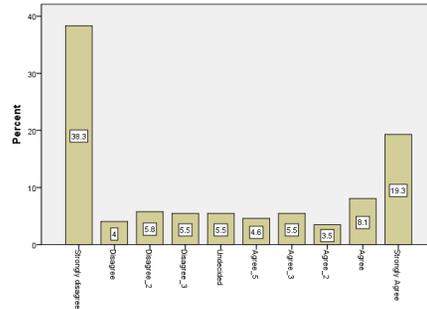
The Constitution of South Africa is the supreme law in the country, meaning all legislation, policies and programmes must meet the fundamental values on which the Constitution is based, namely equality, freedom and dignity. Section 9(1) of the Constitution expressly states that “*Everyone is equal before the law and has the right to equal protection and benefit of the law*”. Section 9(3) and section 9(4) further continues to name the grounds on which the state and any other person may not unfairly discriminate. Pregnancy is included in the list of grounds, together with sex, gender, marital status and age. Even though the highest law in the country provides for equal treatment of female, pregnant learners, the reality is that these girls often feel discriminated against, as indicated by their responses on the questionnaires. 27.5% of female learners felt strongly that their peers, in other word fellow-learners, discriminated against them because of the pregnancy (figure 2).

**Figure 2: Frequency distribution in percentages to the question: Other learners discriminate against me because of my pregnancy**



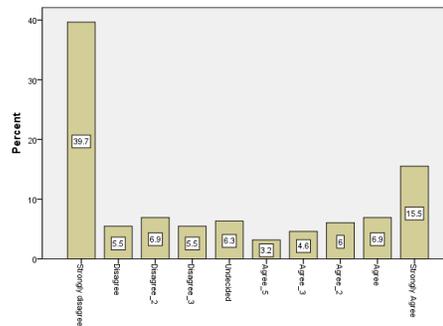
The inequality between men and women in the South African society becomes clear in the responses of the learners on whether the father experiences the same type of discrimination as the mother. Nearly 31% of the girls experienced more discrimination than the father as a result of the pregnancy (figure 3).

**Figure 3: Frequency distribution in percentages to the question: I experience more discrimination, because of the pregnancy, than the father**



In a largely Christian society falling pregnant out of wedlock is not the ideal situation, which leads to stigmatisation of the learner who fell pregnant. 28.4% of the respondents indicated that they feel stigmatised by the community as a result of the pregnancy (figure 4). Stigmatisation by the community also affects the learner’s constitutional right to have her dignity respected and protected, as provided for in section 10 of the Constitution.

**Figure 4: Frequency distribution in percentages to the question: Learners who fall pregnant are stigmatized by the community**



The South African Constitution also includes, in section 29, the right of every person to basic- and further education. Any legislation or action by a governmental department, or school governing body, which forces a girl to leave school as a result of being pregnant, is unconstitutional and therefore void.

Section 12(1)(c) of the Constitution entrenches the right of all persons in the country to have security of the person, including the right to: “...*be free from all forms of violence from either public or private sources*”. If a learner is raped, or sexually assaulted this is an infringement of section 12(1)(c) of the Constitution.

The right to social security is entrenched in section 27(1)(c) of the Constitution. Social security includes the right to receive social assistance from the South African government if a person is unable to support themselves and their dependants.

All these sections of the South African Constitution directly affect the life of a pregnant learner, as will become clear from the discussion on various pieces of legislation that was implemented to give effect to the South African Constitution as the supreme law in the country.

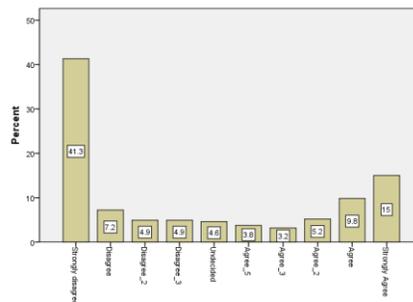
## South African Schools Act, 84 of 1996

The South African Schools Act is a direct result of people’s right to education. Section 5(1) of this Act protects learners from unfair discrimination by public schools, including the personnel employed by the school and the school governing body, by expressly stating that a public school must admit learners and serve their educational needs without unfairly discriminating against the learner in any way. No test may be administered by a school governing body to determine whether a student may be admitted to the school.

It is therefore clear that no school may expel a learner because of her pregnancy, or refuse to admit a learner to the school as a result of her pregnancy. School staff may not discriminate against a learner on the grounds of her pregnancy in any way. Pregnant learners must be allowed to continue attending school until the birth of the baby. The girl should be allowed to return to school after the birth to complete her education.

The reality however is that a number of girls feel that some of the school staff discriminates against them as a result of the pregnancy. More than 30% of the girls who completed the questionnaires felt that the school discriminated against them because of their pregnancy (figure 5).

**Figure 5: Frequency distribution in percentages to the question: I feel the school (staff) discriminate against me because of my pregnancy**

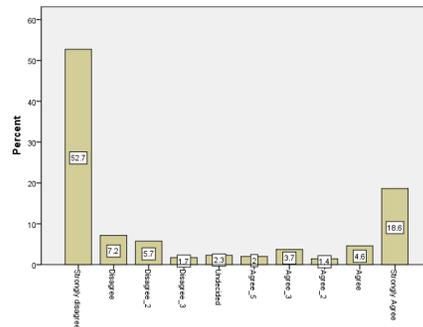


Nearly one quarter of girls dropped out of school in the past as a result of a pregnancy (figure 6). This number is not very accurate, as only school-going learners completed the questionnaire, with learners who did not return to school not accounted for. Only girls who later resumed their education are included in these numbers.

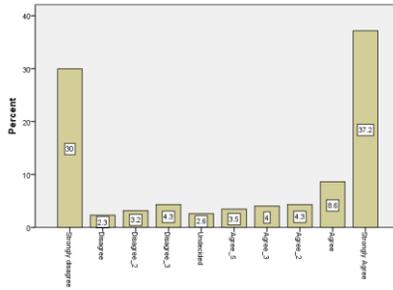
Only 35.5% of respondents indicated that the school allowed them to continue with their education despite their pregnant status (figure 7).

The good news is that more than half of the learners indicated that they plan to continue with their schooling after childbirth, despite the challenges they face (figure 8).

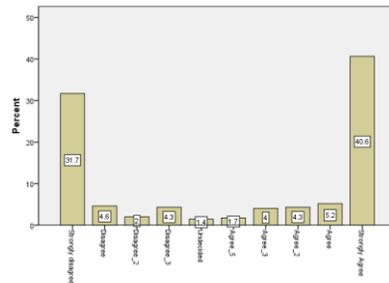
**Figure 6: Frequency distribution in percentages to the question: I dropped out of school because of the pregnancy**



**Figure 7: Frequency distribution in percentages to the question: The school allows me to continue with my education after the birth of the baby**



**Figure 8: Frequency distribution in percentages to the question: I plan to continue with my schooling after the birth of the baby**

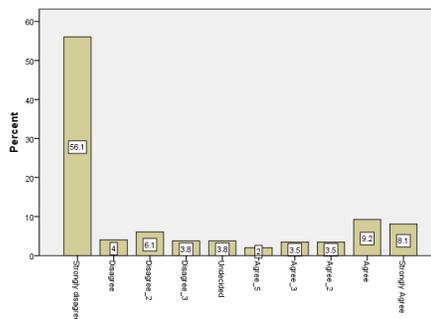


## **Criminal Law (Sexual Offences and Related Matters) Amendment Act, 32 of 2007**

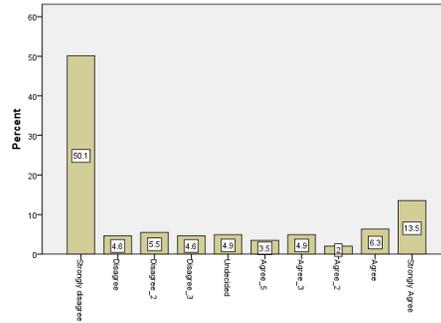
UNICEF found in their 2006 Report that up to 40% of pregnancies in the age group 15 to 24 years are the result of forced sexual intercourse.

In South Africa, research conducted by the Medical Research Council estimates that there are an estimated 500 000 cases of rape occurring in South Africa on an annual basis. Only about 10% of these rapes are reported by the victims. Approximately 30% of adolescents reported that their first sexual encounter was in the form of rape or sexual abuse. Nearly 26 % of the learners interviewed for this paper indicated that their pregnancy is a result of rape (figure 9) to at least some extent, whilst nearly 30% of the girls felt that their pregnancy was a result of some other form of sexual abuse (figure 10).

**Figure 9: Frequency distribution in percentages to the question: The pregnancy was a result of rape**



**Figure 10: Frequency distribution in percentages to the question: The pregnancy was a result of sexual abuse**



To give effect to section 12 of the Constitution in which a person’s right to live a life free from violence is entrenched, the Criminal Law (Sexual Offences and Related Matters) Amendment Act was introduced by the South African government. This legislation defines rape (in section 3) as: “Any person (“A”) who unlawfully and intentionally commits an act of sexual penetration with a complainant (“B”), without consent of B”.

Any person, including learners, who are the victim of a sexual offence, must report the incident to the South African Police Service (SAPS), in order to have the case investigated and the perpetrator brought to justice.

## Social Assistance Act, 13 of 2004

The Social Assistance Act was implemented by Parliament to give effect to section 27(1)(c) of the Constitution. With more than a quarter of pregnant learners indicating that access to the child support grant played some role in their decision to fall pregnant, or in the decision not to terminate the pregnancy, it is necessary to discuss the child support grant in more detail.

The primary caregiver (in most cases, the mother) of a child up to the age of 16 years, can access the child support grant if certain requirements are met, including the means test. From January 2012 the age restriction will include children up to the age of 17 years. As of 01 April 2011 the child support grant is R260 (approx. \$40) per child per month. This amount will increase to R270 per child per month, from 01 October 2011. Once the child support grant is accessed for a specific child, this child automatically qualifies for free basic education as well as free health care services.

Although this amount does not seem very high, it can make a big difference to a person living in extreme circumstances of poverty. For this reason it may look like a good idea to fall pregnant, for a young girl. The downside to this argument is unfortunately that many of the children born into poverty to access child support grants never have the opportunity to break the cycle of poverty.

The perception exists that many young girls from poor backgrounds fall pregnant deliberately to access the child support grant through the Department of Social Development. 24.5% of learners indicated that this was the case to a greater extent. 8.3% of the girls showed that access to the child support grant was to a lesser extent a motivating factor in falling pregnant (figure 11).

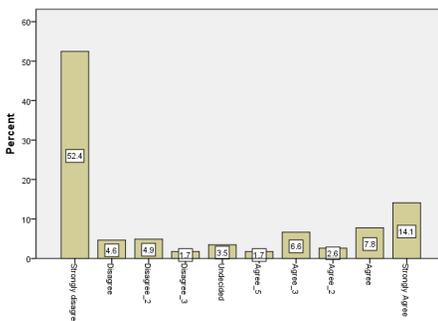
## CONCLUSION AND RECOMMENDATIONS

Although statistics indicate that learner pregnancy is decreasing there are still too many girls at school who fall pregnant, and thereby limiting future opportunities to improve their living standards. In a country that prides itself on the huge steps it took to overcome apartheid, various other forms of discrimination apply in society today. Pregnant learners experience one such form of discrimination in their communities, by members of staff at school and by their peers, as a result of the premature pregnancy.

The South African government put all the relevant legislation in place to afford pregnant learners the same opportunities as their counterparts who did not fall pregnant. The reality is that these pieces of legislation

do not seem to apply in the world of the pregnant learner. Although various intervention programmes to prevent learner pregnancy exist, the efforts by government and NGO's need to be escalated.

**Figure 11: Frequency distribution in percentages to the question: I decided to fall pregnant to get the child support grant**



Too many girls who fall pregnant whilst they are still pursuing their education feel the need to drop out of school to care for the baby, either due to a lack of child care, or because of the stigma that exists surrounding teenage pregnancy. The fathers of these children get off relatively scot free. Education on the consequences of premature pregnancy and the lack of completed quality education on the life of the pregnant learner is the only way in which this phenomenon may be curtailed. Learners who do fall pregnant must receive the support from their schools, peers and community they need to complete their education.

The fact that many girls fall pregnant because of rape and other forms of sexual abuse is worrying. The low number of reported rape cases against the actual presumed cases of rape indicates that the South African government needs to investigate the reporting procedures of rape incidents. If a girl indicates that the pregnancy is the result of a sexual offence the community must support her in bringing the perpetrator to justice. The pregnant learner must not be the one that carries the blame.

The phenomenon of learner pregnancy is negatively affecting the lives of too many young women. As a society, with the help of governmental structures, this issue must be addressed as a matter of urgency to allow these young women to reach their full potential.

## REFERENCES

Constitution of the Republic of South Africa, 108 of 1996

Criminal Law (Sexual Offences and Related Matters) Amendment Act, 32 of 2007

Cunningham, PW & Boulton, BE. "Black Teenage Pregnancy in South Africa: Some Considerations", *Adolescence*, Vol.31 (1996): 691-700

Goonesekere, S. De Silva-de Alwis, R., *Women's and Children's Rights in a Human Rights based Approach to Development*. New York: UNICEF, 2005

Jewkes, R et al. "Relationship dynamics and teenage pregnancy in South Africa", *Social Science and Medicine*, Vol52, (2001): 733-744

Marais, A et al. "Learner Pregnancy: A study of the impact on the health, education and legal rights of pregnant teenage girls in the Mpumalanga and Limpopo Provinces of South Africa", *GBATA 2010 Conference Proceedings*, (2010). GBATA. New York.

Mkhwanazi, N. "Understanding teenage pregnancy in a post-apartheid South African township", *Culture Health and Sexuality*, Vol. 12, Iss. 4, (2010): 347-358

Panday, S., Makiwane, M., Ranchod, C. & Letsoala, T. *Teenage pregnancy in South Africa: with a specific focus on school-going learners*. UNICEF, July 2009

Rape Statistics – South Africa and Worldwide 2010. Available at [http://www.rape.co.za/index.php?option=com\\_content&task=view&id=875](http://www.rape.co.za/index.php?option=com_content&task=view&id=875) . accessed on 28 April 2011

South African Schools Act (Act 84 of 1996)

Social Assistance Act, 13 of 2004

South African Police Service – Crime Statistics in RSA from 2003/2004 to 2009/2010. Available from [http://www.saps.gov.za/statistics/reports/crimestats/2010/categories/total\\_sexual\\_offences.pdf](http://www.saps.gov.za/statistics/reports/crimestats/2010/categories/total_sexual_offences.pdf) Accessed on 28 April 2011

Statistics South Africa. Documents available at [www.statssa.gov.za](http://www.statssa.gov.za) . Accessed on 28 April 2011.

UNICEF Documents: [www.unicef.org](http://www.unicef.org). Accessed on 28 April 2011

# ARE GENE SEQUENCES PATENTABLE SUBJECT MATTER?

**Michael J. Maran, European Affairs Committee, USA**

## ABSTRACT

*The U.S. District Court has decided Association for Molecular Pathology v USPTO, 702 F. Supp. 2d 181 (2010). The question decided in the case: Are the BRAC1 and BRAC2 gene sequences patentable statutory subject matter? The sequences can be used to identify the presence of the specific mutations in the genes of a tested woman that correlate with a high risk of developing breast or ovarian cancer. The court held that gene sequences were not patentable under the products of nature doctrine. The decision should allow researchers to conduct basic or upstream research without the restrictions that are imposed by patents. The plaintiffs contend that prior law harmed patients by allowing the patentee to charge monopoly prices and prevent additional upstream research that could improve genetic tests and find new uses for the patented genes. The first section of my paper introduces the problem, the second section analyzes the product of nature doctrine under 35 USC 101, the third section discusses the problem of patent thickets which can arise when the United States Patent and Trade Mark Office (USPTO) grants to many gene sequence patents, the fourth section presents my proposal to add a new subsection (j) to 35 USC 271 to solve the problem of patent restrictions on basic research and the final section presents my conclusions.*

## INTRODUCTION

The U.S. District Ct. S.D., New York has rendered its decision in the case of *Association for Molecular Pathology v USPTO*, 702 F. Supp. 2d 181 (2010). The court decided that an isolated DNA (deoxyribonucleic acid) molecule which contains all or portions of the BRAC1 and BRAC2 gene sequence is not patentable subject matter under 35 USC 101. The court also held that the patentee's method claims were invalid. My paper will not discuss this aspect of the court's decision. A person's entire collection of genetic material is known as her or his genome. Every human cell contains a copy its genome in the form of structures called chromosomes which are made up of DNA. A DNA molecule consists of two long chains each made up of smaller molecules called nucleotides. A DNA sequence refers to the order of its nucleotides. A gene is a full-length DNA sequence that encodes or reads a complete protein. A molecule is isolated when it is removed from its naturally occurring environment. A gene sequence is a fragment of a gene and it consists of nucleic acid molecules whose sequence corresponds to a portion of the full-length DNA sequence. The fragments are called expressed sequence tags (ESTs) or single nucleotide polymorphisms (SNPs). Myriad Genetics Laboratories is the assignee of the challenged patents. Specific mutations in the BRAC1 and BRAC2 genes can dramatically increase a woman's risk of developing breast and ovarian cancer. The BRAC1 and BRAC2 gene sequences can be used to identify the presence of the specific mutations in the genes of the tested woman that correlate with a high risk of breast and ovarian cancer. An effective diagnostic test must use the full gene sequence. Myriad's patents are broad and there is no way of working around them because the gene sequences are unique to the human genome. The patents allow Myriad to be a monopoly provider of the full-sequence BRAC diagnostic test and to charge monopoly rents and limit access to the test.

## PRODUCTS OF NATURE ANALYZED UNDER 35 USC 101

A section 101 analysis consists of two steps. First the court determines whether the claimed invention constitutes patentable subject matter and second whether the claimed invention possesses utility. The court in *Association for Molecular Pathology* did not undertake the second part of the analysis because both sides agreed that the BRAC1 and BRAC2 gene sequence possessed utility. The inquiry regarding an invention's patentability

“...is a threshold inquiry, and any claim of an application failing the requirements of sec. 101 must be rejected even if it meets all of the other legal requirements of patentability. ...Sec. 101 states three requirements: novelty, utility, and statutory subject matter. ...Thus questions of whether a particular invention is novel or useful are questions wholly apart from whether the invention falls into a category of statutory subject matter.” It is a freestanding inquiry that is to be decided without reference to novelty and utility. Despite the wording of the statute, case law has held that novelty will not be considered in a section 101 analyses. The court found that the isolated DNA was not markedly different from DNA found in human cells and therefore it was an unpatentable product of nature. The decision revives the “products of nature” doctrine which was followed by earlier cases. The doctrine arises from the inherent truth that something cannot be new if it already exists in nature. “[M]ere purification of known materials does not result in a patentable product,” unless “the product obtained in such a case had properties and characteristics which were different in kind from those of the known product rather than in degree.” *In re Merz*, 97 F.2d 599, 601 (1938) (quoted in *Association for Molecular Pathology*). In *Funk Brothers v Kalo Inoculant*, 333 U.S. 127 (1948), the Supreme Court found that a mixture of six bacteria used to inoculate a wide variety leguminous plants were not patentable because “[t]heir qualities are the work of nature. ...[P]atents cannot issue for the discovery of the phenomena of nature. ...If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end.”

There have always been critics of the “products of nature doctrine.” Mr. Justice Frankfurter in *Funk* opined that “it only confuses the issue, however, to introduce such terms as ‘the work of nature’ and the ‘laws of nature.’ For these are vague and malleable terms infected with too much ambiguity and equivocation. Everything that happens may be deemed ‘the work of nature,’.... Arguments drawn from such terms for ascertaining patentability could fairly be employed to challenge almost every patent.”

The “products of nature” doctrine controlled until the Supreme Court decided *Diamond v Chakrabarty*, 447 U.S. 303 (1980). The court held that a genetically engineered strain of bacteria capable of breaking down multiple components of crude oil was patentable subject matter. The bacterium was human-made and did not exist in nature. The court compared the invention claimed in *Funk* with the invention claimed by Chakrabarty. “There, the patentee had discovered that there existed in nature certain species of root-nodule bacteria which did not exert a mutually inhibitive effect on each other. He used that discovery to produce a mixture capable of inoculating the seeds of leguminous plants. ...Here, by contrast, the patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature’s handiwork, but his own; accordingly it is patentable subject matter under sec. 101.” The Court also relied on the Committee Reports accompanying the 1952 Patent Act which indicated that Congress intended the statutory subject matter to “include any thing under the sun that is made by man.” The court maintained its fealty to existing law by stating that “it is well established that products of nature are not patentable.”

The decision, despite its fealty to the products of nature doctrine, was interpreted as a rejection of that doctrine regarding patentable subject matter. In *Amgen, Inc. v Chugai Pharmaceutical Co.*, 927 F. 2d 1200 (1991) the court found that a DNA sequence that existed in nature was patentable subject matter because it was “purified and isolated” from its naturally occurring counterpart. The reader should note that it was the U.S. Court of Appeals, Federal Circuit, and not the U. S. Supreme that rejected the products of nature doctrine. The Supreme Court has not changed its view in regard to the products of nature doctrine. “This Court’s precedents provide three specific exceptions to sec. 101’s broad principles: ‘laws of nature, physical phenomena, and abstract ideas.’ ...[T]he exceptions have defined the statute’s reach as a matter of statutory *stare decisis* going back 150 years.” *Bilski v Kappos*, 130 S.Ct. 3218, 3221 (2010). The product of nature doctrine was not an issue in *Bilski*.

The words “discover” or “discovery” does not mean the same as “invent” or “invention” as used in the Constitution and the early patent laws. An “invention” is a new creation that is consciously sought and successfully reduced to practice by the inventor. A “discovery” is the fortuitous finding of something new that already exists in nature. Thus, an ‘invention’ and a ‘discovery’ share the requirement that the inventor create something original; the difference between the two is that an ‘invention’ is consciously sought, while a ‘discovery’ is created unexpected. A discovery isn’t the subject of a patent. As stated *In Re Kemper*, “it will be found, by a careful perusal of the Constitution and laws of the United States upon the subject of patents for useful arts, etc., that it (discovery) is not there used in this sense, but always, always as synonymous with

invention.” No discovery will entitle the discoverer to a patent which does not in effect amount to the contrivance or production of something which did not exist before; or in other words, to an invention. A law of nature can be discovered but it can not be invented. When discovered, a law of nature may be utilized in an invention relating to patentable subjects, such as processes, machines or compositions of matter. It is the invention of one or more of these subjects, for the purpose of utilizing a law of nature, and not the discovery of that law, that may be rewarded with a patent.

Recital 16 of the Directive 98/44/EC of the European Parliament and Council of the European Union of 6 July 1998 [the Biotech Directive] states that the mere discovery of a human gene sequence cannot be patented. A gene sequence is not an invention. However, Recital 20 states that “...an element isolated from the human body or otherwise produced by means of a technical process, which is susceptible of industrial application, is not excluded from patentability, even where the structure of that element is identical to that of a natural element...” Article 3 states that “inventions which are new, which involve an inventive step and which are susceptible of industrial application shall be patentable even if they concern a product consisting of or containing biological material or a process by means of which biological material is produced, processed or used.” It is clear that the decision in *Association for Molecular Pathology* creates a difference between European and US law. The Biotech Directive’s requires the applicant to show an industrial application which means that the applicant must identify which portion or part of the protein is produced or what function it performs (Recital 24 of the Biotech Directive). The requirement limits the patentability of gene sequences. The Biotech Directive has been incorporated into laws of the member states.

The USPTO and European patent offices acknowledge that gene sequences are a natural phenomenon and that they are the body’s way of carrying information as to how proteins are to be constructed. However, extracting genetic information encoded by a DNA sequence is not just a matter of gaining knowledge about a natural phenomenon: it involves the use of cloning techniques to create an artificial molecule in such a way that it includes much the same genetic information as is to be found in the natural phenomenon. The scientific knowledge concerning the genetic information has been discovered through the creation of the artificial molecule. Without isolating and cloning a gene, it is not possible to identify the sequence bases of which it is comprised. The purified and isolated gene is new because it was not previously available in a purified and isolated form. Virtually all gene sequence patent applications submitted to the USPTO attempt to avoid the products of nature objection by claiming that the gene sequence is isolated and purified. The process by which the gene sequence was made can be patented. The isolated and pure molecule is a composition of matter and it can be reproduced outside its natural environment. Unlike the BRAC1 and BRAC2 gene sequence, the isolated molecule is used to treat rather than diagnosis a disease. The discovered genetic information is considered an invention and the product of human handiwork.

The plaintiffs raise the issue of patent thickets in *Association for Molecular Pathology*. The court doesn’t decide whether not patent thickets exist or whether they are having an adverse effect on research and the development multiplex testing kits. The plaintiffs cite the Cho study, “Effects of Patents and Licenses on the Provision of Clinical Genetic Testing Services,” *Journal of Molecular Diagnostics*, v 5(1); Feb. 2003, to support the existence of patent thickets and their adverse effects. The majority of genetic tests are offered as laboratory developed tests, rather than as downstream developed testing kits. Unless this trend changes, very few genetic test developers (i.e., only those creating kits) will be able to conduct developmental research on patents without being liable for infringement. Test manufacturers are eager to develop and clinicians are eager to use multiplex tests rather than single gene tests, to carry out genetic testing. These tests would be more efficient than conducting a series of individual tests. Patent claims on isolated genes and associated patent claims appear to have already created a thicket of intellectual property rights that may prevent innovators from creating these multiplex tests. Similar concerns arise when envisioning the clinical application of whole-genome sequencing. Patents on genetic discoveries do not appear to be necessary for either basic genetic research or the development of available genetic tests.

## PATENT THICKETS

Patent thickets or an anticommons could arise when multiple owners each have a right to exclude others from a scarce resource, and no one has an effective privilege of use. It is necessary to distinguish between

upstream and down stream inventions. In the context of *Association for Molecular Pathology*, the BRAC1 gene is an example of an upstream invention or research tool while a testing kit developed using the BRAC1 gene is an example of a downstream end product invention. Nearly 20 % of human genes are explicitly claimed as US IP [United States Intellectual Property]. Some genes have up to 20 patents asserting rights to various uses and manifestations including diagnostic uses, single nucleotide polymorphism (SNPs), cell lines and constructs containing the gene. By way of illustration, the BRAC1 gene has 12 assignees for 14 patents. Developing multiplex tests will depend on acquiring rights to multiple patents on genes. Negotiating licenses to all relevant patents would be expensive, and, under current law, there is little to prevent the holder of a needed patent from refusing to deal or from charging exorbitant rates. Even if all patent holders provide a reasonably priced license, the cumulative cost of multiple licenses could make products unmarketable. A substantial number of genes are protected by patents. Ownership of these patents is spread over a large number of assignees. The existence of so many patents protecting genes, spread among various assignees, creates a patent thicket which is a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology.

Prior to the passage of the Bayh-Dole Act of 1980 (35 USC 200-203) which allows universities to patent and license inventions that are the product of research funded with federal dollars to private sector firms, upstream inventions were customarily placed in the public domain. The goal of the Act was to facilitate the transfer of upstream technology that was developed with public funds to private firms who would then fund the development of downstream commercial products. Universities have taken the opportunity to file patent applications on basic research discoveries, such as new DNA sequences, protein structures, and disease pathways, which are primarily valuable as inputs into further research. The act does not distinguish between downstream inventions that lead to commercial products and upstream inventions that enable additional scientific investigation. Upstream researchers seldom sought to patent their inventions prior to the passage of the Bayh-Dole Act. Research followed a commons model in which the government sponsored upstream research and encouraged the broad distribution of the results in the public domain. Unpatented upstream inventions were freely incorporated in downstream products that diagnosed and treated disease. Researchers shared their information and published their findings in peer reviewed journals in order to gain the recognition of their peers and advance their academic careers. Upstream researchers did not concern themselves with patent infringement because it was assumed that patented inventions that were used for research, academic or experimental uses enjoyed a common law exemption from infringement. In *Madley v Duke University*, 307 F3d. 1351 (2002), the court characterized the exemption as the experimental use defense. "...[M]ajor research universities, such as Duke, often sanction and fund research projects with arguably no commercial application whatsoever. However, these projects unmistakably further the institution's legitimate business objectives, including educating and enlightening students and faculty participating in these projects." So long as the use of the patented invention furthers "the alleged infringer's legitimate business and is not solely for amusement, to satisfy idle curiosity, or strictly philosophical inquiry, the act does not qualify for the very narrow and strictly limited experimental use defense." The court held that there was no general research exemption that shielded academic researchers from infringement liability. The *Madley* decision has effectively ended the experimental use exemption as a defense for patent infringement by academic institutions.

Although the *Madley* decision in combination with the Bayh-Dole Act would seem to have created a perfect storm for the creation of patent thickets, patent thickets have not developed. Patents are not typically used to restrict access to the knowledge that biomedical scientists require. To begin with, few academic bench scientists currently pay much attention to others' patents. Only 5%...regularly check for patents on knowledge inputs related to their research. Only 2%...have begun checking for patents since the *Madley* decision. Patentees tolerate patent infringement by universities because litigation is costly, the risk of bad publicity is great and the risk of a court holding their patents narrowed or invalidated is high. It is not cost effective to sue academic researchers for infringement. Academic scientists have not changed their approach to research, delayed the completion of an experiment or abandoned a line of research because of patent infringement concerns. Research suggests that the law on the books need not be the same as law in action if the law on the books contravenes a community's norms and interests.

Patent thickets could be problem in the future because academic researchers display a lack of awareness or concern about the intellectual property (IP) right of others. The status quo could change dramatically as institutions become aware that they no longer enjoy protection from infringement liability and take more active

steps to raise researcher' awareness about the IP rights of others or even try to regulate their activity. Alternately, patentees aware that universities are no longer shielded by law from patent infringement liability could take active steps to enforce their IP rights. As scientists increasingly employ automated techniques to study the properties of many genes or proteins simultaneously, the burden on the investigator to obtain rights to the IP could become insupportable.

Upstream patents of gene fragments that are closely linked to human health and licensed to downstream private sector firms or laboratories affiliated with universities that provide DNA genetic tests are more likely to be aggressively enforced by patentees. Milred Cho conducted a telephone survey of 132 directors of laboratories that perform DNA based genetic tests. Seventy five percent of these laboratories held patent licenses; 65% had been contacted by a patent or license holder regarding the laboratory's potential infringement of a patent by performance of a genetic test, 25% had stopped performing a clinical genetic test because of a patent or license, and 53% had decided not to develop a new clinical genetic test because of a patent or license. Seventy one percent of directors of private sector laboratories versus 24% of directors of university laboratories reported that they had been prevented from performing a test.

## **ARE PATENTS NECESSARY?**

The traditional rationale for granting a patent is to impede the emergence of competition to some newly invented product and thereby provide the inventor with the potential to earn revenues by exploiting the invention himself or by granting a license so that another can exploit the invention. The inventor hopes that the earned revenues will be sufficient to allow him to recoup his investment and to earn a profit. Revenues will quickly disappear if free-riders can copy the invention. The government grants an inventor ownership of the invention for twenty years from the date that the patent application was filed in exchange for the disclosure of information about the invention in the patent application. This is the tradition patent bargain made between the government and the inventor. Gene patents embody information. The consumption of that information is nonrivalous. Once the inventor releases the information, he cannot prevent others from using that information whether or not they pay. Information will be under produced without patents. The patentee is not required to use or license the invention. If a patentee refuses to license the patented gene it would be an act of infringement for researchers to attempt to reproduce the patentee's original research or use the BRAC1 and BRAC2 gene sequences to search for new uses for the genes not identified in the original patent

The possibility of realizing profits provides a limited incentive to upstream academic researchers because most basic genetic research is funded by the National Institute of Health (NIH). [30] Although the Bayh-Dole Act encourages upstream researchers to obtain patents, the NIH recognizes that most patents won't yield revenues sufficient to provide a profit. The NIH awards research grants based on the rationale that the discoveries produced by upstream research will confer substantial social benefits that can not be internalized by the researcher. The NIH subsidizes upstream research because otherwise that research would not be undertaken and society would lose the social benefits conferred by that research. The possibility of realizing profits provides a limited incentive to upstream researchers working in the laboratory of a private company because the cost of that research is borne by the company and any inventions that result from that research are patented by the company rather than by the researcher.

Are patents necessary to develop genetic tests which are defined as DNA-based tests to predict or diagnose disease? Data from the already referred to survey conducted by Mildred Cho indicate that laboratory directors of clinical laboratories performing genetic tests think that gene patents hinder rather than facilitate genetic testing. Chou's finding here and elsewhere demonstrates that laboratories are able to quickly translate published data into clinical tests without the incentives provided by patents and that laboratories are stopped from performing tests after patents issue. (It usually takes two years for a patent to be issued after an application is filed with the USPTO. During the interval anyone is free to use the information revealed in the application). This suggests that patents are not critical for the development of an invention into a commercially viable service when the invention is the finding of an association between a genetic variant and a particular condition. Laboratory directors are of the opinion that gene patents have increased the costs both to laboratories and to patients. The result is that fewer laboratories are performing genetic tests which will lead to less test innovation

and less clinical research. Cost increases will also limit patient access. The opinions of laboratory directors are consistent with microeconomic theory which holds that monopolies raise prices and restrict output.

The European Patent Convention (EPC) provides a legal framework for the granting of a European Patent. A patent applicant who is seeking patent rights in all of the member states of the European Union can obtain those rights with the submission of a single application to the European Patent Office (EPO). The patent is automatically registered in each of the member states when it is issued with the exceptions of Spain and Italy. The European Patent creates a collection of national patents that are governed by the national laws of each member state. The national patent systems of each of the member states are not superseded and there is no guarantee of uniform treatment of the European Patent by each of the member states. The European Patent has the same effect and is subject to the same conditions as patents that are granted by the member states. Article 31 (a) (b) [Article 27 (a) (b) of the 1989 version] of the Convention for the European Patent for the Common Market 1975 (CPC) grants an exemption for “acts done privately and for non-commercial purposes” and for “acts done for experimental purposes relating to the subject-matter of the patented invention.” Despite the fact that the CPC has not entered into force and thus does not provide a legal exemption, the relevant language of Article 27 has been incorporated verbatim into most of the national laws of the member states. The Biotech Directive does not contain an experimental use exception.

## THE RESEARCH EXEMPTION

The problems that upstream researchers face can be addressed by adding a new subsection (j) to 35 USC 271. The new subsection will limit the reach of 35 USC 271 (d) (4) which provides that “[n]o patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having...refused to license or use any rights to the patent...”

The text of the proposed subsection (j) reads: It shall not be an act of infringement to make or use a patented invention solely for the purpose of research, experimentation, academic or philosophical inquiry unless the invention is a research tool as defined by the National Institute of Health. It shall not be an act of infringement to conduct research on a research tool to improve it, investigate its properties including the validity and the scope of its patent, and create a new process or product including alternatives and substitutes for the research tool. It shall be an act of infringement to conduct research with a research tool to develop a final marketable product which may or may not incorporate the research tool unless the patentee grants a license. A patentee of a research tool used as described in the previous sentence shall not unreasonably deny a request for a nonexclusive license.

The problems that have been identified justify a reduction in the patentee’s right to exclude. Given that basic genetic research is largely funded by the federal government, the public has paid for a right of access to the inventions generated by that research. Denying access means that the public pays once for the research and then pays a second time in the form of higher prices and restricted output. Arguments that are made by proponents of drug patents are not relevant to the patenting of gene sequences. Large pharmaceutical companies argue that they need patents to attract capital to pay for the creation and testing of new drugs. Private investors supply the capital and it is used to pay the salaries of research and development (R&D) scientists, the cost of animal research, the cost of human clinical trials and the cost of obtaining FDA approval. None of these costs are incurred in the R&D of gene sequences.

The first sentence of the proposed amendment seeks to preserve the narrow *Madey* exemption. The NIH has defined research tools to include cell lines, monoclonal antibodies, reagents, animal models, growth factors, combinatorial chemistry, DNA libraries, DNA clones and cloning tools, methods, equipment and machines. 64 Fed. Reg. 72090, 72091 (Dec. 23, 1999). A measure of flexibility is added to the definition of research tools by allowing the NIH to define the definition because the definition of a research tool will change over time. The second sentence of the proposed subsection reflects the distinction drawn between experimenting “on” versus “with” a research tool made by Judge Pauline Newman, concurring and dissenting in part, in *Integra Lifesciences v Merck*, 331 F. 3d 860 (2003). A researcher should not have to ask the permission of the patentee to experiment on an upstream research tool because this frustrates the purpose of the patent law’s

required disclosure. Courts will have to draw the line between experimenting “on” or “with” a research tool because there is no bright line that separates the concepts.

The patentee will face difficult pricing decisions since the value of upstream research will be difficult to determine before it is commercialized. Should the patentee charge a licensee a large upfront payment or a minimal payment coupled with a reach-through licensing agreement to receive a royalty based on sales or usage of a downstream product created with the upstream research? The amount of potential revenues that a patentee can claim will depend on the scope of his patent. The patentee and the licensee will have to find common ground regarding the probability of successfully commercializing upstream research. While startups prefer exclusive licenses because they are seen by venture capitalists as the best way to generate revenues, nonexclusive licensing is necessary to prevent the harm to patients described in *Association for Molecular Pathology*. There, patients were denied coverage by insurance companies because of the high cost of Myriad’s diagnostic tests and its exclusive license also meant that patients were unable to obtain a second opinion. These are issues of life and death for the patient. The NIH recommends that “whenever possible, non-exclusive licensing should be pursued as a best practice.” This should be of less concern in the European Union because Recital 35 of the Biotech Directive states that human diagnostic methods are excluded from patentability. Unfortunately, there is no implementing article.

The value of a patented research tool will not be destroyed by the proposed subsection’s nonexclusive licensing requirement; however, the prospect of competition will lessen the ability of the patentee to earn a monopoly rent. Venture capitalists will still be able to earn normal profits which should provide sufficient incentives to develop and disseminate new commercial products. The first firm to obtain a nonexclusive license will also benefit from first-mover and learning-curve advantages. A nonexclusive license makes the research tool widely available and encourages downstream development. An exclusive license can prevent nonlicensees from improving and discovering new uses for upstream basic research. This can be a problem because an applicant for a patent need not disclose or know every use of his invention (35 USC 112). Uses discovered by licensees and third parties are automatically included in the applicant’s claim. *Regents of the University of California v Eli Lilly and Company*, 119 F.3d 1559, 1569 (1997). The USPTO can minimize this problem by granting patents of limited scope.

The authority of the federal government to grant patents is derived from Article 1, section 8, clause 8 of the Constitution. It reads, “To promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” “Science” refers to copyrightable subject matter while “useful Arts” refers to patentable subject matter. However we choose to define “invention” and “discovery,” it is clear that the purpose of a patent is to encourage invention and discovery. The Constitution did not create a financial instrument that would be used to raise capital in order to produce and exploit inventions.

The Supreme Court’s decision in *Merck HGAA v Integra Lifesciences*, 545 U.S. 193 (2005), has expanded the exemption of 35 USC 271 (e) (1) to include drugs and the use of patented compounds in experiments that are not ultimately submitted to the FDA. Lower courts have yet to determine the boundaries of this decision.

The United States has signed the Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) which does not define invention. Signatories have considerable freedom to determine what should be deemed an invention and to exclude from patentability any substance that exists in nature. Would the proposed subsection (j) violate TRIPS? Art. 27.1 provides, subject to some exceptions that, “patents shall be available and patent rights enjoyed without discrimination as to the...field of technology.” The intent of this article was to prevent the exclusion of patent protection for certain type of patentable subject matter (i.e. drugs, agrochemicals and foodstuffs). Article 30 provides that “members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.” The proposed subsection provides limited exceptions to the exclusive rights conferred by a patent for upstream inventions and accommodates Art. 30’s three prong test. The parameters of the test will have to be defined by the courts. The third prong of the test permits the interests of third parties, including

patients, to be considered. When interpreted against the backdrop of the legislative debate and other proposals, it seems likely that it [Article 30] was intended to allow exceptions for infringements conducted for: (1) private, non-commercial purposes; (2) research; (3) experimentation for testing and improvement; and (4) educational purposes.

TRIPS' Article 27.3 (a) allows diagnostic tests to be excluded from patentability. The courts should take advantage of this article to eliminate one of the harms to patients identified in *Association for Molecular Pathology*. Article 27.2 allows signatories to deny patentability of a particular invention on the grounds that it is contrary to the public interest (*ordre public*). It is in the public interest to deny patents to gene sequences because such patents restrict upstream R&D and deny patients access to diagnostic tests.

The language of Article 30 tracks the language of article 13 which addresses limitations or exceptions to the legitimate interests of the right holder. Article 13 states, "Members shall confine limitations or exceptions to exclusive right to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder." Article 13 has been interpreted to include a fair use exemption. The courts should incorporate the fair use exemption of copyright law into Article 30. Fair use in copyright law turns primarily on the degree to which the use is transformative. Its incorporation would introduce copyright's transformation test into patent law. A use that is transformative would allow an accused infringer to defend by arguing that his research has added something new to the patented invention. Some type of patent fair use is not only permissible but also expected under TRIPS. The introduction of a fair use exemption into American patent law would be a major change and its boundaries would need to be defined by the courts.

## CONCLUSION

Gene sequences are discovered or invented by automatic sequencing machines that require little human effort. The discoveries are a product of nature. The discoverer seldom knows the utility of his discovery. Isolating and purifying a gene does not change its biological information. It is simply copying it into another format. It is hard justify the granting of patents to such discoveries. The status quo restricts access of some patients to diagnostics tests because insurance companies refuse to pay monopoly prices. Patients can not get second opinions. Patents restrict the development of downstream products. Patent thickets can be a problem. The Constitution provides the federal government with the authority to issue patents. The purpose of a patent is to encourage invention and discovery. The Constitution did not create a financial instrument that would be used to raise capital in order to produce and exploit inventions. Adding a new subsection (j) to 35 USC 271 can change the status quo.

## REFERENCES

*Best Practices for the Licensing of Genomic Inventions*, Federal Register Vol. 70, No. 68, April 11 2005.

Cho, Mildred K., Illangasekare, Samantha, Weaver, Meredith A., Leonard, Debra G.B. and Merz, Jon F. "Effects of Patents and Licenses on Provision of Clinical Genetic Testing Services," *Journal of Molecular Diagnostics*, v.5(1); Feb 2003.

Committee on Intellectual Property Rights in Genomic and Protein Research and Innovation, National Research Council, Executive Summary, *Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation and Public Health* (2006).

Declaration of Fiona E. Murray, Ph.D., *Association for Molecular Pathology v USPTO*, 702 F. Supp. 2d 181 (2010).

Declaration of Sir John E. Sulston, Ph.D., Noble Prize Winner, *Association for Molecular Pathology v USPTO*, 702 F. Supp. 2d 181 (2010).

Demaine, Linda J. and Fellmeth, Aaron Xavier, "Reinventing the Double Helix: A Novel and Nonobvious Reconceptualization of the Biotechnology Patent," 55 *Stan. L. Rev.* 303 (2002).

Eisenberg, Rebecca, "Noncompliance, Nonenforcement, Nonproblem? Rethinking the Anticommons in Biomedical Research," 45 *Houston Law Review* 1059 (2008).

Golden John M., "Biotechnology, Technology Policy and Patentability: Natural Products and Invention in the American System," 50 *Emery L. J.* 101 (2001).

Heller, Michael, "The Tragedy of the Anticommons: Property in the Transition from Marx to Markets," 111 *Harvard L. Review* 621 (1998).

Jensen, Kyle and Murray, Fiona, "Intellectual Property Landscape of the Human Genome," 310 *Science* 239 (14 Oct. 2005).

Lipscomb III, Ernest Bainbridge, Lipscomb's Walker on Patents (3d ed. 1984).

Murray, Fiona and Stern Scott, "Do Formal Intellectual Property Rights Hinder the Free Flow of Scientific Knowledge," 63 *Journal of Economic Behavior & Organization* 648 (2007).

Nuffield Council on Bioethics, *The Ethics of Patenting DNA, A Discussion Paper* (July 2002).

O'Rourke, Maureen, "Toward a Doctrine of Fair Use in Patent Law" 100 *Colum. L. Rev.* 1177 (2000).

Pennisi, Elizabeth, "A Closer Look at SNPs Suggest Difficulties," *Science* 281.5384 (1998).

Rai, Arti K. and Eisenberg, Rebecca S. "Bayh-Dole Reform and the Progress of Biomedicine," 66 *SPG Law & Contemp. Probs.* 289 (2003).

Report of the Secretary's Advisory Committee on Genetics, Health, and Society, Department of Health, *Gene Patents and Licensing Practices Their Impact on Patient Access to Genetic Tests* (April 2010).

Walsh, John P., Arora, Ashish and Cohn, Wesley, "Working Through the Patent Problem," *Science* 299.5609 (2003).

Walsh, John P., Cho, Charlene and Cohn, Wesley M., "View From the Bench: Patents and Material Transfers," 309 *Science* (2005).

# **AUSTRALIA-CHINA AND STERN HU: COLD WAR, CORRUPTION OR COOLING OF RELATIONS**

**Bruno Mascitelli, Swinburne University of Technology, Australia  
Mona Chung, Deakin University, Australia**

## **ABSTRACT**

*China's economic growth over the last decade has been spectacular. Australia has been a beneficiary of this Chinese growth especially in terms of China's demand for resources and the strength of Chinese exports. Pundits even suggest that Australia avoided the global recession as a result of this trade relationship. Trade relations between Australia and China have resulted in China becoming Australia's key trading partner. The arrest and imprisonment in 2009 of four Rio Tinto executives (including Stern Hu the head of Rio's operation in China) based in China case has raised fears of posing a strain on this vital economic relationship. Moreover China's inability to takeover of Rio Tinto and the significance and consequences of this incident are at the core of this paper. This paper asks whether these events reflect the uncertainties of doing business in China or whether they demonstrate China's sovereign right to enforce anti-corruption legislation. While China has embraced the international business community, the consequences of the arrest of Stern Hu has placed pressures on the Australian-China trade relations which may go beyond normal country to country tensions.*

## **INTRODUCTION**

In July 2009, four Rio Tinto executive were arrested by the Chinese government for allegations of bribery and stealing state secrets. Stern Hu, the head of the Anglo-Australian miner's Shanghai office, and three of his Chinese colleagues, Wang Yong, Ge Minqiang and Liu Caikui were sentenced on the 29<sup>th</sup> of March 2010 to ten, fourteen, eight and seven years prison respectively. The four were convicted of accepting bribes totaling about \$US14 million and stealing trade secrets throughout the period of iron ore negotiations between the China Iron and Steel Association (CISA) and Rio Tinto (McDonnell, 2010).

The arrest of the Rio Tinto executives occurred after Rio rejected an offer of \$US20 billion from the state owned Chinalco and the collapsed iron ore negotiations ("Timeline" 2010). The charges were supported by the confiscation of inside information and data which Stern Hu and others had in their possession on Chinese Steel Mills which was interpreted as a threat to China's national security. News of the arrest and later the trial of Stern Hu ultimately involving Australian companies and executives produced media frenzy in Australia. A brisk and firm Australian government response took little time to arrive. To raise the tension level, Australia complained about the trial being closed to the public. Australia's Prime Minister challenged the Chinese government stating 'The world will be watching how this particular court case is conducted' (Dodd 2010). It fed into the resurfacing of 'jingoistic' fears of China of once upon a time which had been expressed some months earlier by the opposition finance spokesman Barnaby Joyce soon after Chinalco made an offer to takeover Rio Tinto. Joyce stated:

'The Australian Government would never be allowed to buy a mine in China. So why would we allow the Chinese government to buy and control a key strategic asset in our country? Stop the Rudd government from selling Australia.' (O'Brien 2009).

The case has raised fears of posing a strain on the vital economic relationship between Australia and China. China's Foreign Affairs ministry was taken aback by the campaign emerging in Australia in Stern's defense and warned Australia against 'politicising' the trial over the court's decision to hear the charges of infringement of commercial secrets in a closed courtroom session. With the trial ended the spotlight is back on China's desire to secure access to its resources for its surging economy. This incident also draws attention to the

extent that China cannot allow market forces to totally determine its commercial relationships. Specifically Australia, the beneficiary of China's thirst for resources, and the home of the mineral giants Rio Tinto and BHP have tried to shift blame and focus of this incident away from themselves and on to the Chinese political and legal system. One need ask if we are replaying Cold War tensions, or is it a scenario of the uncertainties of doing business in China. Corruption is at the centre of the arrests deeply involving Australian firms, resources and ultimately the Australian relationship. What will be the impact of these events on this special relationship?

The aim of this investigative paper is to offer a critical analysis of the strategic significance of these events. Specifically the two areas are examination are impact on firms doing business in China and second the Australia-China relationship. China is a relatively new player in capitalist trade and its adherence to the market principle is unique and contradictory. The Chinese Communist Party is the ultimate power and while many commercial operations will take place independently, when they come to a sticky end, often the Party's firm hand will come to the fore. While acts of corruption and industrial espionage are at the fore of these events, do they simply cloud over greater events occurring in the relationship and the exchange between the Chinese and Australian firms? Can a deal gone wrong like this one make the corruption accusation simply a front for deeper and more far reaching matters of principle in the background?

## **DOING BUSINESS IN CHINA**

On the whole China has been an enormous beneficiary of economic globalisation within the global economic system. Since the mid 1990s, Beijing has promoted China on the global stage and welcoming to foreign businesses. Beijing's message has been that its political values will not dilute the existence of a rule-of-law environment within which foreign businesses operate. For the most part, especially in the low-technology manufacturing and export industries, this remained true.

However doing business with China has not been an easy task which has been discovered by many international MNCs (multinational corporations) after heavy financial loses. One of the major challenges has been the cultural differences and hence the impact of such differences on its business practices. The first and the very fundamental difference is its economic system. China has 'a market economy with socialist characteristics'. This is a unique system with a centrally planned fiscal system administrated by the central government with aspects of a 'free market economy'. This unique structure is difficult to comprehend by firms and organisations especially those which come from well established market economic structures abroad (Chung 2008). However, cultural differences are often hard to comprehend as they are less tangible compared to technical and marketing issues. Corporations without culturally-suited strategic planning usually end up paying huge costs for failures that result (Chung 2008). To draw a medical analogy; all seems well on the outside, because culture lies under the skin, but it remains at the heart of everything and can bring the whole system down because of a massive heart attack (Chung 2010).

The lack of understanding and transparency of the Hu's case increased fear among executives and observers that the risk of doing business in a country with a huge market but at the same time close ties between the ruling Communist Party and the State authorities. Some foreign companies at the forefront of advocating closer political and economic engagement with China in order to get a slice of the pie could soon change their minds. It certainly has raised the questions among foreign companies whether the arrests might indicate that regulatory, protectionist and the political environment in China is changing and possibly becoming difficult for foreign companies to see the advantage of continuing to invest in China.

At the same time, the Chinese government re-iterated that Hu's arrest was not politically motivated or related. It was their insistence that illegal activities, including corruption would not be permitted while conducting business in China. Moreover the reaction of Chinese business community as a whole on this matter and the media reaction towards Hu is important. Hu is in the category of that of many Chinese who went overseas and did well and as such found themselves assisting foreign companies. In some cases the media used the description of 'traitor' to describe him and illustrate a dissatisfaction of Chinese working for foreign firms. Is there any element of the 'red eye' syndrome (envy and jealousy) one would ask (Chung 2008).

In short, doing business in China is a challenge for all international organisations. The complication of its political and economical system together with the different way of doing business in China makes all

transactions multi-dimensional therefore careful assessments of situation and capacity to handle these business transactions with the Chinese way are crucial for doing business in China.

## RIO'S RELATIONSHIP WITH CHINESE

Cultural differences influence the interpretations of the goals of the negotiating parties which may differ dramatically from their actual goals. For instance, when the Chinese make gestures to Westerners that they cannot agree to certain things because, the outcome may result in the Chinese losing face. If the Westerners do not understand the significance of this cultural nuance, the negotiation process may be jeopardised or experience difficulties. A real example of this situation was the negotiation of the iron ore prices in 2006 between Rio Tinto and BHP and Shanghai Bao Steels and other Chinese steel mills. Historically, the international iron and steel market has been self regulated in a way that once the leading suppliers and purchasers negotiated and agreed to an international market price, it is to flow on to the rest of the market. Up till most recently, Japanese and European steel mills have been the larger and/or largest steel purchasers. Earlier in 2006 the world's biggest iron ore producer, CVRD a Brazilian company won a price increase of 19 percent with European steel mills for 2006-2007 contract prices. This flowed on to contracts signed with both CVRD and Rio Tinto with Japanese steel mills in May 2006 of a 19 percent price increase (Wyatt 2006).

China was furious after the announcement of the news. Having become the biggest steel producer, consumer and iron ore consumer in the world, China found itself in a politically face losing position that they have failed to perform the role of the largest purchaser in the world in leading the price adjustment. Worse still was China's loss of face to the Japanese. By the 18th of May 2006, China was in a difficult situation. BHP, Rio and CVRD went on to negotiate with the rest of the world steel mills to secure 57 percent of the world market with a 19 percent price increase in order to force China into a corner to agree to the price increase. By the 29th of May, China, however, was hinting the possibility of opting for the spot market price in order to save face (Wyatt, 2006). China was finally forced back on to the negotiation table and signed the contract for the agreed rate of increase in price in June. After the signing of the contract, Chinese media launched a major campaign denouncing Australians as the 'evil capitalists' who were taking advantage of the Chinese and its rapid economic development. This has caused major set backs for the relationships between Chinese and Australian iron ore producers.

The 2009 negotiation is almost a repeat of 2006. Since Stern Hu's arrest, the negotiation has collapsed and China is currently paying the spot market rate. This is causing a great deal of uncertainty for the Chinese steel industry.

One other cultural character of the Chinese is their long-term memory especially on insults and hurt feelings. There is a Chinese saying 'A gentleman's revenge is not late even if he has to wait for 10 years.' The Australian negotiators might have won their negotiations in 2006, and have forgotten about the glory in 2009. Chinese will not (Chung 2009). Will the Australians be getting the quantity and the price they need to keep the economy at a manageable rate is yet to be answered.

If we had the magic to reverse the globe like we do in movies, the companies should have sought for advice on the cultural understanding of 'the face issue'. The entire negotiation could have been handled very differently to avoid the negative publicity and still achieve the desired results. One Chinese official remarked that such actions violated international rules and conventions, he said: 'This will not be helpful in building long-term and stable cooperative relations between suppliers and buyers' (Chen, 2006). The China Iron and Steel Association also suggested that 'negotiating rules' were broken during this year's price discussions and a 'stable long-term co-operative relationship' was clearly not built well enough by the Australian producers (Freed, 2006). What was most humiliating to the Chinese was the loss of face rather than the price increase. Australian negotiators often puzzled by the fact that Chinese negotiators might bargain so hard on the price in a negotiation and then sign a contract with a different company with a higher price. Bargaining of price sometimes may be the smoke screen for the Chinese attempting to tell the Westerners of other problems, often it is an issue of lose face (Chung, 2008 p. 53).

Though China joined the WTO in 2001 and has only over the last three decades encouraged inward investment into its own country, it has seen fit to not allow this openness to be an invitation to act with

unnecessary aggressiveness by western powers and economies. In many respects the Hu incident is merely an opportunity for China to remind Rio who is in charge of this relationship in their own country (Chung 2009). However, the unique market situation has created opportunities for Hu and his colleagues to engage in illegal activities. Rio entered the Chinese iron ore market in 2001. From 2003, the market changed from a seller's market to a buyer's market. Rio enjoyed a large portion of the Chinese iron and ore market. Previously, large steel mills such as Bao Steel and Capital Steel would negotiate and purchase iron ore from Rio and then on going to sell to smaller steel mills at double the price. To some small steel mills, they might only gain access to iron ore through third-hand transaction ("胡士泰受贿案揭网企资源根源" 2010).

## **AUSTRALIA'S RELATIONSHIP WITH CHINA**

Australian relations with China were established in late 1972 after decades of Cold War standoff. The last decade, primarily through the resources boom and the strength of Chinese exports, trade relations with China have been strong. They were further strengthened with the election of a mandarin speaking Prime Minister, Kevin Rudd in 2007.

Thought the incident over the Stern Hu arrest has brought out bad habits of the past in Australia and appears to have continued the stalemate of the Free Trade Negotiations between China and Australia, (Callick, 2010) the two countries have nonetheless reached even greater trade achievements in the past 12 months. In late 2009 (four months after the arrests), it was announced that China had overtaken Japan to become Australia's biggest trade partner. Trade between the two countries in 2008-09 reached a staggering \$A76.3 billion (DFAT 2009). Australia shipped \$A22 billion in iron ore alone to China in 2008-09, or approximately 42 per cent of Chinese iron ore imports (DFAT 2009). In 2009 China purchased \$53 billion of iron ore last year – the equivalent of both Japan and Korea's total purchase. This relationship is delicate and dependable (Chung 2009).

The Australian Minister of Trade, Simon Crean, warily highlighted that the trial and confessions of the Rio Tinto executives would have no impact on Australian trade relations with China nor on Australia's resource trade with China or sensitive iron ore sales negotiations (Callick 2010). The Minister stated: 'If there were links you would have expected the trade had fallen, yet last year China became our largest trading partner. The two matters are separate (Taylor & Regan 2010).

This line has also been maintained consistently by the Chinese government. A constant message that has been sent by the Chinese government to the foreign companies was that they are welcome to do business in China. They are also welcome to enjoy profits however it must be based on legitimate conduct. The judge presiding over Hu's case, Justice Liu Xin, said the four men had seriously damaged the competitive interests of Chinese steel companies. He said their actions forced Chinese steel companies into an unfavorable position in price negotiations and the this led to the collapse in iron ore price negotiations in 2009 (McDonnell 2010). The irony in all of this is that Kevin Rudd is the first Prime Minister to speak Chinese which he has flaunted during the lead up to his election and after in government. He even referred to himself as a Chinese business consultant before being elected (Chung 2009). At the same time, the Australia-China political relationship is at its historical low since the 1970s.

## **IMPLICATIONS FOR BUSINESS**

The fact that parts of the trial was behind the closed doors and the rejection of Australian government representatives' participation relating to the commercial secrets allegations makes foreign businesses feeling uneasy. The argument of transparency and uncertainty for those doing business in China has increased. Australian opposition Foreign Affairs spokeswoman Julie Bishop expressed that this is an issue of great concern to many companies from Australia and also from around the world (McDonnell 2010) however no government official has ever been able to identify exactly what the concern is.

Exactly what is the implication for business is a matter of debate between the Chinese government and Western businesses. Perhaps companies should first carefully examine their business conduct in China first before defending their positions like the case in Hu's situation. Rio's executive Sam Walsh defended Hu and his colleagues soon after their arrest stating 'our employees have acted properly and ethically' (Rio Tinto 2009).

Evidence that millions of yuan in bribes had been stuffed into bags and boxes for the accused was heard in court in March 2010 during the trial (Tang 2010). Hu also took money from small private steel companies, which before the global financial crisis were locked out of buying iron ore from Rio because the mining giant prioritised large state-run steel companies according to Mr Jin, Hu's lawyer (McDonell 2010).

According to the Chinese media, Mr Du, the former head of Shangdong-based Rizhao Iron and Steel group, claimed he paid the Rio employees millions of dollars for preferential treatment in the area of iron ore (Xinhua 2010). Soon after the guilty verdict declared for Stern Hu and his three colleagues, Rio terminated their contracts (Rio Tinto 2010). In Australia, under the Criminal Code Amendment (Bribery of Foreign Public Officials) Act 1999, bribery is subject to maximum penalties of imprisonment for ten years or a fine of up to \$66,000 or both. Corporations can also be liable where their employees, agents or officers commit offences while acting within the scope of their employment. The penalty for a corporation which commits an offence can be as high as \$330,000 (Chung, 2009). To date, no one has asked the question whether Rio had knowledge of their ex-employees misconduct and whether Rio should be accountable for their actions in this incident as well as its China based employees.

The Chinese media has argued that in China Hu's case was non-political. The Chinese legal community highly praised the Chinese government on being able to keep its political and commercial activities separate and believed that the legal process was fair and proper. According to one source, China's legal practitioners were very pleased how well the Chinese government conducted the case (Tang 2010).

## CONCLUSION

China's engagement with the world community has been one of the key geo-strategic developments of the last decade. Moreover China's 'two system' nature, a development of the mid 1970s has been the driver of the insertion of China as a business player. Many nations and the western capitalist system however remain uncertain how to relate to this different reality. This has without doubt created uncertainties in terms of conducting business and relating to China. Another consequence has been the insistence from China that they will not allow their open country for business with lesser respect than that accorded to western nations. The events surrounding the Hu Stern case has allowed China the opportunity to send a message of enforcing anti-corruption laws meant not be taken lightly by western nations. A new protocol for relating to China has been sought and with all likelihood this incident which will first and foremost affect Australian trade with China. It will in our view not be the last.

## REFERENCES

- Callick, R. (2010), Setting the benchmark, Australia China connections, March/April 2010, Australia China Connections Pty Ltd, p. 18
- Chen, F. (2006). Official Urges Settlement to Iron Ore Price Disputes: Xinhua.
- Chung, M. (2008). *Shanghaied: Why Foster's Could Not Survive China*. Melbourne: Heidelberg Press.
- Chung, M. (2009, August 28th 2009). Revenge in 10 Years Is Not Too Late. *Lawyers Weekly*, 2. Department of Trade and Foreign Affairs (DFAT), 2009, Composition of Trade, 2008-09, Canberra, p. 172.
- Dodd, M, (2010), Kevin Rudd warns China on Stern Hu trial secrecy, *The Australian*, <http://www.theaustralian.com.au/news/nation/kevin-rudd-warns-china-on-stern-hu-trial-secrecy/story-e6frg6nf-1225842553737>
- Freed, J. (2006, June 26, 2006). China Plays up Difference in Iron Ore Shipping Costs. *The Sydney Morning Herald*.
- O'Brien, K., (2009), Barnaby Joyce launches campaign to keep Rio Tinto local, 7.30 report, ABC, <http://www.abc.net.au/7.30/content/2009/s2518864.htm>

# **GROUP LENDING: A MECHANISM FOR DELIVERING FINANCIAL SERVICES TO THE POOR HOUSEHOLDS: LESSONS FOR SOUTH AFRICA**

**Polly Mashigo**  
**Tshwane University of Technology, South Africa**

## **ABSTRACT**

*The provision of financial services, particularly credit, is expensive due to asymmetric information, collateral constraints and high transaction costs. Using data from developing countries, I find evidence of numerous theoretical models/mechanisms that consider group lending as a social technology of overcoming these barriers. Joint guarantees, collateral substitution, peer pressure, monitoring, mutual insurance and emergency fund are used to explain the success of group lending mechanisms. The paper compares the effects of group lending and social clubs in South Africa where poor people use social connections, trust and reputation to improve informational and enforcement advantages over formal lending. Random sampling was employed to draw a sample of five social clubs in the Soshanguve informal settlement where unstructured personal interviews were conducted to propose several principles of lending that improve the delivery of financial services.*

## **INTRODUCTION**

Formal financial institutions in South Africa focus on transaction costs, asymmetric information and collateral constraints to ration credit and enforce contracts. Nearly half of all South Africans live below the poverty line, the equivalence of \$1 per day and are unable to access credit (Bernier et al 2005; Wilson 1996; The World Bank 2008; Johnson and Rogaly 1997; Meagher and Wilkinson 2001). While such people were estimated at 57 % by Schwabe (2004), Southern African Regional Poverty Network [SARPN] (2008) estimates 8 million of them of the total 44 million of South Africans. However, given the \$1 poverty line, the argument here is that there are no indications of the degree of poverty, that is, how severe poverty is among the poor households when there is no money at all. A dollar a day in itself does not really describe the level or extent of poverty. Certainty about a dollar each day makes one to be better off than a dollar a day that is received in a very erratic and uncertain way. The absence of \$1 over a period of time provides uncertainty about future prospects and makes it impossible for the households to smooth consumption and insure vulnerability to shocks. Such shocks can only be insured by borrowing though at high costs which result to lower consumption and vulnerabilities. These costs become absent when the households are certain that the dollar is received on a continual basis. It is in this context that Whiteford and McGrath (2000) explain the poverty line to denote the financial requirements of members of a family if they are to maintain consumption, health and education and secure food to deal with shocks. They continue to live in poverty when their level or condition of poverty endures over a period of time due to lack of even a \$1 and they are unable to improve their circumstances over time or to sustain themselves through difficult times.

The poor households' illiquid nature of their assets which result in the absence of collateral, asymmetries of information and high transaction costs prohibit the financial institutions from delivering financial services to these households. The households therefore become uncertain about future prospects and unable to smooth consumption, develop their small businesses and/or mitigate the effects of shocks such as illness and death. This may, in the long run, amplify the poverty cycle. The social security assistance or handouts the poor households receive from the government in the form of social grants such as disability, child support grants, old

age pension grants, grants in aid for orphans and the terminally ill, and donations are also not sufficient enough to protect them against the shocks or sustain their livelihoods. These handouts, according to Yunus (2009), take away a sense of responsibility and initiatives from the households and make them economic prisoners who are unable to effectively provide minimal subsistence means for their families or smooth consumption. Theoretical models or mechanisms in Bangladesh, Indonesia, Ghana and Kenya embrace group lending as a possible alternative for lenders to overcome information asymmetries, collateral constraints and high transaction costs and also a mechanism to provide credit (and savings) to the poor.

The paper resumes by discussing asymmetric information, collateral and transaction costs which play an important role in financial contracts between lenders and borrowers. It proceeds with an analysis of group lending as a mechanism used by countries such as Bangladesh, Indonesia, Ghana and Kenya to deliver credit to the poor. Similar mechanisms that are equal in nature and character such as social clubs that operate in the poor communities in South Africa are also explored to determine the principles of lending used to smooth consumption and mitigate shocks. Conclusions and recommendations are provided at the end of the paper.

## **Research Objective and Methodology**

The objective of this paper is to determine how group lending can be used as an essential mechanism for the development of sustainable low-cost credit to assist the poor to improve their living standards in general and sustain their livelihoods. Using data from Bangladesh, Indonesia, Kenya and Ghana, I find evidence of numerous theoretical models/mechanisms that consider peer group lending as a social technology of overcoming the problems of high transaction costs, physical collateral and asymmetric information. These advocates believe lenders overcome these by harnessing social connections and using joint guarantees, collateral substitution, peer pressure, monitoring, mutual insurance and emergency fund (compulsory savings), capture the idea that social connections of shared locality successfully improve credit contracts in the poor communities. These successful practices can be instrumental in developing specialized lending mechanisms for the poor people who have been marginalized by the formal financial institutions in South Africa.

Comparison is made between group lending and social clubs that exist in the poor communities in South Africa and which also use social connections to deal with barriers to financial service delivery. However, these social clubs are not recognized or considered by formal financial institutions as far as credit contracts are concerned. The comparison seeks to establish the principles of lending that the poor use to cater for their day-to-day needs and mitigate shocks. Evidence is presented in this paper that these social clubs, if carefully considered in South Africa, can be used as the first point of reference to deal with collateral constraints, asymmetric information and high transaction costs as in the countries alluded to above. To establish the operation of these social clubs, fieldwork was conducted between March and July 2009 in the Soshanguve township situated about 35 kilometres North of Pretoria in the Gauteng Province of South Africa. Although the township is well established with a large permanent residential component, there exists an equally substantial informal residential component comprising mostly of the households living on the margins of unemployment and poverty. The findings were based on the primary data which was obtained in the informal settlement through interviews and audio tape recorder as data gathering techniques. Unstructured personal interviews which elicited descriptive data were first conducted with the five presidents of the five social clubs to guide explanations and discussions and thereafter with 50 members, 10 from each social club. Each social club composed of around 25 and 30 members respectively. The clubs were selected through random sampling since the population is homogeneous. The sample is representative of the population in the area. Several visits to the clubs were made to establish a rapport and trust relationship with the members. Access to the social clubs was gained through a relative who happened to be the president of one of the social clubs who then introduced other clubs and/or members. Interviews were first conducted separately with the presidents at different times and thereafter with the selected social club members. Interviews were also recorded on the audio tape recorder and thereafter transcribed for more formal analysis. Data analysis took place while the interviews were still underway as well as at the end of the interviews. A comparison has also been done to discover the connections between themes and finally integrate these themes and concepts into a theory that will offer comprehensive and accurate interpretation of how the social clubs operate in supporting credit contracts. The clubs constitutions/rules were also made available for scrutiny.

# ASYMMETRIC INFORMATION, COLLATERAL AND TRANSACTION COSTS

Information (about the borrower) plays a central role in the delivery of financial services, particularly in the provision of credit. The information intensity of financial contracts regarding the assessment of various systemic events underlies the importance of the distribution of information among the parties acting in the financial sector. Financial institutions, because of their incentive and ability, play a significant role in supporting economic development and improve the living standards of the poor households. Access to credit (or cash) is central in economic life to decrease exposure to shocks and to smooth consumption (Keynes 1936; Tobin 1958). The absence of information about the behaviour and character of the borrower leads to asymmetric information which is the main concern of the providers of credit. Asymmetric information is defined by Mishkin (1999; Teixeira 2001-03) as a situation in which one party to a financial contract has more or better information than the other. In such situations, the ignorant party may look for signals from the informed party, and this can lead to a variety of outcomes. Asymmetric information, therefore, hampers decision-making in financial contracts. There are limitations on human knowledge or lack of information particularly in the short-run to make informed decisions. The critique associated with Stiglitz and Weiss (1981) emphasises the existence of problems of asymmetric information and costly enforcement. This means that it becomes difficult and costly for the credit providers, particularly banks, to acquire information about borrowers. The lack of information and collateral, therefore, lead to high transaction costs of extending credit. This makes it difficult for financial institutions, especially banks, and borrowers to conduct lending and borrowing activities when the relevant information which is required is not available. If a bank possesses knowledge that permits accurate predictions to be made about the risk status of borrowers, then the accuracy of this prediction should be reflected in differential lending practice to low- and high-risk borrowers. Banks do not know with certainty, which borrowers will, and which ones will not repay their loans.

Adverse selection and moral hazard therefore contribute to an increase in asymmetric information and hamper rational decision-making. Without the information on prospective borrower's ability to invest loaned funds, or their creditworthiness, a situation may arise where a bank (lender) may choose a risky borrower. Bone (2003) points out that due to this lack of information, the particular characteristics of borrowers are unknown to the banks. This is referred to as adverse selection. The ignorant party lacks information while negotiating an agreed understanding of or contract to the transaction. Adverse selection occurs before the financial transaction takes place, when potential bad credit risks are the ones who most actively seek out a loan, for example, those who are the most likely to produce an undesirable or adverse outcome are most likely to be selected as borrowers (Mishkin 1999; Akerlof 1970).

Moral hazard may be defined as actions of economic agents in maximising their own utility, and where they do not enjoy the full benefits of their actions due to uncertainty and incomplete or restricted contracts (Baye and Jansen 1995). Incomplete contracts mostly arise in situations where the transaction costs of achieving complete contracts are too high relative to the return envisaged in enacting the contract. The ignorant party lacks information about the performance of the agreed-upon transaction or lacks the ability to retaliate for a breach of the agreement. A good example is when people are more likely to behave recklessly if insured, either because the insurer cannot observe this behaviour or cannot effectively retaliate against it by failing to renew the insurance. Moral hazard issues, therefore, arise between banks (lenders) and borrowers because their interests are not necessarily compatible. There is a tendency to take riskier decisions if protection from losses is guaranteed, and the possibility that individuals who are in debt will change the effort that they put into making the project successful and/or the type of project they undertake, for example, by changing the riskiness of the project (Mishkin 1999). The lender is thus subject to the hazard that the borrower has incentives to engage in activities that are undesirable from the lender's point of view, that is, activities that make it less likely that the loan will be paid back.

Collateral plays an important role in banks' exposure to loss. Collateral serves as a guarantee for the lender or bank for taking the risk in case the borrower will default in that it decreases the amortization period of and loss on the loan. When insolvent, the borrower is said to default on the loan, in which case the lender becomes the owner of the collateral (Banerjee and Newman 1993). The need for collateral as mechanism to decrease probable loss from especially first time borrowers provides constraints for the lender to serve the credit

needs of the poor households who do not have collateral or valuable assets that can be used to secure credit. This makes most of the formal banking products and distribution channels unsuitable to the needs of the majority of the poor households in South Africa. The poor households need small and regular loans randomly but the banks/financial institutions prefer to deal with periodic large loans (Schoombee 1998). The pricing of small loans therefore requires significantly higher rates than typical commercial lending products because of client characteristics and the relatively small size of transactions. The banking services are costly and have a complicated mix of charges, withdrawals and transaction fees. Pricing financial instruments like credit to reflect their full cost and providing reasonable return to the bank is essential for any bank operation. The poor's financial environment seems to be flooded by insolvable contradictions resulting in excluding them systematically from formal channels of credit (Greenwood and Jovanovic 1990; Banerjee and Newman 1993).

## Group Lending Mechanisms for the Poor: Findings and Discussions

In the presence of problems of asymmetric information, lack of collateral and high transaction costs, financial institutions may be dominated by risky and non-risky borrowers. This provides insight on how group lending can be used as a point of departure to overcome these problems. Borrowers differ in the likelihood that they will default and it is costly to determine the extent of the risk. Borrowers who are high risk or potential bad credit risks are more likely to take loans and most likely to produce an undesirable or adverse outcome. As the interest rate increases, there is a high probability of default (Hoff and Stiglitz 1990). Group lending may enhance the likelihood that borrowers undertake the actions desired by lenders and limits the consequences of information asymmetries. In forming groups, enforcement costs are low because of peer social sanction. An incentive of group lending is that social selection homogenizes the group, that is similar types, for example, non-risky members group together to ensure loyalty and trust (Hoff and Stiglitz 1990). Their selection is based on creditworthiness and commitment of members. Their probability of default will be low as they will be jointly liable to repay the loans which will result in expected gain.

Countries such as Bangladesh, Indonesia, Kenya and Ghana use innovative mechanisms of group lending aimed at reducing poverty through credit granted to borrowers who comprise small groups (Wilson 1996). Bosch (2002; Mashigo 2007) define group lending as a process whereby individual loans are disbursed to small group of borrowers who are collectively responsible for loan repayment. Group dynamics provide insurance against default at a relatively low cost. Bangladesh, through its Grameen Bank (GB), popularized a group lending model where community members voluntarily form small groups (Johnson and Rogaly 1997; Rahman 1997) which are informal in nature and used as social technology to access credit and mobilize savings. The GB was established from the lessons drawn from informal financial institutions that lend money to poor groups. Considerable evidence shows that the Grameen Bank used unconventional banking practice to lend money to the poor with a reasonable degree of financial self-sufficiency and repayment rates (Rahman 1997). The GB has been successful in using *collateral substitute*, referred to as social collateral (Conlin 1999) through the creation of a specialized banking system based on mutual trust, accountability, participation and creativity. In this case, credit is granted to borrowers who comprise small groups while using *joint-guarantees*. All members of the group are held responsible for repaying the loans (Bosch 2002). If one member defaults, all in a group are denied subsequent loans (Rahman 1997). According to Karlan (2007) a lender can benefit from *peer pressure* which is exerted by group members on each one to repay loans. Conlin (1999) uses the term *peer monitoring* as a borrower who agrees to pay the lender an amount owed by another borrower who defaults on a loan. However, a borrower who pays the loan may impose social penalties on the one who defaults and in this case the probability of loan repayment increases. Peer monitoring compels the borrower not to choose a risky project and the lender realizes high return on the safe project. The enforcement problem is solved by strict screening of members because of the perfect and comprehensive knowledge they possess about each other (Karlan 2007; Bosch 2002). Groups improve social ties and relationships and these relationships serve as *mutual insurance* (Conlin 1999) and there are also threats such as social sanction for defaulting. One of the important and effective mechanisms of a group is the use of *collateral substitute*. In this case, the Grameen Bank requires the group (as borrowers) to make monthly contributions to an *emergency fund* (forced or compulsory saving) which becomes insurance in cases of default or serves as substitute for or becomes collateral for the bank for taking the risk in case the loan will not be repaid. This reduces the asymmetric information problem and thus transaction costs of acquiring information about borrowers. Some of the successes of the GB were felt in Kenya, Indonesia and Ghana.

Kenya also considered the development of mechanisms of assisting the poor to access financial services and fashion its financial system in a group lending method where the formation of small groups was encouraged and which improve social ties and relationships. The groups started to hold compulsory weekly meetings where financial needs (how to access savings and credit) were being discussed. This socialisation mechanism binds groups together for a special purpose which is to contribute small amounts into a pool as savings (Kenya Rural Enterprise Programme Group, undated on-line). The Kenya Rural Enterprise Programme (K-Rep) was therefore established in 1984, and in 1987 it became a non-governmental organisation working in both rural and urban areas. The purpose of K-Rep was to facilitate poverty alleviation by developing mechanisms and institutions that enable the poor people to organise their lives financially. As in Bangladesh, groups *co-guarantee* repayment using the savings as substitute for collateral for accessing credit (Ghatak 1999; Murdoch 1999). If a member defaults, such a member forfeits all savings inclusive of interest earned. If insufficient, the group that the borrower belongs to forfeits an equivalent amount of the savings. If it is still insufficient, the member's pledged items are sold to recover the loan. Furthermore, and for sustainability purposes, a group of between 5 and 10 members with a common need from one locality must be registered and preferably operate a small enterprise/business and must be willing to open a joint bank account with K-Rep Bank. One of the requirements of K-Rep is that a group must operate its small business for at least a year where regular savings is contributed to the account before credit can be granted. A joint bank account is operated with a minimum balance equivalent to 10 percent of the loan amount to be borrowed for developing their businesses and cater for other needs. The group is collectively responsible over the performance and repayment of the loan (Kenya Rural Enterprise Programme Group, undated on-line). Additionally, in supporting the groups, Kenya has developed community credit and savings programs by providing training to group members on loan management and financial discipline.

Indonesia and Ghana also considered and encouraged the formation of small groups in their communities to meet the credit needs of the poor by creating *rural and/or semi-rural banks* to deal with perceptions of high risk, high transaction costs, low returns and asymmetric information. Indonesia uses the *savings-first-approach*, a mechanism similar to that of Bangladesh and Kenya before credit can be granted to any group. The savings is used as security for loans. None of the rural banks in Indonesia have a status imposed or controlled by the central bank. These rural banks organise their own funds transfer and develop training programs to equip the poor who constitute groups with the necessary financial skills. Some rural banks adopted an approach such as that of rural Islamic banks which focused on compulsory savings and credit is accessed with no interest. A substantial share of the group savings is deposited in long-term accounts for sustainability purposes (Ghatak 1999). These rural banks systematically disburse approximately 80 percent of their assets in the form of loans and expand the financial market by offering credit and using the saving as collateral (Wilson 1996). The banks made it possible to optimise supervision and monitoring efforts and achieve economies of scale with respect to training and technical support services for the poor group members. The rural banks in Indonesia placed more emphasis on development programs for the poor where operating procedures were simplified and strict lending rules were amended and relaxed as a result of increase in savings. This provided the opportunity for even the poorest households to access credit. For financial viability, and in dealing with the risk of loan default, village/rural authorities were made to share responsibility for compliance with the terms of loan contracts. In this case, village authorities and community groups establish relationships where financial matters and problems are discussed (Wilson 1996).

In Ghana, the rural banks operate as informal financial agents called the bank-susu collectors who act as mobile bankers (Jones et al 2000) and regularly visit the groups in their communities to collect savings. These groups are known as susu groups (Embassy of Ghana 1997). The successes of their systems are that these mobile bankers are able to take deposits that are often of low but regular value on a daily basis from susu groups over the course of a month after which the accumulated savings are returned to the group but keep one day's amount of savings as commission. As savings collectors, these banks are characterised by a large client base, large individual deposits, and high annual aggregate value of deposits. The banks also advance loans to their regular depositors which are usually low value, very short term (one month) and which are provided on an interest-free basis and no collateral is required and the loans are disbursed immediately upon request (Jones et al 2000). Advancing loans to regular depositors deals with the problem of asymmetric information because business is conducted with regular clients whose behaviour and character are known.

## SOCIAL CLUBS AS LOW-COST INSURANCE AND SUPPORT MECHANISMS IN SOUTH AFRICA

There exist similar lending mechanisms, as in the countries discussed above, in the poor (black) communities in South Africa in the form of informal groups known as social clubs which serve as insurance and support mechanisms for the poor. They seem to be efficiently structured to reduce the problems of asymmetric information, lack of collateral and high transaction costs. The paper attempts to determine, out of the factual data on international best practice of peer group lending alluded to above, the principles of lending used by social clubs as sustainable mutuality mechanisms on which to base the provision of credit to the poor. The main aim of these social clubs is to pledge mutual support to their members through the development of *social capital* as a principle for sustaining social clubs. Social capital has become a popular innovation for dealing with information asymmetries such as adverse selection, where banks cannot screen the risky borrowers from the non-risky and moral hazard, where the banks cannot monitor the behaviour of borrowers (Seibel and Torres 1999). Social capital is a network of trust, respect, reputation and reciprocity for improving a neighbourhood or investments in social relations by individuals to gain access to financial resources (savings and credit) (Seibel and Torres 1999). The social clubs operate as rotating credit and savings associations which contribute money to members on a weekly, fortnightly or monthly basis depending on the type of a social club.

The types of social clubs that have been found to exist in the poor black communities such as Soshanguve informal settlement include those that provide credit as well as savings to the households in order to bridge the effects of financial, economic and social shocks like funerals, deal with food insecurity, expensive events as well as day-to-day expenses. It was found that most of the clubs operate as *funeral/burial clubs*. It was also found that all of the households are members of funeral clubs and they revealed that monthly contribution made by the club members amounts to R50 (\$6.67), and in case of death of a member or family member, a lump sum of money is made available to the bereaved family to cover funeral expenses. The respondents mentioned that majority of them do not qualify for formal insurance schemes and as such the funeral club serves as an insurance scheme in cases of shocks like death in the family. A fairly large number of the social club members (68 percent) who were interviewed are also members of *kitchen/food clubs*. These households, who mostly consist of women, make informal arrangements in the form of kitchen or food clubs where they accumulate enough money to counter food insecurity or to buy food as well as household utensils. It was also found that most members, who are single female parents, support and raise their children. Each member contributes R30 (\$4) on a monthly basis with an objective of purchasing food or kitchen utensils on a rotational basis. The importance thereof is that purchases made are cheaper because food is bought in bulk at the end of the month or fortnight and each member is entitled to food (groceries) and/or kitchen utensils of a certain amount as stipulated by members themselves.

Of the total number of members who were interviewed, it was found that only 28 percent were members of *entertainment social clubs* which help them to cope with predictable but expensive events such as marriages (and/or birthday celebrations) that they cannot avoid. They mutually agree to make a monthly contribution of R30 (\$4) and when a member or family member is getting married (or it is his/her birthday), a lump sum of the contribution is used to buy food and refreshments for those who will be attending the event. Some of the money which was not used is also utilised for other purposes such as providing for education expenses for some parents who cannot afford to pay school fees and other school related expenses like books and uniforms for their children. If there is a pressing need for money, members agree among themselves to make money available to a member who is urgently in need of it. The accumulated amount which was not spent during the year helps the members to cater for end of the year festive season expenses that they would not have been able to afford (Mashigo 2007).

The important principle which was found to be playing a pivotal role in these social clubs was *socialisation*. It is a norm in the poor communities that social club members socialize through weekly, fortnightly, or monthly meetings (as in Kenya) as stipulated in their club constitution or rules to discuss financial matters and other related issues. These are flexible and simple rules or constitutions formulated by the club members themselves and according to which the club operates, that is, how much and when to contribute, for whom and when the benefits will be realized. This implies member control and *mutual monitoring* over the activities of the clubs as is the case with Ghana where rural banks are owned and managed by communities. The

information obtained from the respondents was that the constitution encourages members not to skip any financial contribution as this will result in, for example, non-payment in the case of death in the family. However, respondents emphasized that violation of the rules does not normally happen because of personal relationships, trust, loyalty and reputation among members. Any member who is found to be violating the rules is banned from the club. The members know that they depend entirely on the clubs in case of financial distress and, therefore, adhere to the set rules. Respondents mentioned that none of them would want to be seen by others as irresponsible or be banned from the club and therefore adheres to the loan agreements. They do this to maintain reputation, respect and trust in their own communities. Karlan (2007; Conlin 1999) point out that social technology is molded by and founded on specialized mechanisms that ensure continued trust and adhering to the rules of the game results in predictable behaviour. The principles further facilitate ongoing coordination and cooperation between members (cohesion and solidarity) for continued long run individual and mutual benefit, and living by rather than obeying the rules of the game.

These social clubs, given the support and consideration commensurate with their significance in reducing poverty and the problems of transaction costs, asymmetric information and collateral, can be used as a first point of reference when designing credit instruments for the poor households in South Africa. The financial contributions that the club members (group) make are a form of savings mobilization which can play a significant role in accessing credit.

## **Conclusion and Recommendations**

This paper provides an alternative explanation where some developing countries use group lending as a social mechanism of overcoming asymmetric information, collateral constraints and high transaction costs which prohibit the provision of financial services, especially credit, to the poor. It becomes difficult for formal financial institutions in South Africa to evaluate the actual risk and profitability of an investment project because they lack crucial information that borrowers may or may not disclose. The absence of such information increases transaction costs. Collateral constraints exacerbate the risk and without which there is no compensation for the lenders in case the borrowers default on the loans. It is in this context that the financial institutions are unable to serve the credit needs of the poor households. Lessons can be learnt from the major financial achievements in countries such as Bangladesh, Indonesia, Ghana and Kenya which use numerous mechanisms that consider group lending to overcome the barriers to the delivery of financial services to the poor. Cohesion and solidarity among group members, no matter the social technology (rules) involved, needs certain mechanisms that are critical to support the mutualism needed for insuring specific risk by specific behaviour (to act in terms of the rules) in financial transactions between members. The predictable behaviour makes it possible to hedge specific risk at low-cost and enables them to smooth consumption and sustain themselves. Mechanisms such as joint guarantees, collateral substitution, peer pressure or peer monitoring and emergency fund embedded in groups are used by these countries to explain the successes of group lending.

Peer monitoring has been proven to be an important mechanism used by groups to reduce moral hazard because it allows a group to know who can or cannot repay the loans. This cannot be done by formal financial institutions (or banks). Groups know that when an investment project fails, there is zero return. Compulsory saving is an effective mechanism that improves access to credit and reduces default rates. This savings serve as an effective collateral substitution for the poor for accessing loans. This is making the need for liquid assets as collateral obsolete. The Indonesian and Grameen Bank models use this as substitute for collateral where groups are forced to save money before loans are disbursed. Once the group defaults, then the savings serve as compensation for the lender.

Similar lending mechanisms in the form of social clubs have been found to exist in the poor (black) communities in South Africa and which seem to be effectively and well-structured to deal with financial constraints and that serve as support mechanisms for the poor. The pooling of social capital, an important principle used by social clubs, is a way of insuring knowledge of and information on members. Contributions made by the social club members in the form of savings play an important role of mitigating the effects of shocks like death (funeral clubs), and deal with food insecurity (food clubs) as well as catering for other financial needs (entertainment) or day-to-day needs. The savings makes it possible to advance credit, with no interest charged, to club members who experience financial difficulties. The successes of the social clubs are that

comprehensive and near complete information on the creditworthiness of borrowers prevail in a social clubs in which members belong. The provision of credit (or savings) is facilitated with a great deal of certainty on what future performance of the individual in group context is going to be.

The problem in South Africa is that these social clubs are not considered or recognized by formal financial institutions in credit contracts due to their informal nature of their operation. The institutions require valuable assets or physical collateral that can be used as security for loans which many poor people do not have.

If these social clubs can be carefully considered and supported, they can be used as a first point of reference design credit (and savings) instruments for the poor households in South Africa. Their spontaneous origin, development and existence and high propensities to save for precautionary purpose provide fertile ground for a mechanism that minimises costs.

In view of the above, it is recommended in this paper that South Africa carefully considers successful international lending practices through *group lending mechanisms* that have shown and proven beyond doubt that the problems of collateral, high transaction costs and asymmetric information can be dealt with in an effort to improve the provision of financial services/credit to the poor households and to assist them in improving their living standards in general.

It is equally important that financial institutions, authorities and policy-makers in South Africa establish relationships and linkages with social clubs and study their operation in comparison with mechanisms of group lending used in Bangladesh, Indonesia, Ghana and Kenya to create a conducive environment to establish rural banks that are able to make savings and sound credit judgements because of the knowledge they will have possessed on the local community groups in dealing with asymmetric information problem and enforcement of credit contracts. It is also crucial that South Africa encourages the establishment of small groups in other poor areas which can be used, taking into consideration, the principle of *social capital* and/or savings to improve the delivery of financial services. Social clubs, through social connections, long-term relationships, reputation and trust have proven to decrease the transaction costs in their environments and help to remove the need for collateral when credit is advanced to a member because credit is available without interest. These minimize defaulting because members are close to and know each other very well and reduce the transaction costs of extending credit.

It is further recommended that South Africa carefully consider the adoption of *collateral substitution* mechanism in the form of compulsory savings (emergency fund) as demonstrated by Indonesia, Bangladesh and Kenya which is necessary to reduce poverty and improve access to financial services. Collateral substitution has been proven to be sustained by peer pressure, peer monitoring and social ties and relationships which serve as mutual insurance as seen in the narrative of data on group lending. The same mechanisms are applicable in social clubs. Obligations, norms, trust and long-term relationships embedded in the relations between members of a group can be used to ascertain predictable outcomes, individual gain or smooth consumption, risk averse behaviour in the group and collective gain for the group instead of using formal financial structures and mechanisms.

Of importance for South Africa, is to consider and take into account the informal rules or constitutions which social club members formulate and according to which the clubs operate when by-laws are to be created or banking laws reformed.

Finally, group lending mechanisms as well as social clubs, if given the necessary support and consideration by the government, financial authorities and other stakeholders in South Africa, can be used as a first point of reference to reduce transaction costs, remove the need for collateral and deal with asymmetric information which deter the provision of financial services to the poor households.

## REFERENCES

Akerlof, G. The market for "Lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 1970, 89, pp. 488-500

Banerjee, A & Newman, A.F. Banking and uncertainty. *Journal of Political Economy*, 1993, 101, pp. 274-98.

Baye, N.R & Jansen, D.W. (1995). Money, banking and financial markets: An economic approach. USA: Houghton Mafflin Company

Bernier, Q, Chimphango, A & Ngcozela, T. (2005). The Millenium Development Goals, A guide for South African civil society. Using the MDGs to promote environmental sustainability and socio-economic justice. Environmental Monitoring Group

Bone, J. (2003). Microeconomics, asymmetric information: lecture session 4

Bosch, E. (2002). Microfinance: New wine in a new bottle. A supporting role for cordaid and Icco. Zeist/ Den Haag

Conlin, M. Peer group micro-lending programs in Canada and the United States. *Journal of Development Economics*, 1999, 60, pp. 249-269.

Embassy of Ghana. (1997) on-line. Financial institutions in Ghana. Retrieved February 7, 2006, from <http://www.ghana-embassy.org/financial-institutions.htm>

Ghatak, M. (1999). Group lending, local information and peer selection. *Journal of Development Economics*, 1999, 60, pp 27-50.

Hoff, K & Stiglitz, J.E. (1990). "Imperfect and Rural Credit Markets-Puzzles and Policy Perspectives," World Bank Economic Review, Oxford University Press

Johnson, S & Rogaly, B. (1997). Micro finance and poverty reduction. London: Oxfam and Action Aid

Jones, H, Sakyi-Dawson, O Harford, N & Sey A. (2000). "Linking formal and informal financial intermediaries in Ghana: conditions for success and implications for the RNR development", (Oversees Development Institute (ODI)

Karlan, D.S. Social connections and group banking. *The Economics Journal*, 2007, 117, pp F52-F84

Kenya Rural Enterprise Programme Group. (undated). Available at <http://www.k-rep.org/bank.asp>, as accessed on 3 February 2006

Keynes, J.M. (1936). The General Theory of Employment Interest and Money, London, MacMillan Company of Canada Limited

Mashigo, M.P. (2007). Extending credit to the low-income and poor households in South Africa: A system of principles. Thesis. University of Johannesburg. Johannesburg

Meagher, P & Wilkinson, B. (2001). Filling the gap in South Africa's small and micro credit market: An analysis of major policy, legal, and regulatory issues. Revised Final Report submitted to the Micro Finance Regulatory Council of South Africa. IRIS Center, University of Maryland

Mishkin, F.S. (1999). Global financial instability. *Journal of Economic Perspectives*, 1999, 13, 3-20  
Murdoch, J. The Microfinance Promise. *Journal of Economic Literature*, 1999, 37(4), pp. 1569-1614.

Rahman, S. (1997). Finance for the needy, in *UNESCO Courier*, 1997, 50, 1, 17-22. Academic Search Premier

Schoombee, A. (1998). South African banks and the unbanked: Progress and prospects

Schwabe, C. (2004). Fact Sheet: Poverty in South Africa. Pretoria: Human Science Research Council

Seibel, H.D & Torres, D. (1999). Rural finance: Are Grameen replicators sustainable, and do they reach the poor? The case of CARD rural bank in the Philippines, Working Paper No. B1. International Fund for Agricultural Development (IFAD)

Southern African Regional Poverty Network (SARPN). (2008). An overview of poverty and inequality in South Africa- Working Paper prepared for DFID (SA)

Stiglitz, J.E & Weiss, A. Credit rationing in markets with imperfect information. *American Economic Review*, 1981, 71, 393-409

Teixeira, J. (2001-03). The South African banking sector and its vulnerability to systemic risk: A micro-indicator evaluation. South Africa

The World Bank. (2008). The World Bank and Agenda 21. Washington: Oxford University Press

Tobin, J “Liquidity Preference as Behaviour Towards Risk”, *Review of Economic Studies*, 1958, 25, pp. 68-85.

Whiteford, A & McGrath, M. (2000). Distribution of income in South Africa: Human Science Research Council

Wilson, G. (1996). Bank management. Washington, Mckinsey and Co

Yunus, M. (2009). Eradicating poverty by investing in the marginalized. Seventh Annual Nelson Mandela Lecture delivered on 11 July, Johannesburg, South Africa

# INTELLECTUAL CAPITAL TOOL

**Florinda Matos and Susana Rodrigues, Polytechnic Institute of Leiria,  
Portugal**

**Albino Lopes, Technical University of Lisbon, Portugal**

**Nuno Matos, ICAA - Santarém, Portugal**

## ABSTRACT

*In the past, the organizations capital was easy to identify since it considered only its material characteristics. However, the current economy is experiencing a new phase in which the intellectual capital although immaterial, intangible, difficult to define, has become a new asset, which should be managed. Empirical research, previously concluded, identified a set of parameters for auditing intellectual capital management and confirmed the audit model – ICM - Intellectual Capital Model (Matos and Lopes, 2009). This paper Attempts to summarize the results of research conducted in 1107 Portuguese SMEs considered "SME leader" and has as objective to validate the ICM parameters. This paper also contributes to enhance the discussion around the value of organizations intangible assets.*

## INTRODUCTION

In the new paradigm, intellectual capital, seems to assume increasingly the role of principal asset of companies. It is this capital that allows information to be transformed into knowledge that can provide competitive advantage for organizations.

The multidimensional nature of intellectual capital has led to the emergence of many definitions, which are often unclear. Thus, according to this research, intellectual capital is an intangible element, resulting from interactions involving the expertise of each individual in the organization. This element is formed by the wealth of expertise of the employees, by their level of qualification, their experience, their level of information and by their readiness to evolve in the acquisition of knowledge - that is, by their individual talents. Intellectual capital management must verify if each individual is applying their knowledge for the benefit of the organization.

In the case of small and medium-sized enterprises (SMEs), the problem of intellectual capital management appears to be more complex because, normally, it is very difficult to measure and manage intangible assets, which, combined with the scarcity of resources, undermine competitiveness. Therefore, it is necessary to create reliable and accessible tools in this field.

Thus, intellectual capital management, in a form which is able to be audited and certified in order to control the quality and dynamism of the knowledge generated in the organization, will enable the partner organizations (customers, suppliers and lenders) to determine the capacity for innovation, and verify the conformity of their management parameters, compared to a reference standard.

Based on the ICM - Intellectual Capital Model (Matos and Lopes, 2009)., we developed a methodology that allows auditing the intellectual capital management.

The survey instrument used was a qualitative questionnaire, which will provide supporting information for the audit model.

The questionnaire was administered to a sample of 1107 Portuguese SMEs considered the "PME Líder"( SME leader), the best SMEs based in Portugal, in 2010.

This classification is awarded annually by IAPMEI - Portuguese Agency for SMEs and Innovation.

The “PME Líder” companies are proposed by one of seven major banks in Portugal and must obey certain criteria. These companies, in various sectors of activity, evidenced by the quality of its results and high competitive standards, with solid financial ratios and profitability above the national average.

These companies are actively contributing to the dynamics of development and employment in Portugal, being responsible for 37 000 direct jobs. Its turnover in 2010 exceeds 4.5 billion euros. This paper attempts to summarize the results of this research, emphasizing the qualities of the audit tool developed.

It shows that development degree of intellectual capital, can be audited in a credible way, using a methodology that allows measuring the ICM parameters.

## LITERATURE REVIEW

The growing importance of intellectual capital has its foundations in several studies carried out since the 70s, which focused on so-called invisible assets.

Among these studies highlight the works of Hiroyuki Itarni (1991). However, intellectual capital has gained prominence only after the works of Sveiby (1997), in Sweden. The author gave a new vision of intellectual capital in considering the intangible assets as the main strategic issue that should be put to the organizations.

Since then, several authors proposed models and methodologies for assessing the intellectual capital of organizations. The further development of these models was found with authors such as Edvinsson and Malone (Edvinsson and Malone, 1997).

Edvinsson and Malone (1997), proposed a model, “Skandia Navigator”, which divides intellectual capital into two categories: human capital and structural capital. Thus, according to this vision, intellectual capital is the sum of structural capital and human capital, this being the basic capacity for the creation of high quality value.

Sveiby, (1997), developed a measurement methodology, “The Intangible Asset Monitor”, by dividing the intangible assets into three groups: individual competence, internal structure and external structure. This methodology is based on quantitative and qualitative indicators to assess the intellectual capital. The "Intangible Asset Monitor" is used by several companies around the world that offer an overview of intellectual capital. The “Skandia IC Report” is the result of that assessment. Sveiby (1997) recommends replacing the traditional accounting methodology with a new methodology that contains a knowledge perspective. For the author, this methodology is very important to complete the financial information and evaluates the company’s efficiency and stability.

Among the most relevant methodologies are also the “Balanced Scorecard” (Kaplan and Norton, 1992, 1996, 1996a) the “IC Accounting System” (Mouritsen et al., 2001), the “Value Explorer” (Andriessen and Tissen, 2000), and the “Intellectual Capital Benchmarking System” (Viedma, 2001).

These different approaches are based on the measurement of organizations intangible assets. Andriessen (2004, 2004a) by applying the "theory of multidimensional value measurement" to the nations, gives a new vision to strategic intellectual capital management.

These models and methodologies will not be developed as this is not the objective of this paper. On the other hand, it is assumed that the readers of this paper will be able to access the different approaches in these models, easily.

The model used in this paper is the “Intellectual Capital Model” (ICM) (Matos and Lopes, 2009). The choice of this Model is linked to the need for being able to identify, in an integrated and consistent way, the complexity of the factors in the framework of organizational knowledge. Compared with other models, ICM seems to be more adapted to evaluate the intellectual capital management.

The ICM - Intellectual Capital Model - consists of 4 Quadrants specified by their parameters (Matos and Lopes, 2009). The Quadrant Individual Capital, Team Capital and Processes Capital are related to the company's internal environment, the Quadrant Clients Capital is related to the external environment. In ICM, is called Individual Capital the Tacit Knowledge / Human Capital Quadrant. It is the knowledge inherent to the individual himself, and containing the real source of value, talents and the skills to generate innovation. Here, one has included the theoretical and practical knowledge of the individuals and the capacities of different types, such as artistic, sporting or technical.

The Team Capital is the Human Capital / Explicit Knowledge Quadrant. The team shares the explicit knowledge. In this area, knowledge applies to the individual in the form of facts, concepts or tools. When the Explicit Knowledge is associated to Structural Capital, we are in the presence of applied experience, as the whole organization is the holder of formalized knowledge, able to be passed on, this is the Processes Capital. This Quadrant represents the ensemble of shared knowledge, summed up by experts (scientific community), recognized as the most advanced form of knowledge.

This type of knowledge covers, among other dimensions, the organizational routines or the organizational memory. Organizational memory represents the register of an organization, represented by a set of documents and artefacts. Its goal is to expand and amplify knowledge through its acquisition, organization, dissemination, usage and refinement. Organizational memory can be a way of registering tacit knowledge, making it explicit, so that through business processes it becomes part of the patrimony of the company, to be shared and recreated.

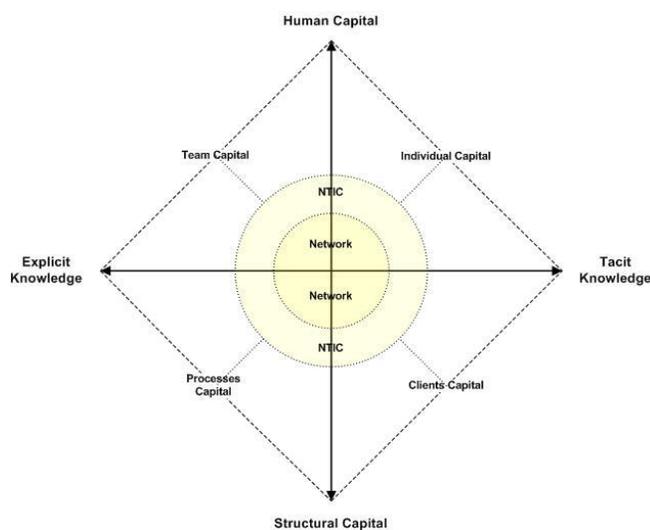


Figure 1: ICM - Intellectual Capital Model (Matos and Lopes, 2009).

The Clients Capital is the result of the interaction Structural Capital / Tacit Knowledge. This typology represents the organizational knowledge in its practical form and is already incorporated into the tacit experiences formalized in the team. This knowledge, although hidden, becomes accessible through interaction, and it is the principal characteristic of the performance of highly specialized teams.

In the Model presented the Network and NTIC are essential in the relationship between the 4 Quadrants. Thus, the companies that put the NTIC at the service of human resources have a great advantage, because they can reduce the administrative difficulties in solving simple problems, increase the quality of services and promote continuous improvement and personal growth.

The approach to the concept of Network is not a new concept. The network, as a social concept, is the genesis of the social constructs of individuals. More recent is the approach to the concept of network system as a factor in the acquisition of knowledge and innovative action. In conclusion, the NTIC are crucial to be effective Networks.

In the ICM, the relational capital is the result of various interactions that take place within the organization and that allows to transform tacit knowledge into explicit knowledge. This knowledge put to the service of customers and all stakeholders, allows organizations to achieve high performances.

**ICM parameters are:**

**I – Individual Capital Quadrant**

Training / Qualification and Talent management  
Valuation of Know - How and Innovation  
Investment in Innovation and Development (ID)  
Existence of a Policy for Talent Retention

**II – Team Capital Quadrant**

Training / Qualification  
Team Work  
Innovation in teams  
Leadership in teams

**III – Processes Capital Quadrant**

Processes Systematization  
Registration of Organizational Knowledge  
Existence of Certification, environmental and social policies  
Partnerships  
Investment in Innovation and Development (ID)  
The Brands Creation and Management  
Complaints System  
The existence of Awards

**IV – Clients Capital Quadrant**

Market Audits  
Management of the Clients' Satisfaction  
Complaints System dos clients  
New Markets

Use of New Technologies of Information and Communication - Use of NTCI and Networks are considered global parameters that allow us to connect the four quadrants.

## METHODOLOGY

The purpose of this research is to examine the psychometric properties (reliability and validity) of ICM parameters. According Carmines and Zeller (1979), reliability concerns confidence in the constancy of the results of several applications of the same test. To study the reliability of the questionnaire we have adopted the method of internal consistency by determining the *Cronbach's alpha* (Cronbach, 1951) coefficient that, according to Nunnally (1978), provides a good estimate of reliability. The value of this coefficient can vary between 0 and 1.

Construct validity will be determined by confirmatory factor analysis (CFA).

## SAMPLE

The initial sample consists of 1107 Portuguese SMEs considered the "PME Leaders" (SME leader), the best SMEs based in Portugal, in 2010. From this total sample, at the date of completion of this article, we obtained a total of 89 responses, corresponding to the same number of subjects of analysis, which respects the rules of a minimum of 10 observations per item, proposed by Biddle, Markland, Gilbourne, Chatzisarantis and Sparkes (2001).

## INSTRUMENT SPECIFICITY

As a tool for validating these properties we used a questionnaire that has been developed by the authors (see Matos and Lopes, 2009, 2010 and 2011). The questionnaire consists of statements about the applicability of each parameter to the business context of each SME, according to a *Likert* scale of 5 points (1 = never applies, 2 = applies somewhat, 3 = moderately Applies 4 = applies very much and 5 = applies completely). This version follows the adaptation of the questionnaire proposed by Matos and Lopes (2011).

## STATISTICAL PROCEDURES

Initially, we carried out most of the descriptive statistics concerning the variables assessed using *Likert* scales, as mean (M) and standard deviation (SD).

Subsequently, we proceeded to determine the *Cronbach's alpha* and confirmatory factor analysis (CFA) using the ML method of estimation - *likelihood maximum*.

A confirmatory factor analysis was intended to verify that the structure factor tends to keep consistent.

For statistical data, we used the computer software *SPSS - Statistical Package for Social Sciences*, version 18.0.

The significance level adopted to reject the null hypotheses is  $p < .05$ , which corresponds to a probability of wrong rejection of 5%.

## DESCRIPTIVE STATISTICS

We tested each set of measures for reliability using *Cronbach's alpha* (Cronbach, 1951). A reliability estimate of 0.7, or better, is considered to be good for early stages of research, and an estimate of 0.8 is advised for basic research (Nunnally, 1978). Initially we applied the *Cronbach's alpha* in all issues of the questionnaire. The *Cronbach's alpha reliability* coefficients for the initial scales averaged 0.40 and 0.84.

With this methodology, we exclude issues that had *Cronbach's alpha* values below 0.6. A visual examination of the shape of the distribution showed that almost all the variables had a slight bias towards higher scores but they did not look very different from the normal distribution curve. We conducted twenty two confirmatory factor analyses (CFA) to explore the setting of the questions that allow you to check each factor. Each quadrant was examined individually to check the organization of parameters in the model (ICM).

We had attention to the soundness of the contents of each item, obtaining an instrument small enough. We used *LISREL 8.30* with maximum *likelihood estimation* for all tests CFA. Several criteria were used to assess the adequacy of the model for each analysis. The results of tests of discriminant validity, showed that although some items are correlated they were very different. Our selection criteria were to choose the items for each parameter, which were correlated, and delete items that appeared to be less distinct (Anderson & Gerbing, 1988). Thus eliminated factors with less representation for the construct (less than 0.6). Based on these analyses, we reduced the number of items constructs representing each parameter. The final *Cronbach's alpha* reliability coefficients parameters are averaged 0.76 and 0.93.

## CONCLUSION

The research seems to indicate that ICM parameters are robust approach to auditing the intellectual capital management in SMEs, as they meet the criteria for its psychometric properties. The research examines

the ICM parameters factor structure, also allowed us to verify a correlation between the parameters in each quadrant.

We can also conclude that the data indicate similarities with other researches (see Matos and Lopes 2011) which there are an adjustment of the parameters to the theoretical model (ICM). Due to the extension of the research, that was supported these conclusions, the results cannot be presented here, they will be presented in a publication being prepared for this purpose. Finally, the predictive validity tests carried out indicate a relationship between the instrument developed as a measure of intellectual capital management and other management measures such as organizational performance.

We found that the organizations that best balance the different ICM parameters, show a better performance, i.e. if we take a photograph at the analyzed companies we could say that organizations whose arithmetic mean of the parameters had higher values would be better able to ensure organizational stability. Of course, these conclusions can always be discussed, in particular because they are drawn to a given business environment at a given time. Therefore, more studies should be done in order to explore these findings. The results presented in this paper, are considered preliminary because the research is still ongoing.

Our expectation is that the final sample should not deviate much from the conclusions presented here, however we consider this situation.

## REFERENCES

Anderson, J. C., Gerbing, D.W. "Structural equation modeling in practice: A review and recommended two-step approach," *Psychological Bulletin*, 103, (1998): 411-423.

Andriessen, D. and Tisane R., *Weightless Wealth*, Financial Times. Prentice Hall, 2000.

Andriessen, D., *Making Sense of Intellectual Capital. Designing a Method for the Valuation of Intangibles*. Elsevier Butterworth-Heineman, Burlington (MA) and Oxford (UK), 2004.

Andriessen, D. "IC valuation and measurement: classifying the state of the art." *Journal of Intellectual Capital*, Vol. 5, No. 2, (2004a): 230-242.

Bardin, Laurence, *Análise de Conteúdo. Lisboa*, Edições 70, 2009.

Biddle, S., Markland, D., Gilbourne, D., Chatzisarantis, N., & Sparkes, A. "Research methods in sport and exercise psychology: Quantitative and qualitative issues." *Journal of Sports Sciences*, 19, (2001): 777-809.

Carmines EG, Zeller RA. *Reliability and validity assessment*. Newbury Park: Sage Publications, 1979.

Cronbach, L. J. "Coefficient alpha and the internal structure of tests." *Psychometrika*, 16, (1951): 297-334.

Edvinson, L. and Malone, M.S., *Intellectual Capital*, Harper Collins Publishers Inc., New York, 1997.

Hamel, J., Dufour, S., & Fortin, D., *Case study methods*. Newbury Park, CA: Sage Publications, 1993.

Kaplan RS and Norton D.P. "The Balanced Scorecard" *Harvard Business Review*, Jan-Feb, 1992: 71-79.

Kaplan RS and Norton DP "Using the Balanced Scorecard as a Strategic Management System." *Harvard Business Review*, Jan-Feb, 1996.

Kaplan RS and Norton DP *The Balanced Scorecard*, Harvard Business School Press, Boston Massachusetts, 1996a.

Itami Hiroyuki; Roehl Thomas W., *Mobilizing invisible assets*. London: Harvard University Press, 1991.

Lopes, A; Matos F. *Intellectual Capital Management - Certification Model*, Paper read at 9th European Conference on Knowledge Management, Southampton Solent University, Southampton, 4-5 September 2008.

Matos F.; Lopes A. *Intellectual Capital Management – SMEs Accreditation Methodology* Paper read at 2th European Conference on Intellectual Capital, INHolland University of Applied Sciences, Haarlem, The Netherlands, 28-29 April, 2009.

Matos F.; Lopes A., “Why Intellectual Capital Management Accreditation Is a Tool for Organizational Development?” *Electronic Journal of Knowledge Management* Vol. 8 Issue 2, (2010): 235 – 244.

Matos F.; Lopes A. *Intellectual Capital Management: Case Study Portugal versus Romania* Paper read at 3th European Conference on Intellectual Capital 09, University of Nicosia, Nicosia, Cyprus, 18-19 April 2011.

Mouritsen, Jan, Larsen, H.T., Bukh, P.N. and Johansen, M.R. *Reading an Intellectual Capital Statement Paper*, The 4th.Intangibles Conference”, Stern School of Business, New York University, 2001.

Nunnally, J. C., *Psychometric Theory*, (2nd ed.), McGraw-Hill. New York, 1978.

Sveiby, K. E. *The New Organizational Wealth. Managing & Measuring Knowledge-Based Assets*, Berrett-Koehler Publishers, San Francisco, 1997.

Viedma “ICBS Intellectual Capital Benchmarking System”, *Journal of Intellectual Capital*, Vol 2 Issue 2, (2001): 148-164.

Yin,R. *Case study research: Design and methods* (3rd ed.)Thousand Oaks, CA: Sage Publications, 2003.

# INTERNATIONALIZATION OF LABOUR AND ITS CHALLENGES: VIEWS FROM SOUTH AFRICA

**David Mello and Edward Rankhumise**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*Globalization has brought with it the need for countries to be more dependent on each other for politics, trade, and labor. Skills shortages in South Africa have created an opportunity for the South African government and its private sector to employ foreigners. The employment of foreigners and other social ills have resulted in Xenophobia and the unfortunate loss of lives in South Africa. The paper evaluates immigration policy of the Department of Home Affairs and its challenges. The paper also provides valuable recommendations to avoid the possible recurrence of Xenophobic attacks in SA. A qualitative method is followed in exploring this volatile situation.*

## INTRODUCTION

Internationalization of labor is mainly due to globalised capital and localized labor (Taylor 2009). Globalization pushes firms to expand and grow beyond their countries of origin in order to remain competitive (Tan 2006). Human capital is attracted by opportunities hence employees move across borders due to the expansion of multinational companies. Other employees move due to the high demands of specific skills. With the internationalization of labor, countries such as South Africa gain some skilled employees while at the same time it loses skilled employees due to demands and better salaries in first world countries. David Harvey in Taylor (2009) refers to the internationalization of labor as accumulation by dispossession. Countries that are able to accumulate more can keep what they have gained while third world countries remain losers as they cannot compete due to lack of resources.

South Africa has seen an influx of foreigners looking for better job opportunities in the past decade. These foreigners are either legal or illegal immigrants. The increase of foreigners coming to South Africa is a result of globalization and economic hardships suffered by South Africa's neighbors and other remote countries in Africa. South Africa's foreign policy and internal policies have a bearing on the ease with which foreigners are able to enter South Africa. This paper offers recommendations which are aimed at eradicating xenophobia in South Africa. The next section defines the concept xenophobia and contextualizes it with South Africa.

## CONTEXTUALISING XENOPHOBIA IN SOUTH AFRICA

Xenophobia is defined by the online Dictionary of Psychology (available at: <http://psychology.about.com> Accessed on 6/4/2011) as an excessive, irrational and intense fear of foreign people, places and objects. According to this dictionary, xenophobic people are more likely to display fear and aggression towards people who are foreign. This definition is a clear depiction of the South African situation. Xenophobia in South Africa reached its catastrophic point in 2008 when foreigners were attacked and displaced. Consequently, refugee camps were created. The attacks took place mainly in informal settlements and townships of Gauteng, Eastern Cape, and Western Cape provinces. Between 3 and 5 million foreigners lived in fear of being attacked.

Xenophobic attacks took the form of black on black violence as mainly foreign black people were attacked. We are tempted to ask the question, is it a manifestation of self-hatred when a person attacks someone who looks like him/her? (not that any form of attack is justified). A closer scrutiny of the situation reveals that the attacks were perpetrated by people from the lower class of the South African society. These are mainly

people with lower educational levels and have never travelled anywhere beyond the borders of South Africa. These attacks did not occur in middle class and affluent areas where other foreigners also live. Self hatred would for this reason not be the main motif for xenophobic attacks. The struggle for insufficient resources seems to be a plausible reason for the attacks. As countries become part of a global village, the struggle for jobs and other resources can be expected to intensify. Foreigners are unfortunately used as scapegoats for local people's frustrations.

## GLOBALISATION AND ITS IMPACT ON LABOUR

Globalization has advantages and disadvantages. This paper focuses on the disadvantages of globalization on human resources. The main threat arising from globalization is according to Auer (2000) the possible loss of jobs and people having to accept a lower quality jobs, labor market competition from low-paid migrants inequality associated with globalization and the internalization of employment. Globalization further brings about competition between countries for scarce skills. Countries that pay better and have attractive working conditions are more likely to benefit from the increasingly mobile labor market. Multinational companies are setting their sights on emerging economies such as South Africa where customs and tariffs are low in order to use such countries as a platform for export.

The following quote from Auer (2000) illustrate the nature of internationalization:  
In the manufacturing of the famous Barbie doll *"the raw material (plastic and hair) comes from Taiwan (China) and Japan: assembly takes place in the Phillipines, before moving to the lower-wage areas in Indonesia and China. The Moulds come from the United States, as does the last coat of paint prior to sale."* This quotation illustrates the extent to which a company will go in manufacturing a cheaper product for the international market. As there are winners and losers in internationalization, the net balance is difficult to establish.

A country's foreign policy serves as a framework upon which foreign relations are conducted. It determines the manner in which a country will interact with other countries, attract business and be receptive to migrant labor. Since South Africa is inextricably part of Africa and the world, it is important that its foreign policy reflects and promotes its interests and those of the continent (Dube, 2003 overview: South Africa's foreign policy in Africa, Available at: [http://www.ai.org.za/print\\_monograph.asp?ID=1](http://www.ai.org.za/print_monograph.asp?ID=1). 2/6/2010)

The Constitution of the Republic of South Africa, 1996 provides that the President is ultimately responsible for the foreign policy and international relations of South Africa. It is the prerogative of the President to appoint heads of missions and conduct interstate relations (South Africa Year Book 2005: 305). Section 84(2)(h and j) makes provision for the President to receive and recognize foreign diplomatic and consular representatives, as well as the appointment of ambassadors, plenipotentiaries, and diplomatic and consular representatives to strengthen the relationship between South Africa and other independent states.

The declared foreign policy of South Africa is aimed at a commitment to:

- Human rights,
- Promotion of freedom and democracy throughout the world,
- The principles of justice and international law in the conduct of relations between nations,
- International peace and internationally agreed mechanisms for the resolution of conflict,
- The interests of Africa in global markets, and expanded regional and international economic co-operation in an interdependent world (Henwood 1997. South Africa's foreign policy: principles and problems, Available at: <http://www.iss.co.za/Pubs/Monographs/No13/Henwood.html> 2/6/2010)

Furthermore, South Africa's policy is guided by amongst others, transparency; national interests, desire to participate in regional, continental and global multilateral organizations; that the security and equality of South Africans, as well as justice and international rule of law, peace, economic stability, and regional cooperation were some of the fundamental principles underlying the foreign policy of South Africa.

Henwood (Ibid), argue that the development of foreign policy since April 1994, was the emphasis on democracy, justice and human rights, which brought a new dimension of the declared foreign policy, namely that of morality. This posed important challenges for South Africa as it could lead to conflict between perceived

interests and the right decision, and has implications for the allocation of resources for essential foreign policy goals (national interests) as opposed to morally justifiable objectives that might, in the long run, negatively influence the material position of the state.

Any attack on a foreigner is a violation of South Africa's foreign policy its commitment to human rights, freedom and justice. South Africa's immigration policy is an integral part of the foreign policy. The next section explores South Africa's immigration policy in a globalised world.

## **SOUTH AFRICA'S IMMIGRATION POLICY**

Immigration policies across the world are a direct result of foreign policies, globalization, and the demand for foreigners to enter a country. The higher the demand the more stringent immigration control will be. South Africa's immigration policy is also influenced to a large extent by external factors as well as internal factors.

The Immigration Act 2002(Act 13 of 2002) forms the basis of immigration policy and control in South Africa. Immigration control is based on the premise that South Africa can only accommodate a certain number of immigrants. According to the Department of Home Affairs (Available at: [Http://www South Africa-newyork.net/homeaffairs/immigration.htm](http://www.SouthAfrica-newyork.net/homeaffairs/immigration.htm). accessed on 5/6/2011), South Africa has a vast reserve of unskilled and semiskilled workers who are entitled to employment opportunities and to an economically viable lifestyle. To protect these citizens, foreigners in unskilled and semi-skilled categories cannot be accepted as immigrant workers.

The immigration policy as stated above, is intended to safeguard the rights of all South African citizens. It is for this reason that permanent residence permits may be issued to a foreigner who:

- Has an offer of employment,
- Employer certifies that there is a position which must be filled by such an employee (this applies mostly to multinational companies)
- Intends to establish a business in Republic of South Africa (Government Communication and Information Service 2010)
- Already holds a business permit to business in the Republic of South Africa, and
- Intends to invest in an existing business in South Africa.

To further protect South African citizens' interests, the Department of Home Affairs sets yearly limits of available permits prescribed for each sector of industry, trade and commerce. These limits are determined in consultation with the Departments of Trade and Industry, Labor and Education. Apart from the effort of the Department of Home Affairs in protecting the interests of South African citizens through immigration control, there is a high number of immigrants going through South Africa's porous borders to settle and work illegally in South Africa. Most of these immigrants are of an African origin. Bronwyn (2000) reports that black foreigners, particularly from Africa comprise the majority of victims of xenophobic attacks.

Xenophobic attacks takes place mainly because South African citizens (those who are unemployed) believe that foreigners take their jobs and enjoy other government services are should legitimately be enjoyed by citizens. The situation is exacerbated by employers who hire foreigners without proper residence permits. Such employees are often exploited and paid far less than South Africans because they cannot approach any institution to protect their rights. The possibility of employing a person illegally in South Africa points to the ineffectiveness of monitoring by the Department of Labor. The Department appoints labor inspectors who should among other things, take action against people employing illegal immigrants. The next section provides recommendations to avoid further attacks in South Africa.

## **RECOMMENDATIONS**

Xenophobic attacks in South Africa are a manifestation of South Africans' growing frustration with the rising levels of unemployment and the slow pace of service delivery. The South African government's quick response to xenophobic attacks was to use the South African Police Services and the South African National Defence Force to normalize the situation. Although this is necessary in view of the possible loss of more lives, the use of force is a temporary measure which does not guarantee recurrence. This paper makes the following recommendations with a view to prevent the recurrence of xenophobic attacks.

- Heavy penalties for employers who employ foreigners without valid resident permit
- Education campaigns which target the youth and people in informal settlements
- Vigilance by community policing forums
- Strict adherence to repatriation of illegal immigrants
- Tough stance against corruption and harsh sanctions against officials who are involved in corruption where foreigners get benefits such as free low-cost housing at the expense of South African citizens.

## CONCLUSION

Globalization and its consequence, the internalization of labor are processes that are irreversible irrespective of whether their impact on any country is negative or positive. South Africa has to maximize the positive impact of the internationalization of labor. Success in this regard can be gained if the country can be able to deal successfully with xenophobia. Government has to reassure its citizens that it has their interest at heart. This cannot be achieved by empty promises. Actions of the government in correcting the socio-economic challenges, strict patrols of the borders and enforcement of policies relating to immigration control and employment of illegal immigrants is likely to convince the average unemployed citizen that foreigners are not necessarily preferred over him or her.

## REFERENCES

Auer, P "The internationalization of employment: A challenge to fair globalization," *International labour review*, vol. 145. no 1-2 (2006): 121-134.

Bronwyn H. Xenophobia: *A new pathology for a new South Africa?* In Hook, D. and Eagle, G. Ed. *Psychopathology and social prejudice*. Cape Town: University of Cape Town Press, 2000.

*Constitution of the Republic of South Africa*, 1996

Department of Home Affairs (Available at: [http://www South Africa-newyork.net/homeaffairs/immigration.htm](http://www.SouthAfrica-newyork.net/homeaffairs/immigration.htm). accessed on 5/6/2011.

Dictionary of Psychology (available at: <http://psychology.about.com> Accessed on 6/4/2011.

Dube, 2003 overview: South Africa's foreign policy in Africa, Available at: [http://www.ai.org.za/print\\_monograph.asp?ID=1](http://www.ai.org.za/print_monograph.asp?ID=1). 2/6/2010.

Government Communication and Information Service, *South Africa yearbook 2009/2010*. Pretoria: Government Communication and Information Service

Henwood 1997. *South Africa's foreign policy: principles and problems*, Available at: <http://www.iss.co.za/Pubs/Monographs/No13/Henwood.html> 2/6/2010.

Immigration Act 2002(Act 13 of 2002)

Molnar, M., Pain, N., and Taglioni, D. The internationalization of production , international outsourcing and employment in the OECD: *Economics Department working papers* No. 561. 2007.

Tan, T. internationalization of small and medium sized enterprises (SMEs): “*An internationalization of the Taiwanese cosmetology service industry,*” *The Consortium Journal*, Vol 12 no 2. (2009): 33-54.

Taylor, M. “Who works for Globalisation? The Challenges and possibilities for international labour studies,” *Third World Quarterly*, Vol 30. no 3 (2009): 435-452.

# ISLAM AND ECONOMIC JUSTICE

Mehdi Mohaghegh, Norwich University, USA

## ABSTRACT

*Compared to other religions, Islam whether in its original archetype or in its current form intervenes more into a society's political and economic affairs. The purpose of this paper is to evaluate the philosophical basis, practical application, and ramifications of "Shariah,"-- Islamic Law-- in a 21<sup>st</sup> Century society and within the available body of economic knowledge that defines economic justice. This study provides historical evidence in support of this "Enlightenment" idea that only rapid economic growth resulting from efficient utilization of resources in a decentralized socio-political system can lead to greater economic justice in its broader sense of the word.*

## INTRODUCTION

It is "the best-of- times" and it is "the worst-of-times" in the greater Middle East. The long-lasting autocratic regimes in the region are falling one after the other. These tyrannical regimes have been mixed blessing in the region. For decades the governments of these police states created some sort of calmness and political stability in their countries but they were also responsible for decades of slow economic growth, high rates of unemployment, lack of liberty, human right violations and severe inequality in the distribution of income in their societies. Since the beginning of 2011, a golden opportunity has presented itself for the oppressed people of these ancient nations to choose a new economic and political framework. Like in Iran of thirty three years ago a market place of political ideas and ideologies is showcased by many groups of political activists in these countries. The young who organized and led the uprisings to their ultimate victories together with some secular elements from universities, military and civil organizations with ties to old regimes long for the creation of western style democracies. Islamists drawing their members from fundamentalists belonging to all layers of the society are cautiously working to incorporate some form of Islamic fundamentalism into the future political systems which is in the making in these countries. Not being impressed by Shiite version of Islam and due to suppression of dissent after the election in Iran, the chance that Arab nations would adopt an Iranian type Islamic regime for their countries is slim. A Saudi-type regime based on Vahabi sect of Islam will not be appealing to young revolutionaries either. This is due to the regimes reactionary nature and its pro-west standing since the beginning of its creation. In most of these countries, however, old-time Islamic parties such as Muslim Brotherhood that was banned under the now crumbling dictatorial regimes are becoming active again to direct the political process toward the creation of a government based on Islamic laws that they believe can bring justice and prosperity for Muslims. How successful they will be in their efforts will remain to be seen. The purpose of this paper is to show that that establishment of a new regime based on *Shariah* cannot improve economic justice and reduce the income inequality in a country. Economic theories and historical evidence are used to show that the formation of an Islamic regime in a country not only does not eliminate the economic inequality and injustice but it may very well lead to economic stagnation, universal poverty, greater income inequality, and slow social and moral progress in that country. A democratic form of government with its free-market underpinning which is equipped with the institution of separation of the church and state is what these countries need in order to achieve rapid economic growth. The accelerated growth rate can lead to social and moral progress in the forms of liberty, democracy, openness of opportunity; tolerance and diversity of ideas; economic and social mobility; and greater equality in the distribution of income.

**The Choice between Considerate Islamists and Intruding Westerners:  
Reckless Friends versus Wise Enemies**

You are better off dealing with a wise enemy than a reckless friend!  
The wisdom you learn from your wise enemy sets you in motion for a better life;  
The ignorance and rigidity of your reckless friend leads you to your demise!

Saadie, 14<sup>th</sup> century Persian Poet and Philosopher

Economic justice, in this paper, has a broader meaning than being merely concerned about the plight of the poor and achieving greater equality in the distribution of income. Autocracy combined with many years of unequal development and slow economic growth has created a large number of unemployed and underprivileged individuals in the Muslim nations of the greater Middle East that includes Northern Africa. Now that these tyrannical regimes are falling, these individuals can easily be convinced by Islamists to favor the establishment of an Islamic form of government in these countries. These groups may be led to believe that a new political system based on “Shariah”--Islamic code of life-- can protect their interests and help them live in a society characterized with economic justice. What follows represents a theoretical explanation of why adhering to tenets of Islam despite their progressive nature compared to those of Christianity would not be sufficient to address the problems of poverty and income inequality in a modernizing society of twenty first century. As the point of departure in this paper a broader definition of economic justice should be provided first. In the view of the author of this paper achieving greater equality in the distribution of income, although being a great achievement, is not an all inclusive goal for a society seeking economic justice. The economic justice that people in a developing country should seek must include the basic qualities of moral progress such as liberty, openness and transparency, tolerance of diverse opinions, vertical economic and social mobility, widespread economic opportunity, democracy, and finally greater equality in the distribution of income. Economic justice is not, however, a new topic for discussion. Since antiquity the Greek philosophers as well as religious thinkers of all sects have tried to address this important issue in one way or another. But only in the last two centuries the industrialized nations of the world have experienced some degree of social, political, and moral progress which is composed of a good portion of the above basic qualities. These countries’ relative success in moral progress and economic justice cannot be attributed to the principles of any religion. As it will be explained later it was because of the “Reformation Movement” and freedom from some strictures of Christianity that combined with accumulation of scientific discoveries led to rapid development of commerce and industrialization followed by moral progress and higher standards of economic justice in European continent and beyond. But freedom, better life, and greater equality for people living in the capitalist countries of the West has meant oppression and inequality for traditional societies of the Middle East. The Western nations’ gluttonous pursuit of power and profit had turned Middle Eastern nations into enslaved colonies, and their people into the playthings of economic forces beyond their control. The question is now, should the oppressed people of the Middle East follow the guidance provided by their fellow Muslim leaders and organize their new governments based on Islamic laws or they should adopt democratic form of governments role modeled after the administrations evolved in the lands of their former adversaries? Listening to Saadi whose philosophical view is the opening remark for this section, the people of Muslim countries are better off adopting their former enemies’ wisdom and style of government than forming administrations based on “Shariah” recommended by their thoughtful clerics and fellow Muslim leaders. Let’s see why?

## **Economic Justice throughout History**

Greek philosophers should be credited for starting the debate over economic justice. Socrates was the first classical philosopher who initiated an inquiry into economic justice by arguing that the nature of things requires the establishment of total communism (Combee and Norton, 1991). Aristotle while not disputing the moral validity of Socrates’ proposition rejected his idea on the ground that incentives matter and wicked human nature requires the motivations that a system of private property and production provides. Combee and Norton (1991) notice that in the cultural perspective of classical Greece, what we nowadays call “economic production” was in fact the output produced by slaves who were owned by households. It is within this context that Aristotle depicted and praised the ideal of the aristocratic gentleman as a man of *nobility* who should only engage in activities such as war, politics, and philosophy, and not economic activity. The condemnation of profit and usury in Aristotle’s writing to achieve economic justice can be understood from what constitutes this ideal human type. Combee and Norton (1991) go further to explain that “It is in the context of exaltation of the aristocratic

gentleman for whom economic activity is “unnatural” (at odds with the “virtue” that is the perfection of human nature) that Aristotle’s condemnation of profits and usury (the earnings of interest on money) must be seen. Usury is “unnatural,” according to Aristotle, because the true purpose of money is to serve as a medium of exchange. Aristotle explicitly argues from the promise that any use of a thing for something other than its “proper” purpose is “unnatural.” But Aristotle’s deeper meaning—and one that sounds less strange to modern ears—appears to be that profit and usury are “unnatural” because the motives that drive them clash with the notion of perfected *human nature* that he favored.”

Combee and Norton (1991) continue to explain how the Aristotle’s views on the justice of private property, profit and usury and on the moral effect of economic activities upon human beings had some impact on the way Christianity approached these issues and ideals of human characteristics. The Judeo-Christian scriptures have a lot to say on poverty and private property. The fathers of early church expressed some opinions on economic issues although their views seemed to be contradictory at times. St. Ambrose (340-397 A.D.) for example strongly argued against the claims of private property and wealth accumulation but the Clement of Alexandria (?-215 AD) clearly favored private property and urged that precondition for helping one’s fellow human is the possession of wealth and private property. During middle ages with the renewed availability of classical texts, the Christian thinkers tried to combine the moral power of Christianity with the intellectual force of Greek philosophy in an attempt to identify the dominant views of economic justice in Western civilization. This approach led to the belief that the ownership of private property and engagement in economic activity can be morally justified if they were limited to bare necessities. Combee and Norton (1991) have summarized the Middle Age views of economic justice as:

“In economics, at least, the human ideal type of classical Greek and medieval Christendom, otherwise so divergent, converged remarkably. The Greek gentleman viewed economic production as beneath dignity; the medieval monk, exalting poverty, considered work –with the aim of necessity, of course, and not profit—to be grim punishment. Though they lived worlds and ages apart, the Greek gentleman and the Christian monk both disdained the frankly economic motives that typify the modern era and would even receive theological sanction from a radically redirected, de-Hellenized Christian tradition.”

Extol for frugality, and praise for those who practiced asceticism was a continual theme in western religions until Middle Ages. So it was warnings about the dangers to human’s behavior and spiritual well-being that followed from devotion to money and luxury, or, even from wealth itself. These views and tenets could not be conducive to economic growth and the degree of social and moral progress that we observe in nowadays Western societies. As we will see later, these restrictive views changed radically as a result of very especial movements in Europe called “Reformation” and “Enlightenment” that took place in the era and in the aftermath of Renaissance. These movements initiated radical changes in people’s views of free-market capitalism, profit, and trade, unleashed a swift economic growth combined with high degree of moral progress and social development in European countries and North America. Let’s now consider the Islam’s views of economic activities and justice.

Islam is from the root “s-l-m”, meaning “peace” primarily but it also means selflessness. Its full implication is the peace that comes when one’s life is surrendered to God (Smith, 1991). Muhammad Iqbal (1979) summarizes the teaching of Koran in terms of God, Creation, the human self, and the Day of Judgment. He believes that these are the chief theological pegs on which the Koran’s teachings are hung. In spite of their importance, however, the Koran is a book that emphasizes deed rather than idea. The clergy and some Muslim economists who consider themselves as proponents of the so called “Islamic Economics” interpret the verses of *Koran* and *Hadith* (the Prophet’s words and deeds) to arrive at the following especial way that Islam looks at the “human material life.” In establishing a relationship between man and God, and man to man, Siddiqi (1991) and others give unequivocal supports for all the Islamic rulings such as condemnation of *riba* (*i.e.* usury), a sense of cooperation, fellow-feeling and brotherhood among Muslims, and adhering to virtue of simple as opposed to wasteful life in this world. Siddiqi also argues that the responsibility of state in an Islamic society is to look after the interests of the underprivileged through the social security system of Islam, and to emphasize the vital importance of *Shura* (assembly of experts) in all sorts of decisions affecting the community. Alhabashi (1991), without giving a definition for justice, indicates that adhering to the principles of justice is one of the most important determinants of economic activities in an Islamic society. As such, all the obstructions to its establishment should be removed. He goes on further to explain why hoarding, cheating, usury, etc. are prohibited in Islam. He also argues that Islam condemns the development of monopolies in both goods and

factor markets and rules that corruption and oppression should be avoided so that transfers and exchanges would take place in an environment of mutual consents and fairness. Along the same line, Smith (1991) explains that Islam is deeply aware of the physical foundation of life. Until basic needs are met, higher concerns cannot flower. Just as the health of an organism requires that nourishment be reached to its every segment, so too a society's wellbeing requires that material goods be widely and appropriately distributed. In its early days, the Koran, supplemented by *hadith*, proposed *measures* that categorically dismantled the barriers of economic caste and seriously reduced the injustices of special interest groups. Regarding the freedom of enterprise and job choice Smith explains that Koran does not discourage people from engaging in commerce and working harder than their neighbors, nor it has any objection to such people being rewarded with larger returns. The Koran simply insists that profit seeking and competition be balanced by the fair play and by compassion. As the way to prevent concentration of wealth in the hands of a few, Koran went after *primogeniture* which was the severest economic curse of the day and flatly banned it. Smith (1991) indicates that "By restricting inheritance to the oldest son, this institution had concentrated wealth in a limited number of enormous estates. In banning the practice, the Koran sees to it that inheritance is shared by all heirs, daughters as well as sons." Islam, although like Christianity praised asceticism and prohibited the taking of interest never created as much of impediment against the right to private property and earning profit from trade and other economic activities. What can explain, then, the relative economic backwardness, dawdling social and moral progress, and lack of economic justices in the Islamic nations of the greater Middle East? The answer to this question can be provided by looking at the history of commercialization and industrialization in the West and comparing it with the way the Muslim nations and their governments have tried to organize their economic activities and achieve social and moral developments.

## **The Origin of Western Democracy and Socio-economic Progress**

In his book, *The Moral Consequences of Economic Growth*, Benjamin Friedman (2005) provides a chronological description of how the accumulation of scientific discoveries combined with a new economic outlook unleashed a rapid rate of economic growth in the 18<sup>th</sup> Century Europe that spread around the globe and is continuing to do so to this date. The new economic outlook resulted from a new and different interpretation of the tenets of Christianity by "Reformists" and from the innovative ideas put forward by "Enlightenment" thinkers. Friedman also explains how faster economic growth in a society characterized with free-market capitalism can lead to greater social, political, and moral developments in that society. Let's have a detailed view of Friedman's ideas.

As it was explained earlier, praise for no extravagant life and admiration for those who adhered to self-denial was a continual theme in Christian Europe until "Renaissance" that initially appeared in Italy at the beginning of 14<sup>th</sup> century and spread all over the Western Europe during the next two centuries. Renaissance refers to the rich development of Western civilization from middle Ages to modern times. The incredible developments in science that resulted in commerce and economic expansion in Italy and other European countries, led to rapid progress in scholarship, literature, and the arts. All of these provided the background for having a new view of the world. Renaissance also brought a new meaning to individual expression, self-consciousness, and worldly experience. During renaissance, people in the emerging nation states began engaging in exploration and a revolution in commerce started. On another front, the "Reformation" which is the term used to signify the desire for change within the church started in parallel with Renaissance. Reformed Protestant thinking that paved the way for the new ideas that culminated later in the "Enlightenment" thoughts emphasized the scientific discoveries and the general education throughout the society. At the same time, due to efforts made by theologians such as Luther, Calvin and other reformists the emphasis on the individual and its study of ancient texts increased. The Reformation ultimately led to freedom of dissent. Luther started his open attacks on doctrines and authority of the church on October 17, 1517 and his insistence on reading the Bible made the individual to assume greater responsibility for his own salvation. In 1536, Geneva was the centre for the teaching of John Calvin who was considered the greatest theologian of Protestantism. In England, Henry the VIII issued the act of Supremacy in 1534 which rejected papal control and created the National Church of England. In the meanwhile, Calvinistic thoughts were still strong in England and caused further reforms. In summary, Reformation, and its outcome, Protestantism, changed the outlook and created a dynamism that has continued to exert influence to the present day. This movement with its emphasis on personal responsibility and individual freedom; its refusal to take authority for granted; its effect on breaking the hold of the church upon life and the consequent secularization of life and attitudes changed the world tremendously.

Reformation and Renaissance intellectual outlooks and their associated cultural manifestations led to the emergence of a new movement called “Enlightenment.” By the 18<sup>th</sup> century people were witnessing the unending series of scientific discoveries and inventions and were benefiting from commodities manufactured from practical applications of these scientific advances. This created a positive view in the society that the scientific progress that had been achieved could indeed continue and accumulate over time. Also some thinkers came up with this idea that economic growth and rising living standards could cause public attitudes and political institutions to evolve in manners that improve the moral character of the society. Such an idea with a convincing explanation of how this process comes about was primarily the intellectual product of a group of 18<sup>th</sup> century thinkers who became known as members of Enlightened Movement. Friedman (2005) explains that Adam Smith and Anne Robert Jacques Turgot who were working independently arrived at a dynamic theory that shows how a society not only may, but with expanding knowledge necessarily will, advance from one mode of production to another (i.e. from shepherding to agriculture and then to an economy based on commerce). Their theory combined two essential parts: 1) Economic scarcity that exists and becomes more of a problem as populations expand, tends to cause the evolution of the societies through a series of stages in which the main economic activity is initially hunting and gathering, then shepherding, then agriculture, and finally “commerce.” 2) These different modes of production will need the adaptation of different legal and political institutions to meet the evolving requirements in the society.

Through their writings the leaders in the enlightenment movement showed that discipline, hard work, thrift, patience, division of labor, and specialization are conducive to greater productivity in a free-market economy. They also recognized that education and scientific research could also contribute to greater economic productivity. From the support that Calvin and his followers gave knowingly or unknowingly to the development of commerce and manufacturing activities, it can be argued that the Reformed Protestant denominations undoubtedly accepted, rather than resisting, the major institutions of the dynamic economic world such as division of labor, specialization, trade, wage labor, banks and credit. The vital role that Smith, Turgot, Mandeville, and other Enlightenment thinkers played in the development of commerce and industries has been summarized by Friedman (2005) who explains their ideas as: “Rather than worrying about how to suppress individuals’ insatiable appetites, as the Stoics of ancient Greece had done, or simply railing against them as countless religious sects had, Mandeville, Smith, and their followers believed that commerce would harness those appetites to serve the society as a whole. Just as insatiable curiosity drove the quest for scientific discovery, insatiable material wants drove the economic machine. The answer to the medieval religious injunction that all economic activity must be for the common good was that, under the arrangements imposed by commerce, economic activity driven by self-interest *was* for the common good. In the absence of individuals driven by “virtue” commerce offered an economic system that mimicked what a society of virtuous individuals would do. The result was, in cultural historian Christopher Lasch’s apt phrase, (“the moral rehabilitation of desire.”)”

Friedman (2005) also argues that the enlightenment thinkers recognized that commerce can reward some important personal traits such as honesty, order, reliability, punctuality, discipline, and enthusiasm to be helpful and friendly toward one’s fellow citizens and can innately create these traits in the citizens of a country. These are human characteristics that religions including Islam have not been able to completely promote in human societies. Even passing of laws in a society cannot guarantee that majority of citizens try to uphold these very important human traits. In modern economic jargon, these human traits have characteristics of public goods and possess significant “positive externalities” which can be internalized through public policy. In a commercial world and in a free society, individuals who adopt these and other similar personal characteristics could achieve greater success both financially and spiritually. The society as a whole will be also served in the form of greater output, less criminal acts, and greater spirit of cooperation when its citizens possess these traits.

Smith, Turgot and their followers also realized that the improvement in productivity and rising of incomes in commercialized societies could result in less human efforts to be necessary for feeding, clothing, and sheltering of a given population. The released time from subsistence activities, could be used by individuals to engage in other activities such as reading, writing, education, creating the artifacts, discussing the policy issues and participating in the society’s governing institutions. In reasoning this way, Smith and other Enlightenment thinkers foresaw much of the thinking about political democracy that emerged over the next century. Friedman (2005) explains that “Tocqueville’s observations on Americans’ astonishing proclivity to participate not just in

politics but in clubs and societies and associations of every kind (“not only commercial and industrial companies in which all take part, but associations of a thousand other kinds, religious, moral, serious, futile, general or restricted, enormous or diminutive”), and his emphasis on that participation as an ingredient important for the success of American democracy, sound like an empirical confirmation of Smith’s and Millar’s ideas on the importance of leisure pursuits—which, in a way, they were meant to be.”

It is important to emphasize that Smith, Turgot, and their contemporaries did not suggest that the development of economic growth and rising incomes necessarily lead to the development of the above traits in members of a society and its progress toward democracy. They saw these developments in individuals’ behaviour and outlooks, as well as the implications they drew for equality and democracy, as a consequence of “commerce” itself and its industrialization outcome. But considering the effects that rising incomes have on the further development of these traits reinforces the above original argument. Having discussed the process of industrialization and movement toward democracy and moral progress in the Western world we turn now to a discussion of the major factors that influenced the economic, political, and social changes in the greater Middle East in the aftermath of Islam.

## **Economic, Social, and Moral Progress in the Greater Middle East**

As it was mentioned before the role of trade in the economy was never downplayed in Islam. After all, the prophet himself is said to be an honest and successful merchant. Also Islam, being an egalitarian religion, has always emphasized a sense of cooperation, fellow-feeling and brotherhood among citizens. In the Middle East, however, there have not been any attempts to translate the Brotherhood of believers into economic progress and justice. Islam’s limited success in terms of preventing the creation of a castes system in the society and its promotion of social mobility, have been more than offset by its negative influence on economic growth and capital accumulation. Issawi (1982) divides the negative influence of Islam on the economy into two effects, 1) Islam being a conservative religion justified and supported the existing forms of governments and the status quo, and therefore it might have subdued the emergence of other creative intellectual, social, political, and economic forces. 2) Islam as an egalitarian religion has failed to create a more equal distribution of income and wealth throughout the Middle East. The severe inequalities of wealth and income observed even in the modern day Middle East provide a clear empirical support for the argument made by Issawi. In addition, the egalitarian precepts of Islam have certainly had some negative effects on economic incentives and growth as well as on socio-political development of Middle Eastern countries. These negative effects will be discussed later. It is important that we would first understand the long-term relationship between Islam and the totalitarian regimes that have reigned in the region.

The existence and continuation of autocratic regimes in the Middle East is explained by Issawi (1982) who argues that in the early Middle Ages the Sasanian and Byzantine Empires did not break down—in contrast to the Western Roman Empire—following the defeat of these two superpowers by Arabs. Arabs soon succeeded in establishing a strong and fairly centralized government similar to the collapsed regimes in Byzantine and Persia. Issawi (1982) further explains that “Whereas in Western Europe the ground was cleared for the growth of numerous and vigorous independent centers of power and activity—Church, city states, feudal principalities, universities, guilds, and other associations—in the Middle East the continued power of the state stifled such developments. The main economic consequence was that the state and its bureaucracy made it almost impossible for groups of producers to enjoy sufficient autonomy to set up institutions that could further their interests and expand their economic base, thereby enlarging the productive capacity of the economy.”

The centralized and heavy-handed governments that were either supported or dominated by clergies have reduced the incentives for market participants to work hard and grow the economy fast enough to improve the living standards. As it was mentioned before the improvement in standards of living and enjoying of greater leisure are necessary for public attitudes and political institutions to evolve in manners that improve the moral character of a society. Montesquieu and other thinkers of enlightenment movement concluded that *commerce* could induce industrialization, discipline, honesty, moderation, endurance, and thriftiness (Friedman 2005). In the view of these philosophers, commerce and free-market capitalism could also foster tolerance and democracy. The enlightenment thinkers based their propositions on the fact that in a free-market economy an individual has an economic incentive to buy from the cheapest supplier, or sell to the highest bidder, then, irrespective of

religion or political affiliation, commerce helps to break down group prejudice and to prevent ethnic cleansing. Also, since engaging in free-market transactions requires negotiation, bargaining and eventual compromise, engaging in these activities provides the conditions for the development of democracy. Then, the emergence and continuation of centralized governments that slowed down the process of commercialization and industrialization in the region partially explains the lackluster economic progress and socio-political advancement in the Middle East. The other barriers to such developments came from the conservative nature of Islam and its relatively greater interference in social, political, and economic affairs of the society. Let's look at these other barriers next.

In certain respects Islam, at least in the way it has evolved over the past 14 centuries, resembles the pre-reformation Christianity that did not suppose people to have personal responsibility and individual freedom. Muslims similar to pre-reformation Christians have been forced to take the authority for granted, and accept the hold of Muslim kings and clerics upon their lives. As we saw earlier in this paper the "Reformation" in Christianity emphasized personal responsibility and individual freedom. Its refusal to take authority for granted, and its effect on breaking the hold of the church upon life and the consequent secularization of life and attitudes changed the Western world tremendously. A similar reform movement in Islam is long-time overdue. People of the Middle East should be liberated from the hegemony of dictators of all kind including the Muslim clerics--especially the ones who believe in resurrection of an Islamic kind of government run by an Omayyad or Abbasid type of Caliph. A heavy-handed government supported or dominated by clergies will remove the inquiry from the society, reduces the incentives to innovate, work hard, and grow the economy fast enough to improve the living standards. The improvement in living standards as it was explained before is necessary for public attitudes and political institutions to evolve in manners that improve the moral character of the society. Smith and other thinkers of enlightenment movement concluded that free-market capitalism in a transparent society and characterized with division of labor and specialization could induce discipline, honesty, capital formation and industrialization. They also argued that commerce and free-market capitalism could foster tolerance and democracy. Their line of reasoning for this latter effect was that in a free-market economy people have economic incentives to buy from the cheapest supplier, or sell to the highest bidder, then, irrespective of religion or political affiliation, commerce helps to break down group prejudice and ethnic cleansing. Also, since engaging in free-market transactions requires bargaining and eventual compromise, engaging in these activities provides the conditions for the development of democracy. The autocratic and centralized regimes in the Middle East regardless of their background have not been receptive to the idea of improvement in commercial activities and industrialization of the region. Issawi (1982) indicates that, in the Middle East there have not been strong local governments; the municipal autonomies were always limited; and the entire state machinery have remained in the hands of kings, soldiers, bureaucrats, and clergies whose main objectives were to raise enough taxes and tariffs to finance wars and meet their salaries and other expenses such as security of their regime. The governments were not concerned with the effects of taxes and their expenditures on production. The centralized nature of governments in the region also explains the precariousness of property. Issawi (1982) explains that "from the early caliphate on, the history of the region is full of incidents where the property of merchants, officials, and others; similarly, with few exceptions, landed estates did not remain in the same family for many generations. No student of European history can doubt the importance of security of property in the rise of capitalism, and its absence goes a long way to explain the lack of a parallel development in the Middle East." Colonizing the region by Western powers and the discovery of oil in the region further enforced the continuation of centralized governments in the greater Middle East. Oil companies obtained concessions from the governments in the region. This has provided a substantial amount of petro-dollars for the corrupted governments in the oil producing countries especially since 1970s when OPEC became strong and active. Oil is a capital intensive and self-contained industry. It has absorbed a small portion of skilled labor force in the oil producing countries. Most of the revenue and foreign exchange obtained from oil have streamed back to the developed countries in terms of payments for armaments and investments in the money markets of Western Europe and the United states. The rest of the funds have been used for importing of all kind of commodities from the industrialized nations, paying of salaries to a large number of civil servants, bureaucrats, and the servicemen in the massive military forces. The abundance of oil money over the past four decades has made the governments of these countries to also engage in vast, insufficiently studied, and inappropriate development plans. In addition, the petro-dollars received by these governments has given them a strong bias toward highly capital-intensive technologies, despite the fact that these countries are more labor abundant than being capital abundant nations. The result of these government policies has been a highly distorted and unbalanced economic development in each of these countries. The oil industry has also made the Middle East subject to the highly

unsettling effects of constant interference and manipulation by the 19<sup>th</sup> century and present day superpowers. In summary, the foreign aggression and hegemony caused by strong and centralized domestic governments have made the economy of the Middle Eastern countries not to evolve properly and gradually to be suited to the character, needs, and resource endowment of the region. Also, the economic development and government led industrialization in these countries have not affected all segments of the society the same way. What these countries really need is less government involvement in economic activities, a much larger dosage of entrepreneurship and private sector activities, with a high degree of financial deepening. The first two remedies are clear enough; financial deepening requires some clarification that follows.

Due to abundance of petro-dollars in the region most Middle Eastern governments have been attracted to “shallow” finance. Shallow finance occurs when governments follow developmental strategies that distort financial prices including the interest rates and foreign exchange rates. As Shaw (1973) explains, shallow finance can be the result of a relatively strong government apparatus, a fairly weak level of indigenous entrepreneurship, or a relatively inefficient financial market. All three of these have been common in the Middle Eastern Countries. By distorting interest rates and foreign exchange rates, the governments of these countries have reduced the real rate of growth and the real size of financial relative to nonfinancial systems. In Muslim countries such as Malaysia and Indonesia where the strategy of “deepening” finance—a strategy of financial liberalization-- has been used the economic growth has accelerated. Financial repression (shallow finance) leads to a substantial increase in nominal rates earned on financial assets such as government securities and social trust funds. But these rates deflated by any broad index of prices for domestic goods and services will be rising less rapidly or falling. Then finance in the real sense is shallow, partly because it is being taxed by inflation. Where finance is shallow, the economy depends heavily on government fiscal budget and on its international capital accounts for savings and investment capital. Deepening eases the strain on taxation, reduces the loss of petro-dollars to foreign companies and countries, and moderates the demand for foreign savings. In addition to reversing capital flights, deepening also diverts savings from constantly going into real estate industry and will move the funds into economic activities with long-term positive effects on the economy. If the countries of the Middle East liberalize their financial policies and remove or reduce the distortions in their financial prices their liquidity reserves will increase. Then, the central banks in these countries easily build up their international currency reserves and find themselves much less in need of market intervention measures such as rations or licenses on the foreign exchange markets. Farmers and manufacturers substitute balances of financial assets for working capital that is normally in the form of wheat or rice or other commodity inventories that are costly to store or hold. Buyers and sellers give up barter exchanges when in all markets they can accumulate and use balances of liquid assets. Supply of financial assets expands relative to national income or in proportion to tangible wealth, and these assets will become available in different qualities. There will be a variety of financial assets with longer term maturities and more debtors gain access to financial markets. The pool of financial assets becomes diversified enabling the firms to optimize their capital structures. The expansion of the pool of financial assets provides the chance for lenders and investors to diversify their positions and reduce their risks. All of these can lead to greater capital formation and may accelerate the economy’s growth rate and its socio-political and moral progress. Shallow finance, on the other hand, hinders the real growth of the economy and causes universal poverty, political unrest, and oppression of dissent and continuation of government hegemony and control. Shallow finance will also cause economic injustice in the broader sense of the word than just the inequality in the distribution of income. Islam’s strictures against practices and policies that cause greater equality in the distribution of income have failed to create Muslim societies based on principles of economic justice. For example, Islam’s stricture against usury can lead to misallocation of funds among investment alternatives, less investments, much lower level of capital accumulation, and slower economic growth. This combined with the inability to transfer risk from the relatively less risk tolerant individuals to the ones who are willing and able to take more risk, can indeed reduce the economic growth and make the distribution of income less equal. Also, the inability to earn interest on small sums of money and being in need of Islamic bankers to invest one’s funds lead to less competition in the financial market, more severe case of agency problem, and much less transparency. All of these make the distribution of income even less equal. In addition, despite Islam’s strictures against usury, there has always been a substantial amount of money lending in the Middle East. Issawi (1982) notices that much of the money lending in the region has been undertaken by Christians, Jews, and Zoroastrians. He also acknowledges that Muslims have played a role in lending money at interest too. Since returns on risk-sharing were not regarded as usurious, a wide range of legal fictions and devices have been created and used from early Islamic times, to invest money in commercial and to a lesser extent industrial partnerships. All of this show the impracticality of the law against usury which, as we saw before, goes back to

classical Greek era and it is not even unique to Islamic law. Islam emphasizes the right to private property which is good. But one can find many examples from the past and present that show the confiscation of property from its owners has always been a normal practice in the region. It is also true that Islam assimilates many social relations, such as marriage, to property contracts. Yet, all kind of properties have in fact been precarious, and subject to confiscation. On another issue, Issawi (1982) notices that “Muslim laws of inheritance which excluded primogeniture strictly prescribed the shares of the various heirs, and allowed for very limited bequest, undoubtedly helped to break up large properties. By doing so, however, they made it more difficult to accumulate large blocks of capital and thus may have hindered investment. To circumvent inheritance laws, and ensure against confiscation, much property was converted into *Waqf* (mortmain), with an ostensibly charitable purpose. But here again the economic effect was usually adverse, since *waqf* were notoriously mismanaged. And, as noted earlier, divorce, polygamy, and inheritance laws, by weakening the family’s economic structure, may also have diminished the urge to accumulate.” It is obvious now that the slow rate of capital accumulation caused by certain strictures of Islam has been the source of sluggish economic growth and less social and moral progress in the region.

## CONCLUSION

This paper compared and contrasted the degree of economic justice achieved by the Muslim countries of the Middle East with the degree of it prevailed in the industrialized nations of the Western hemisphere. Economic justice in this paper has a broader meaning than merely achieving greater equality in the distribution of income. The author of this paper believes that openness of opportunities, tolerance, social and economic mobility, upholding of human rights and democratic values as well as greater equality in the distribution of income and wealth are all signs of achieving greater economic justice in a society. No one can deny that in regards to most of these qualities the Western countries are in a superior position than the Muslim nations of the Middle East. The recent political uprisings and the down fall of autocratic regimes in Tunisia, Egypt, Libya, and other countries have provided a golden opportunity for the citizens of each of these nations to establish a new system of government in their country. The different groups of political activists in these ancient nations are clashing and debating over what factors to consider when they attempt to establish their new political systems. Among them, are the traditional Islamic parties such as Muslim Brotherhood which is well organized and is trying to dominate the political process to incorporate, at least, some of the laws and teachings of Islam into the new constitutions that are being developed in these countries. One has to be opposed to these attempts if he/she accepts the ideas put forward by “Enlightenment” thinkers and presented in this paper from a book written by Friedman (2005). Enlightenment philosophers explained that accumulation of science and technology in the Western countries led to commerce, capital accumulation, and rapid economic growth and all of these together produced the relatively higher degree of moral progress and economic justice that we observe in these countries. Then the slow growth of the Middle Eastern countries caused by the policies of centralized and autocratic governments and conservative nature of Islam that encourages people to take the authority for granted, and accept, without any reservations, the hold of Muslim leaders and clerics upon their lives should be blamed for lack of adequate social development, democracy and moral progress in the region. Shallow finance practiced by the governments has also caused economic stagnation and injustice in the Middle East. People of the Middle Eastern countries do not really need a larger dosage of Islam in their political and economic systems. What they really need is less government involvement in their economic activities, a much larger dosage of entrepreneurship and private sector activities, and a high degree of financial deepening in their economies.

## REFERENCES

- Cinar, M., editor, *The Economics of Women and Work in The Middle East and North Africa*, Amsterdam, The Netherlands: Elsevier Science B. V., 2001.
- Combee, J. and E. Norton, *Economic Justice in Perspective: A book of Readings*, Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1991.
- Friedman, B., *The Moral Consequences of Economic Growth*, New York: Alfred A. Knopf Publishing, 2005.

- Eagleton, T., *Why Marx Was Right*, New Haven, Connecticut: Yale University Press, 2011
- Ghate, D. and R. Ralston, Editors, *Why Businessmen Need Philosophy: The Capitalist's Guide to the Ideas behind Ayn Rand's Atlas Shrugged*, New York: New American Library, Penguin Group, 2011.
- Gibbon, E., *The Decline and Fall of the Roman Empire*, 1845. Reprint. (New York: Modern Library, 1977)
- Issawi, C., *An Economic History of The Middle East And North Africa*, New York: Columbia University Press, 1982.
- Iqbal, M. S., *the Secrets of Self*, Reprint. (Lahore: Muhammad Ashraf, 1979), xxi
- Jacoby, R., *Bloodlust: On the Roots of Violence From Cain and Abel to the Present*. New York: Free Press, 2011.
- Hunt, E., *Property and Prophets: The evolution of Economic Institutions and Ideologies*, New York: HarperCollins College Publishers, 1995.
- Lasch, C., *The True and Only Heaven: Progress and Its Critics*, New York: Norton, 1991.
- Montesquieu , C., *The Spirit of Laws*, Translated and edited by Anne M. Cohler, Basi Carolyn Miller, and Harold Samuel Stone (Cambridge: Cambridge University Press, 1989)
- Muller, J., *Adam Smith in His Time and Ours: Designing the Decent Society*, New York: Free Press, 1993.
- Rothschild, E., *Economic Sentiments: Adam Smith, Condorcet, and the Enlightenment*, Cambridge: Harvard University Press, 2001.
- Sadeq, A., Pramanik, A. And N. Nik Hassan, Editors, *Development and Finance in Islam*, Selangor, Malaysia: International Islamic University Press, 1991.
- Shaw, E., *Financial Deepening in Economic Development*, New York: Oxford University Press, 1973.
- Smith, H., *The World's Religions: Our Great Wisdom Traditions*, New York: HarperCollins Publishers, 1991.

# **TEENAGE PREGNANCY: COPING WITH PREGNANCY AND SCHOOLING**

**Mokoena, S.K., Mji, A., Mukhola, M. S., Mokgobu, I., Marais, A.  
Tshwane University of Technology, South Africa  
Phiri, C., Venda University, South Africa**

## **ABSTRACT**

*The rate of teenage pregnancy in South Africa has reached proportions that are so scary that newspapers have come up with headlines such as "Pregnancy tsunami: Thousands of school girls in Gauteng alone are preparing to give birth." In fact, a member of the executive committee in one province intimated "... one school in Zululand in which 60 pupils fell pregnant in one year and that is not a development that you would want to associate with a school." As the teenage pregnancy problems are among school age children this suggests that this issue impacts directly on schooling. In fact some affected learners temporarily drop out of school while others leave schooling entirely. Those who return to school encounter the dual challenge and responsibility of being parents while being learners. As a result schoolwork gets affected and often results in poor scholastic performance. This paper is an integral part of a four phase study incorporating legal, social, health and educational aspects of teenage pregnancy. In particular, the aim here was to determine how the teenagers coped with pregnancy on the one end and performed at school on the other. In order to obtain a better perspective, we interviewed two sets of respondents from schools in two provinces bordering each other. The first were teenagers who had fallen pregnant. These teenagers were interviewed with the objective of gleaning insights from their experiences in respect of how they coped with the pregnancy and schooling. The second respondents were teachers. The interviews solicited the teachers' views about the impact and effects of teenage pregnancy in their schools. The study also established from the teachers how they assisted pregnant teenagers in keeping up with their schooling activities. The findings of this investigation should form a properly research account of how the pregnancy problem could be addressed in South Africa.*

## **INTRODUCTION**

Learner pregnancy is a global public problem in all aspects of life and has been a concern to health workers, community developers, industrialists, educationalists and parents. In South Africa, pregnancy rates among school going girls are escalating for various reasons. Learner pregnancy comes as inevitable interruption in education. In some instances, the affected learners drop out from school temporarily on the one hand, and on the other hand, the majority of these learners do not return to school. Those who return to school are always encountering the challenge of dual responsibility of parenting and being learners. As a result, the schoolwork is often resulting in poor scholastic performance which adds to the limited education and employment opportunities just to mention few examples of socio-economic challenges facing the country. The purpose of this paper is to investigate the perception on poor scholarly performance of learner pregnancy in the Mpumalanga and Limpopo Provinces of South Africa. The influence of other socio-cultural and economic environmental challenges will be mentioned; however the researchers will acknowledge their role on this crucial and sensitive discussion. Learner pregnancy has an impact on many areas of the pregnant girl's life. The life of the baby, family and the father of the baby are also affected (Marais et al, 2011). Chigona and Chetty (2007) argue that both pregnancy and parenting are the leading reasons girls give for dropping out of school.

## **HISTORICAL BACKGROUND**

The study conducted by the Human Science Research Council (HSRC) in 2009 on behalf of the Department of Basic Education in South Africa, report that there was “a perception in the country that there was an upsurge in teenage pregnancy, because the pregnancies were seen more often in schools, communities and amongst those collecting the Child Support Grant” (Department of Education, 2009). The study further found that learner pregnancy rates were higher in schools located in poor areas and in schools that were poorly resourced. In March 2011, “*News 24*” published an article arguing that in the KwaZulu-Natal Province, the Department of Education has recorded 17 260 pregnancies in schools on the 2010 academic year. In the Gauteng Province, in February 2011, the newspaper “*The Times*” published an article arguing that almost 5 000 schoolgirls in the province became pregnant in the 2009-2010 financial year and a shocking feature of the statistics is that 113 primary school girls became pregnant in the same period. The above statistics can be used to reflect how learner pregnancy has become a huge problem in schools.

## **RESEARCH METHODOLOGY**

The research methodology used in this paper was a combination of both qualitative and quantitative methods with large research strategy of exploratory and descriptive questionnaires. Burns and Grove (2003) indicate that exploratory studies are designed to increase the knowledge of the field of study. In addition, exploratory research allows the researchers to explore the dimensions of a phenomenon, the manner in which it is manifested and the other factors with which it is related. A descriptive study is defined as a collection of accurate data on the problem to be studied. According to Burns and Grove (2003:237), descriptive research is defined “as a way of discovering new meaning, describing what exists, determining the frequency with which something occurs and categorising information”. Interviews were also used for both teachers and learners to determine the impact of learner pregnancy on individuals affected by this phenomenon.

## **LEARNER PREGNANCY V/S POOR ACADEMIC PERFORMANCE**

Literatures on learner pregnancy provide many reasons for dropout by pregnant learners. Chigona and Chetty (2007) argue that mothering, peer pressure and school environment negatively affect “teen mothers” in coping with schooling. The HSRC report (2009:21) indicates that “the assumption that girls who drop out of school because of pregnancy would have continued their education may not be valid. Pregnancy may be the endpoint most directly associated with dropout but is not the cause”. In an interview with Ms Hlophe, an educator (not her real name), she echoed the same sentiments that learner pregnancy is an endpoint. This argument could be further supported by the KZN study incorporated to the HSRC report that for males, the inability to pay school fees and the need to work were the main reason for dropout, while for females, pregnancy and the inability to pay school fees were cited as reasons for dropout. Thus, the authors can argue that learner pregnancy and school dropout do share many common social and economic factors, of which the most significant are poverty and poor academic achievement. The authors have pursued further studies on learner pregnancy focusing on health and law; hence this paper is limited to education issues only.

The tables below provide a brief statistical picture on both Limpopo and Mpumalanga provinces. Table A provide the age and grades of the learners participated on this study. The total number of learners participated on this survey were 387 (that is, 196 Limpopo learners and 191 Mpumalanga learners). Table B and C provide for the sexual health information from school and home respectively according to the learners grades. These tables reflect that more than half of the participants are knowledgeable about sex health. It does appear, however, that the knowledge is related to sex and becoming pregnant rather than about pregnancy as a phenomenon.

The following are some of the learners’ response from the interviews conducted in both “*I know that a person falls pregnant after sexual contact. That’s the only thing I know, and that there is no menstruation during pregnancy.*” “*I had knowledge about pregnancy before. I got information from school. I was told that with pregnancy there is a possibility of dropping out of school and people will laugh at you*”. These responses have made the authors to reach a conclusion that learners get pregnant unplanned, but having knowledge about sex and its consequence to a certain extend. Table D provide data on learner pregnancy by province. The table portrays the Mpumalanga province to be much better compared to the Limpopo Province.

**Table A: Frequency distribution and percentages (%) of learners by age, grade and province**

Province	Age	Grade			Total
		10	11	12	
Limpopo	13	0 (0.0)	1 (0.5)	0 (0.0)	1 (0.5)
	14	2 (1.0)	0 (0.0)	0 (0.0)	2 (1.0)
	15	6 (3.1)	0 (0.0)	0 (0.0)	6 (3.1)
	16	8 (4.1)	0 (0.0)	0 (0.0)	8 (4.1)
	17	10 (5.1)	8 (4.1)	9 (4.6)	27 (13.8)
	18	1 (0.5)	13 (6.6)	37 (18.9)	51 (26.0)
	19	3 (1.5)	11 (5.6)	22 (11.2)	36 (18.4)
	20	1 (0.5)	2 (1.0)	22 (11.2)	25 (12.8)
	21	1 (0.5)	2 (1.0)	20 (10.2)	23 (11.7)
	22	0 (0.0)	0 (0.0)	9 (4.6)	9 (4.6)
	23	0 (0.0)	2 (1.0)	2 (1.0)	4 (2.0)
	24	0 (0.0)	0 (0.0)	3 (1.5)	3 (1.5)
25	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)	
Total		32 (16.3)	39 (19.9)	125 (63.8)	196 (100)
Mpumalanga	12	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)
	15	23 (12.0)	0 (0.0)	0 (0.0)	23 (12.0)
	16	50 (26.2)	4 (2.1)	0 (0.0)	54 (28.3)
	17	23 (12.0)	11 (5.8)	10 (5.2)	44 (15.5)
	18	12 (6.3)	9 (4.7)	27 (14.1)	48 (25.1)
	19	2 (1.0)	2 (1.0)	14 (7.3)	18 (9.4)
	20	1 (0.5)	1 (0.5)	1 (0.5)	3 (1.6)
Total		111 (58.1)	27 (14.1)	53 (27.7)	191 (100)

**Table B: Frequency distribution and percentages of learners by grade and whether they received information about sexual health at school**

Grade	Sexual health information from school (%)		Total
	Yes	No	
10	87 (22.7)	53 (13.8)	140 (36.5)
11	53 (13.8)	13 (3.4)	66 (17.2)
12	134 (34.9)	44 (11.5)	178 (46.4)
Total	274 (71.4)	110 (28.6)	384 (100.0)

**Table C: Frequency distribution and percentages of learners by grade and whether they received information about sexual health at home**

Grade	Sexual health information from home (%)		Total
	Yes	No	
10	89 (23.2)	51 (13.3)	140 (36.5)
11	43 (11.2)	23 (6.0)	66 (17.2)
12	133 (34.6)	45 (11.7)	178 (46.4)
Total	265 (69.0)	119 (31.0)	384 (100.0)

**Table D: Frequency distribution and percentages reflecting teenage pregnancy by province**

Province	Pregnant (%)		Total
	Yes	No	
Limpopo	108 (27.9)	88 (22.7)	196 (50.6)
Mpumalanga	19 (4.9)	172 (44.4)	191 (49.4)
Total	127 (32.8)	260 (67.2)	387 (100.0)

## CONCLUSION

The paper has demonstrated the fact that learner pregnancy is a problem in South Africa, despite the program run by both the Health and Education Departments on contraception and sexually transmittable diseases. Interrupted education or school drop out by girls are as a result of unplanned pregnancies. Regardless of their socio-economic background many have aspirations towards education. An unplanned pregnancy jeopardizes their chances of reaching such goals. Teenage mothers are not likely to achieve educationally or develop a significant career.

## REFERENCES

- Burns, N. and Grove, S.K. *The practice of nursing research: Conduct, Critique and Utilization*, 5<sup>th</sup> ed. St Louise, Elsevier: 2005
- Chigona, A. and Chetty, R. "Girl's education in South Africa: Special Consideration to Teen Mothers as Learners", *Journal of education for international Development*, Vol. 3, Iss.1, (September 2007): 1 – 17
- Marais, A., Mokgobu, I., Mokoena, S., and Mukhola, S. *Learner pregnancy: a study of the impact on the health, education and legal rights of pregnant teenage girls in the Mpumalanga and Limpopo provinces of South Africa*, GBATA 2010: 505 – 511
- McLea, H. "Pregnancy Tsunami" *The Times*, February 2011
- News 24, *17 000 Pregnancies at KZN Schools in 2010*, March 2011
- Panday, S., Makiwane, M., Ranchod, C., and Letsoalo, T. *Teenage pregnancy in South Africa: with a specific focus on school-going learners*. UNICEF, July 2009
- South Africa, *Department of Education*, Parliamentary Monitoring Group, 2009

# INVESTIGATION OF HUMAN DEVELOPMENT IN KERMAN PROVINCE IN IRAN

**Mojtaba Mohammadnejadi Moodi**  
**Chabahar Maritime University, Iran**

## ABSTRACT

*Achieving all embracing development is one of the main goals of every government. Variables such as income per capita, saving and etc. have been used for comparison of countries achievements in last decades. But such variables only pay attention to the economic aspects of development, ignoring other effective factors of development. Human development index (HDI) was introduced as an indicator for all embracing development. Income, education and health are three main factors that play equal roles in this index. In the present paper first, human development index is calculated for every town and city of Kerman province in Iran and they are ranked on the basis of this index. Then, with regard to the point that giving equal weights to these three factors may be incorrect; with the use of Data Envelopment Analysis and output oriented model, the index was calculated again. The outputs of this model are three aforesaid variables and the input is a dummy variable with value of one. Ranking is done again. The finding of the study showed that except for the cities of Kerman, Rafsanjan and Sharebabak which stayed in the first, second and third ranks respectively, the ranking of other cities changed with Manoojan displaying the highest amount of change stepping from its former 12<sup>th</sup> position to 4<sup>th</sup> position in the new ranking scale.*

## INTRODUCTION

One of the most important aspects of human life is trying to improve his life standards, and to achieve greater welfare. Modern mechanisms of controlling societies which have mostly been developed in the last one hundred years, and are progressing rapidly, are all based on one basic and important principle, of which the development and progress of human societies stem. This principle originates from reconsidering the role and position of individual rights in societies, and thereby the role and position of governments in regulating the social, political, and economic relationships. If we arbitrarily accept that increasing the real income per capita is the best existing index for economic development, but without considering different secondary goals, and a deep understanding of value judgments of the income combination and distribution, we cannot call it economic welfare growth, let alone social welfare growth. We need a view of economic development which includes human development in it. For example, United Nations Development Programs focus on the concept and measurement of Human Development on the basis of Human Development Index. This index is not only based on true income, but also on such factors as life expectancy, adult literacy rate, and years of education. Therefore, ranking different regions and cities according to the Human Development Index can be substantially different from the ranking done based on the income per capita. Gross national product growth is not very important in itself, what is more important is the knowledge of using this money to improve human abilities. In most under-developed regions which mostly have a low human development level, the necessity of considering and revising efficiency is more pronounced due to the limitations of using the available resources. On the other hand, trying to get the most output out of the least amount of input is the main goal of all economic organizations in every society. Economic efficiency is the amount of useable product divided by the amount of needed resources for its production. Economic efficiency needs the solution of two problems. The first one is choosing the optimal combination of resources, and the other one is choosing a good method of production. In measuring the technical efficiency of different organizational units, different methods are used. Generally speaking, there are two basic methods for measuring the efficiency, Parametric and Non-parametric. In Parametric methods, a certain product

function is estimated according to different statistical and econometrical methods. Then, the efficiency is determined by using this function. But in Non-parametric methods, there is no need to estimate the product function. Data Envelopment Analysis is a Non-parametric method that compares the efficiency of different units in comparison to each other. In this technique, there is no need to understanding the product function, and no limitation in the number of the inputs and outputs. In this study, Data Envelopment Analysis, CCR Model, and Output-oriented BCC are used to assess the relative efficiency of different towns and cities of Kerman Province of Iran in relation to achieving the Human Development Goals.

## LITERATURE REVIEW

Nowadays, national reports on human development have become an important tool in discussing the status of this human index in different countries, and in investigating the challenges, and policies of human development. The first report of human development was published by Bangladesh in 1990, in which the conventional method of measuring the Human Development Index, that is giving equal weights to all its three factors, was employed.

Studying and measuring the Human Development Index by using Data Envelopment Analysis, or by other methods that give different weights to the three comprising factors, Mahlberg, M (2001) remeasured the Human Development Index with the help of Data Envelopment Analysis. In his study, he has used an output-oriented model including adult literacy rate, combined gross enrolment ratio, life expectancy at birth, GDP per capita, all of which are the comprising elements of Human Development Index. In this model, one dummy variable with the value of one is used. Using these results, he has reranked the countries with regard to Human Development Index according to the available resources.

Despotis (2004) has done a study about Human Development Index using Data Envelopment Analysis. He believes that conventional ranking of the countries according to the Human Development can be attributed to two reasons. First, some of the countries which have a better rate in all the three comprising factors of human development, that is adult literacy rate, life expectancy at birth, and GDP per capita, than other countries, will surely rank in higher positions. The second reason is that by allocating different weights to different variables, the ranking of countries which are not very different from each other will change. Considering these reasons, he used Data Envelopment Analysis. His study includes 27 countries of Asian and Australia. He came to the conclusion that Singapore, Hong Kong, and South Korea which ranked 1 to 3 in conventional ranking, got the score 1. In fact, they are on the border of efficiency in Data Envelopment Analysis and can form the reference group. In other words, the reference group for every country is a linear combination of the numbers related to these three countries. On the other hand, the results showed that these three countries got the best results among these 27 studied countries. Hong Kong was used 20 times, South Korea 17 times, and Singapore one time as the reference country.

Despotis (2004) in another article compared and remeasured the Human Development Index of 174 countries in the year 2000 using the Data Envelopment Analysis. The methodology of this research is exactly like the previous one. Then, according to the results obtained by Linear Planning Model, he reranks the countries with respect to efficiency in reaching the higher-levels human development standards. The findings reveal that 11 countries could reach the highest value set by DEA that is one. Ten of these countries were among the first eleven countries regarding Human Development Index ranking. The eleventh country with the score of 1 is Luxembourg whose previous rank was 17. This has been due to the fact that Luxembourg has had the highest GDP in the world in 2000, and the difference with the second country, United States, was 3900 \$. On the other hand, from among these 11 countries, Canada has been the first country in being used as the reference country, and has been used as the reference for 65% of the inefficient countries.

Karim Koshte and Zamanian (2004) have studied and analyzed the Human Development Indices in Sistan and Balouchestan Province of Iran from 1989 to 2000. They have also studied the development of these indices, development gap according to gender, and human poverty gap in the same period. They reached the conclusion that the overall Human Development Index of this province has improved, and increased from 0.336 in the year 1989 to over 0.569 in 2000, and this has been due to the increase in life expectancy, adult literacy rate, and the improvement of the number of enrolments in all the educational levels of this province. Furthermore, the human

development index based on gender has increased from 0.296 to 0.451, and this has been because of improvement of women education. And lastly, the human poverty index decreased from 49.63 to 32.66.

Feyz Zade (2003) conducted a study to compare the Human Development Index in Iran and its neighboring countries based on the 2003 report of Human Development. He expresses that although Iran's score of human development in this year was 0.719, which is less than its score in 2002, but a little more than its score in the previous years, Iran is the 106<sup>th</sup> country among these countries in 2003. And this is a big decline in comparison to its rank of 90<sup>th</sup> in 2001. The point is that among Iran's neighbors, excluding Afghanistan and Iraq, only Pakistan ranks below Iran in Human Development Index. Most countries such as Turkmenistan, Oman, and Azerbaijan have had a bigger improvement in their human development score. This is due to the fact that Iran's gross enrolment ratio decreased from 73% in 2001 to 64% in 2003.

## **DATA AND METHODOLOGY**

In this study, Human Development Index of different towns and cities of Kerman Province is measured by using the method introduced by United Nations, and then ranked according to these data. In the next stage, after considering this fact that giving equal weights to all the three elements of Human Development Index might not be fully correct, this index is measured again with the help of DEA, which is by giving different weights to different elements, provided that the sum of the scores for all the three elements equals 1 for each town. The towns are ranked again based on this new method, and the results are compared with the previous findings. All the data for this study were taken from Iran Statistics Center, and Governors Office of Kerman province. For analyzing the data, Win4Deap software, which is technical software for Data Envelopment Analysis, was employed.

### **Calculation of HDI**

Human Development Index is a componential index, comprising of three elements of income, health, and literacy rates of the society which are measured respectively according to income per capita, life expectancy at birth, and combined gross enrolment ratio.

The statistics relating to life expectancy at birth, gross town production, and combined gross enrolment ratios were not available in the data source. Thus, in order to reach the above-mentioned statistics, the following steps were taken. Life expectancy at birth is the number of years that a person is expected to live based on the normal conditions of the society, and the death and birth rate of that society. The data related to this variable were taken from the Organization of Management and Planning experts.

But the data for the gross national product were collected separately in economic, agricultural, fishing, and mining and other sections of the province. So, we had to calculate the gross province production based on these data. To this end, we considered a variable for each section to show the percentages (For calculating the weights, the variables must be relative). So that, considering these weights, every town's share of gross national product can be extracted. What is important is that these variables should be so chosen that they can be a good representative for that section, and on the other hand, their data must be available, or can be calculated.

The combined gross enrolment ratio is the number of all the students of the country divided by the number of people above 6 years old, and is always a number between 0 and 1.

### **Efficiency**

There are various definitions for efficiency, some of which are mentioned here:

Emerson, (1912): Efficiency is doing a work in the most optimal way possible, by the most qualified person in the best place and best time.

Summanth, D. (1985) believes that efficiency is the amount of real output divided by the standard or expected output.

Dimock (1931) defines efficiency as the result divided by the used input. In defining efficiency, we should determine the relative limits of the standard

## Data Envelopment Analysis

The Data Envelopment Analysis method refers to the PhD dissertation of Rhodes, supervised by Dr. Cooper. Data Envelopment Analysis is a mathematical planning technique which measures the relative efficiency of a team of deciding units, or in other words, Data Envelopment Analysis is a mathematical planning technique for measuring relative performances of organizational units which have different inputs and outputs, which it is difficult to measure and compare their efficiency.

For using the Data Envelopment Analysis technique, and evaluating each of the deciding units, we should design a linear planning model, and compare the relative efficiency of each of these DUMs. Thus, we should have as many linear planning models as the number of deciding units. And at the end, by solving these models, the relative efficiency of each unit is determined. The most important part of the Data Envelopment Analysis is finding the best virtual unit by combining all the real units. If the virtual unit is better than the studied unit, it means if the virtual unit gives a better output than the real one by using the same inputs, or having the same output with using less input, the studied unit is not effective.

## Data Envelopment Analysis Models

The linear planning model of Data Envelopment Analysis is as follows:

$$\begin{aligned}
 (1) \quad \text{Max } Z_0 &= \frac{\sum_{r=1}^s u_r y_{r0}}{\sum_{i=1}^m v_i x_{i0}} \\
 \text{st :} & \quad \quad \quad (j = 0, 1, \dots, n) \\
 & \frac{\sum_{r=1}^s u_r y_{r0}}{\sum_{i=1}^m v_i x_{i0}} \leq 1 \\
 & u_r, v_i \geq 0
 \end{aligned}$$

The deciding unit being studied is called the Zero unit. This means that we want to compare the efficiency of the Zero unit with those of other units. The main models of Data Envelopment Analysis are divided into two types: CCR models and BCC models. Both of these models can be studied from two different perspectives. They are typically called Input-oriented and Output-oriented approaches. Even these two approaches are studied from two perspectives: The primary model is through maximizing and is called Multiplier model and the dual model which is through minimizing and is called Envelopment model.

## CCR Model

This model was first introduced by Charnes, Cooper and Rhodes in 1978, and it was named after the initial letters of these people. The primary model of CCR for the Zero unit can be written as follows.

(2) output oriented multiplier CCR model :

$$Max Z_0 = \sum_{i=1}^m v_i x_{i0}$$

S.t :

$$\sum_{r=1}^s u_r y_{r0} = 1$$

$$\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0$$

$$u_r, v_i \geq 0$$

## BCC Model

This model was proposed by Banker, Charnes and Cooper in (1984), and it was named after the first letters of these researchers. BCC model is just like CCR model, with variable W added to the model as the criterion variable. The Input-oriented Multiplier model of BCC is as follows.

(3) output oriented multiplier BCC model :

$$Max Z_0 = \sum_{i=1}^m v_i x_{i0} + w$$

S.t :

$$\sum_{r=1}^s u_r y_{r0} = 1$$

$$\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} + w \leq 0$$

$$u_r, v_i \geq 0 \quad w \text{ free in sign}$$

## A & P Model

This is a special version of DEA, in which the units are allowed to have efficiency values more than one. In fact, when the ranking of the studied units is the goal, for comparing the ranks of efficient units, which had efficiency value of 1, this model is used. The A & P Model in its variable efficiency version is as follows. If the fixed efficiency is the goal, it is necessary to delete the W variable from the model.

(3) A & P model :

$$Max Z_0 = \sum_{r=1}^s u_r y_{r0} + w$$

S.t :

$$\sum_{i=1}^m v_i x_{i0}$$

$$\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} + w \leq 0$$

$$u_r, v_i \geq 0 \quad w \text{ free in sign}$$

## RESULT AND DISCUSSION

According to what was mentioned, using the data of the aforesaid variables, we try to measure these indices. The obtained results are displayed in table 1.

Table 1. The components and indices of Human Development in Kerman Province

Town	HDI	Health index	Education index	Income index
Baft	0.633	0.733	0.694	0.472
Bardsir	0.645	0.770	0.692	0.472
Bam	0.614	0.750	0.735	0.357
Jiroft	0.609	0.701	0.736	0.390
Ravar	0.604	0.739	0.643	0.429
Rafsanjan	0.651	0.799	0.695	0.459
Zarand	0.585	0.750	0.605	0.399
Sirjan	0.631	0.737	0.703	0.451
Sharebabak	0.651	0.783	0.743	0.425
Anbar Abad	0.605	0.802	0.627	0.386
Kerman	0.663	0.708	0.775	0.507
Kahnooj	0.617	0.757	0.616	0.479
Manoojan	0.597	0.813	0.661	0.315
average	0.623	0.757	0.686	0.426
standard deviation	24.12	35.00	53.19	54.79

Source : Researcher calculations

Based on these results, it can be seen that Kerman has had the highest score in the income index, and Manoojan has had the lowest income index. Baft, Bardsir, Ravar, Rafsanjan, Sirjan, Kerman, and Kahnooj were above the average income index, but Bam, Jiroft, Zarand, Sharebabak, Anbar Abad, and Manoojan were below the average income index. With regard to educational standards, Manoojan was the best town, and Jiroft was the worst one. Baft, Bam, Jiroft, Sirjan, Rafsanjan, Sharebabak, and Kerman ranked in a higher position than the average. While Bardsir, Ravar, Zarand, Anbar Abad, Kahnooj, and Manoojan were below the average.

But regarding the health factor, the studied component is in its highest in Manoojan. While Jiroft had the lowest level in this factor. Bardsir, Rafsanjan, Sharebabak, Anbar Abad, and Manoojan were above the average, but all the other towns were below the average.

In Human Development Index, Kerman stood at the first rank, scoring 0.663 which was the highest score. Zarand scored 0.585 and stood at the lowest rank. Baft, Bardsir, Rafsanjan, Sirjan, Sharebabak, and Kerman could get a higher score than the average.

The last row of table 1 shows the standard deviation of the distribution of each index in different towns of Kerman province. According to this statistics, it can be said that the distribution of the health index is more homogeneous than the other two indices. And the distribution of the income index is not even.

In Table 2, according to Table 1, all the towns of Kerman province are ranked according to each index, and in the end according to the Human Development Index.

Table 2. Ranking of towns in Kerman province based on components and indices of Human Development Index

Town	Rank in HDI	Rank in health component	Rank in education component	Rank in income component
------	-------------	--------------------------	-----------------------------	--------------------------

Baft	5	11	7	4
Bardsir	4	5	8	3
Bam	8	8	4	12
Jiroft	9	11	3	10
Ravar	11	9	10	7
Rafsanjan	2	3	6	5
Zarand	13	7	13	7
Sirjan	6	10	5	6
Sharebabak	3	4	2	8
Anbar Abad	10	2	11	11
Kerman	1	12	1	1
Kahnooj	7	6	12	2
Manoojan	12	1	9	13

Source : Researcher calculations

In the next stage, the cities and towns of Kerman province are reranked according to the Data Envelopment Analysis. The used model is an Input-oriented model, in which the outputs are the main elements of Human Development Index, and its input is a virtual variable with the value of one. The results of this model are displayed in Table 3.

Table 3: Ranking of town and cities of Kerman province in HID using DEA

Town	Efficiency score	Efficiency score using A&P	Rank in HDI	Rank by DEA	Difference of DEA & HDI rank
Baft	0.945	-	5	11	-6
Bardsir	1	1	4	5	-1
Bam	0.979	-	8	7	1
Jiroft	0.949	-	9	8	2
Ravar	0.925	-	11	13	-2
Rafsanjan	1	1.026	2	2	0
Zarand	0.935	-	13	12	1
Sirjan	0.951	-	6	10	-4
Sharebabak	1	1.024	3	3	0
Anbar Abad	0.995	-	10	6	4
Kerman	1	1.099	1	1	0
Kahnooj	0.952	-	7	9	-2
Manoojan	1	1.014	12	4	8

Source : Researcher calculations

The results show that Kerman, Rafsanjan, and Shahrehabak are the first, second, and third towns regarding Human Development Index. And even changing the weights does not affect their ranks, but this is not true for other towns. Manoojan, Anbar Abad, Jiroft, Zarand, and Bam improved eight, four, two, one, and one ranks respectively. However, the other towns' ranks declined, and Baft declined 6 ranks.

## REFERENCES

Asef Zadeh, S & Piri, Z. (2005). Human Development Concepts, and Human Development Index Trend in Iran. *Jonob Medicine*. (2004). pp 190-197.

Azar, A. (2007). Ranking Provinces of Iran using Data Envelopment Analysis in Human Development Index. *Iran Economic Research Quarterly*. 27. Pp153-174.

Banker R. D.; Charnes A.; Cooper, W. W. "Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis" *Management Science*, Vol. 30, No. 9. (Sep., 1984), pp. 1078-1092.

Charnes, A. Cooper, W. W. Rhodes, E. (1978). "Measuring the Efficiency of Decision Making Units" *European Journal of Operational Research* 2, November, pp 429-444.

Despotis, D, K . (2004). " A reassessment of the human development index via data envelopment analysis. *Journal of the Operational Research Society* 1–12

Despotis, D, K. (2005) "Measuring human development via data envelopment analysis: the case of Asia and the Pacific". *Omega* 33, 385 – 390.

Emerson, Harington. (1912). "A Review of Performance Measurement: Towards Performance Management". *The Engineering Magazine*, Vol. 10, pp. 12-19.

Feyz Zadeh, A. (2003). A comparative study of the Human Development Index in Iran, and its neighbors. *Social Welfare*. (2003, Fall). Pp 13-25.

Karim Koshte, M, H. & Zamanian, G. (2004). The study of Human Development Index in Sistan & Balouchestan Province from 1989-2000. *Geography and Development*. 2004, Fall and Winter. Pp35-60.

Mahlberg, M. (2001). "Remeasuring the HDI by Data Envelopment Analysis". *International Institute for Applied Systems Analysis*. IR-01-069.

Mohammadnejadi Moodi, M. (2007). "Ranking the town and cities of Kerman province with respect to human development index (HDI) using data envelopment analysis (DEA)". Thesis of master degree in Economics, *Shahid Bahonar University of Kerman, Iran*.

Sadeghi, H; Abdollahi Haghi, S; and Abdollah Zadeh, L. (2007). Human Development In Iran. *Social Welfare*. (2007 Spring). Pp 283-304.

# **ANALYSIS OF A CONVERGED WIRELESS SECURITY PLATFORM IN RURAL COMMUNITY: DWESA/CWEBE IN SOUTH AFRICA**

**Tonderai Muchenje and Progress Kariga  
Tshwane University of Technology, South Africa**

## **ABSTRACT**

*This paper provides an overview of security issues on a converged WiFi and WiMAX wireless networks. It also seeks to provide a comparative overview of other alternative wireless convergence scenarios which can be used depending on suitability applications requirement capabilities and availability of coverage. This research was conducted to investigate and evaluate the wireless technologies security and also to analyze how the convergence of WiFi and WiMAX address confidentiality, integrity and availability (CIA) in a rural setting, Dwesa/Cwebe was selected as our test bed for our project. Our findings reveal that inherent WiFi and WiMAX wireless networks protocols could not achieve a robust and seamless converged wireless networks.*

## **INTRODUCTION**

Wireless networks are some of the important technological development of this century. Companies, institutions and individuals have benefited from them, by increasing productivity and sharing information without undue concern about location and position, as long as they are within the wireless signal range. Though the wireless network has passed recognized benefits on its adopters, its security issues still remains an open question. Until the wireless network security has reached the equivalent security level provided by the wired networks, IT professional will find it difficult to adopt it as an alternative solution.

The 802.11 networks standards came to existence in 1999, with the 802.11b being the most deployed. The 802.11 wireless standards suffered some security flaws whereby their standard security method – the Wired Equivalent Protocol (WEP) mechanism – was cracked (Cam-Winget *et. al* 2003; Black Box 2005). Since concerns regarding security attacks on wireless networks are becoming costly, so there is a need for a high level of knowledge and skill to provide a robust network solution. The Institute of Electrical and Electronics Engineers (IEEE), Internet Engineers Task Force (IETF) and the Wireless Fidelity (WiFi) Alliance have come up with some interim and approved standard mechanisms to secure the 802.11 wireless networks, while 802.16 and the WiMAX Forum are looking to Worldwide Interoperability for Microwave Access (WiMAX) broadband wireless network specifications. These two institutes are in their development are trying to address the short coming experienced in the 802.11 wireless networks. The WiMAX has many capabilities ranging from backhauling WiFi, cellular connectivity, rural connectivity, residential and enterprise mobile support connections (Westech Communications Inc 2005).

This paper presents an overview of the security issues in converged of WiFi and WiMAX wireless networks. The paper also outline a comparison of possible convergences scenarios also evaluates them on their suitability in providing suitable and cost-effective solution to a rural setting. For our investigation and experimental purposes, we chose Dwesa\Cwebe as example of a rural setting. The aim of our investigation is to come up with the best practices in securing rurally deployed converged wireless networks for the fore-mentioned rural community.

# CHALLENGES IN WIRELESS NETWORKS

As much as the wireless networks have brought about major development in the way the information is shared security is one of the major concerns. We define security as protection of data being transmitted over a converged wireless networks. It is important to understand the full range of problems that security systems need to address. These needs are confidentiality, integrity and authentication (CIA) can be defined as follows:

## **Confidentiality**

Allowing only that the intended legitimate recipients to read encrypted messages (information).

## **Integrity**

Can be referred to as ensuring that another party has not altered messages after it has been sent.

## **Authentication**

This is making sure that parties sending messages or receiving messages, are who they say they are, and have the right to undertake such actions

On wired networks it has been exhaustively researched and there are many mechanisms available to provide confidentiality, integrity and authentication of information (CIA). Virtual Private Networks (VPNs), Internet Protocol Security (IPSec), Intrusion Detection Systems (IDS) and firewalls are just examples amongst various security mechanisms that has been proposed to address security issues in wired networks

The major problem when securing the wireless signal is in its mode of transmission (Griffith 2005). The wireless signal is transmitted through electromagnetic waves, which cannot be physically contained. Being communicated through the air makes them easy to intercept by anyone with the right transceiver equipment.

The IEEE had ratified the 802.11 wireless protocols with basic methods to secure such a network, namely disabling SSID, Media Access Control (MAC) address filtering and the WEP mechanism (King 2007). These were mechanisms thought to provide the CIA elements on the wireless networks. Advances in technology and software development later compromised these mechanisms leaving the network vulnerable to malicious attacks; even recent mechanisms still exhibit weak protection of management messages (Kismet 2006). WiMAX builds on the experience of security problems of 802.11 wireless networks. It was developed to solve most of the wireless LAN shortcomings especially security, and also quality of service, high-speed data rates and long distance connectivity coverage (Westech Communication Inc 2005). WiMAX, as a new technology on the market still undergoing experimentation, seems not to have fully solved the security flaws of wireless LAN. WiMAX still lacks mutual authentication, and is susceptible to replay attacks, spoofing of MAC address of the Subscriber Station (SS) and the PMK authorization vulnerabilities. Ever since the initial release of WiMAX in early 2004 (802.16d), the IEEE and the WiMAX Forum have been improving the standard incorporating some other capabilities to enhance security and mobility (Xu *et. al* 2006). Another major drawback in the deployment of WiMAX for connectivity is the large initial expense involved.

In addition to that, there is also a need to consider the security protocols and mechanisms within the context of the applications in a converged wireless network. Especially in a rural setting, where resources are at a premium, the impact of security protocols needs to be weighed against the requirements of the users. There one needs to consider end user needs in terms of lack of qualified network management, limited bandwidth, and specialized applications.

Confidentiality, in wireless networks is a fundamental concern for a secured transmission. The intended recipient should only receive the information transmitted. The message authentication provides integrity to both the message sender and receiver. The wireless link should always be available and not be susceptible to malicious attacks, which rob the end-user of availability (denial of service attacks) (Xu *et. al* 2006).

There are many attacks, which can be launched to compromise authentication mechanisms or protocols. Two common attacks that are especially effective against wireless networks are the message replay attack and the man in the middle attack. The message replay attack acts principally on the authentication and authentication key formation protocols, while the man in the middle (MiTM) attack usually occurs when the security

mechanism implemented does not provide mutual authentication. Other attacks known to occur include session hijacking, reflection attacks and other attacks due to misuse of cryptographic services. These security issues must be addressed for wireless network to reach equivalent security provided by wired networks.

## **DEFINITION OF WIRELESS CONVERGENCE**

The term convergence within the context of this paper refers to the combination of the two similar wireless networks, namely Wi-Fi (802.11) and WiMAX (802.16). The emergence of wireless networks is thought to be a crucial tool in “bridging the digital divide” (Best 2002). It enables many more people to become connected to online resources without the worry and cost of a wired connection. While wireless technologies had been broadly adopted by homes, organizations and research institutions in developed countries, the idea of extending existing wireless technologies to offer a cost effective solution to the rural communities arose. Wi-Fi was the first commonly accepted wireless protocol to add flexibility and mobility to the Ethernet network thereby opening a whole set of new use cases for Ethernet technology (Dymond 2003). Although Wi-Fi extended the capabilities of Ethernet; it did not solve networking issues concerning security, high-speed access and wide area coverage. In 2004 the IEEE 802.16 wireless

Standard was ratified to address the problems, which had been identified in Wi-Fi technology. Besides improved security and parallel communications, 802.16 should operate in a 50km line of site radius. The 802.16 standard is seen mainly as a wireless technology, which can support high-speed transmission of data, voice and video. To solve the rural connectivity in a cost effective manner, the University of Fort Hare conceptualized a convergence of the two wireless technologies at Dwesa/Cwebe rural setting. The IEEE 802.16 wireless standards provides for long distance rural connectivity while Wi-Fi is the end user access technology, owing to the widespread adoption of this technology in cheap end-user devices. To date there is no 802.16 wireless standard-enabled end user devices with broad adoption on the market. The converged wireless networks offered a number of benefits (Computer Science Corporation 2005), which are:

- Significantly reduced costs
- Effective communication
- Productivity Enhancements
- Simplicity
- Cost control
- Flexibility and scalability
- Increased Security

Some drawback of the convergence may be weak level of reliability of data, complexity of maintenance, low service and infrastructure upgradeability to suit rapid change in technology.

## **ALTERNATIVE WIRELESS CONVERGENCE**

This section provides a comparative discussion of other convergence scenarios and their unsuitability in achieving wireless convergence in providing services to mobile users and wireless Internet connectivity.

### **WiFi vs. Bluetooth**

Bluetooth and Wi-Fi uses the same 2.4GHz unlicensed radio spectrum. There are important communication technologies that provide different functionalities to different indoor wireless applications (Groupe Ingenico 2007). Bluetooth is a short range (~10metres) a wireless technology suitable for data file from one device to another in a close proximity. The Bluetooth exist in various devices such as phones, printers, personal digital assistance and modems and computers. Due to low bandwidth of Bluetooth, it is not effective to set up a network for remote applications. Therefore WiFi technology's is a better networking consideration for accessing files (TeleDynamics Communication 2007). The 16 bit Personal Identification Number (PIN) used for Bluetooth authentication and data encryption is not robust compared to the 80211i security enhanced protocol used in Wi-Fi (Groupe Ingenico 2007; Crookston 2004).

## WiMAX vs. UTMS

Though the mobile technologies provide ability for users to use it as an access technology, its data rates speeds do not give competition to WiMAX. Theoretically the mobile technologies have data speeds from 115kbps for General Packet Radio Service (GPRS), 384 Kbps for Universal Mobile Telecommunications System (UTMS) and 14.4Mbps for High-Speed Downlink Packet Access (HSPDA) while WiMAX offer high data speeds of up to 70Mbps for coverage of 50km. As much as the HSPDA can provide a much faster theoretical maximum data rate of 14.4Mbps with a kilometer making it only suitable for short distance access technology (Vile 2006). Similarly to other mobile technologies WiMAX have the same capabilities to transmit data and voice. The choice of using mobile technologies in transmitting voice is more expensive compared to the VoIP/WiMAX as to WCDMA/HSDPA. The HSDPA uses a users' Subscriber Identification Module (SIM) card for authentication, while the WiMAX supports the strong modern cryptographic algorithms which is more robust to protect secret data transmissions [15]. The overall cost for the WiMAX equipment is much lower as compared to the UMTS. The main advantage of using the UTMS cellular system is that, its infrastructure for 3rd Generation mobile network (3G), HSPDA, GPRS and Evolutionarily Distinct and Globally Endangered (EDGE) is already there while the WiMAX requires a new infrastructure setup for it to operate. More people prefer UTMS for mobile communication compared to WiMAX since it can be easily available.

## WiFi vs. WiMAX

These two wireless technologies have common components in their operations with a major difference in the communication range. There is a need for many WiFi access point in order to cover the same distance covered by one WiMAX base station. Hence it is costly to deploy WiFi for greater distances. WiFi is a an access technology suitable for indoor use due to its short ranges as an extension to LAN technology while the WiMAX was designed for long distance , backhauling and optimized for Metropolitan Area Network (MAN). As much as the WiFi has an advantage of providing end user access capabilities, it an only support a limited number of users (not more than 12 per base station) whereas the WiMAX base station can support an average of about five hundred users. The WiMAX base station has a scheduling algorithm (First-In First-Out) which allocates a variable channel for each subscriber station to minimize the congestion and degrading throughput other than the random queue assignment based on MAC address in WiFi where as. The WiMAX uses a licensed and unlicensed spectrum where as the WiFi uses unlicensed spectrum with a limited channel bandwidth of 20 MHz. Due to the fact that WiMAX can support high bandwidth , low cost of ownership and provides backhaul capabilities it therefore can be considered as the future broadband access technology to bridge the 'digital divide'. The WiMAX is more reliable and have better QoS as it was designed with security as a major priority since the frailness of WiFi [16]. Despite the similarity in equipment cost, WiMAX technology requires a costly infrastructure while the WiFi can be easily install using low cost access points. In conclusion, WiFi has been adopted as an extension for Ethernet some years ago making it a mature technology as compared to the WiMAX which is currently license assignments and infrastructure deployment.

## **802.11 wireless lan (wlan)**

The first 802.11 wireless network standards were developed in 1997 as an extension to the Local Area Network (LAN) (Black Box 2005). It was known as wireless Ethernet that only supported a maximum speed up to 2mbps. Frequency Hopping Spread Spectrum (FHSS) and Direct Sequence Spread Spectrum (DSSS) were the modulation techniques supported. There are three well known 802.11 wireless family standard widely used today.

## **802.11 wireless standard family**

**802.11b** The 802.11b is a refined standard for the original 802.11 and was successful due to its high data rates. 802.11b is the most widely deployed wireless network within the 802.11 wireless family (Black Box 2005; Cam-Winget 2003). 802.11b supports data rates of up to 11Mbps and uses the DSSS modulation technique that is more reliable than the FHSS.

**802.11a** The IEEE 802.11a operates in the 5 GHz band with a maximum data rate of 54Mbps (IEEE 3003). This standard was ratified almost at the same time as was 802.11b, but its hardware was only made available in 2001 due to lack of availability of the frequency band components (Gast 2002; Morrow 2004; Wikipedia 2006). The major disadvantage in deploying 802.11a with the other 802.11 standards b and g is that they cannot co-exist, as they operate on different frequency bands. 802.11b/g operates on the 2.4 GHz spectrum (Gast 2002). There are some wireless card and access points which are compatible to all the three standards thereby supporting the 2.4GHz and 5GHz frequencies e.g. Orinoco 11a/b/g (Morrow 2004).

**802.11g** The IEEE 802.11g wireless standard also operates on the 2.4 GHz band and has similar range and characteristics as the 802.11b. It has a raw data rate of 54Mbps. The 802.11g has backward compatibility with 802.11b and differs only on the modulation technique; it uses Orthogonal Frequency Division Multiplexing (OFDM). This then makes the 802.11b devices not able to pick the signal from the 802.11g devices (Morrow 2004)

## Security issues on WLAN

Security is considered to be one of the biggest challenges when deploying a wireless network. Despite the introduction of the more effective 802.11i security standard, existing WLANs are not being secured properly (IEEE 2001). According to a survey undertaken in Johannesburg, South Africa, in July 2006 only two of two hundred and seventy two networks used 802.11i mechanism in securing their wireless networks (Rensburg 2006).

In accordance with the IEEE and the Wi-Fi Alliance there are a number of recommendations and best practices that were put forward to assure security of WLAN. WEP was the first protocol that was developed to provide confidentiality, integrity and authentication for data in transmission. The aims of WEP were not long lived due to a number of vulnerabilities (Wexter 2004) thereby letting unauthorized people to gain access to the wireless network.

The WEP mechanism has not been considered to be a solution for securing WLAN ever since it was compromised. Wi-Fi Protected Access (WPA) was then introduced in 2003 as an interim solution to WEP. WPA has two implementation flavors, WPA-PSK which is similar to the WEP with better authentication and encryption and WPA Enterprise mode, which uses the 802.1X protocol, RADIUS server as a back-end authentication protocol and Temporal Key Integrity Protocol (TKIP). A Message Integrity Check (MIC) is used to monitor information tampering by a hacker (Cam-Winget 2003). Table 1 illustrates a comparison of WPA technologies.

WPA was developed in 2003 as a short-term solution in fixing the security problem awaiting the ratification of the 802.11i in 2004. The 802.11i security standard for wireless local networks is similar to the WPA though it was designed with some improvements in terms of encryption mechanism. The 802.11i architecture contains the following components: 802.1X for authentication (Rensburg 2006) (entailing the use of EAP and an authentication server), Robust Security Network (RSN) for keeping track of associations, and AES-based Counter Mode with Cipher Block Chaining Message Authentication Code Protocol (CCMP) to provide confidentiality, integrity and origin authentication (Cam-Winget 2003). It also uses the same 802.1X port-access control protocol for better key management and a four way hand shake. This means that centralized security complements proven session key exchange technology in the latest standard.

*Table 1: Protocols of the WPA and WPA2 technologies*

<b>WPA Personal Mode</b>	<b>WPA2 Personal Mode</b>
Authentication: PSK	Authentication: PSK
Encryption: TKIP/MIC	Encryption: AES-CCM
<b>WPA Enterprise Mode</b>	<b>WPA2 Enterprise Mode</b>
Authentication: 802.1X/EAP	Authentication: 802.1X/EAP
Encryption: TKIP/MIC	Encryption: AES-CCM

Although there are specified mechanisms that have been postulated to be used in the securing of wireless LANs, organizations are still trusting virtual private networks (VPN) and firewalls to protect their highly sensitive data (Mujinga 2005). VPN may seem to be an attractive solution in securing wireless networks but there are a number of issues, which have to be considered before implementing the solution. When the organization has a VPN in place, it becomes easy and cost effective to extend it to wireless networks. There are two most common ways in which VPN can be implemented namely; IPSec and SSL

## THE 802.16 WIRELESS NETWORK STANDARD

WiMAX is the industry name for the 802.16 set of standards. It is an emerging technology that delivers carrier –class, high speed, wireless broadband at a much lower cost than the cellular services while covering large distances than Wi-Fi. It has been designed to be a cost-effective way to deliver broadband over a wide area. WiMAX has standardized broadband-wireless-access technology and is intended to handle high-quality voice, data and video services while offering a high quality of service (QoS). WiMAX is classified as in the Wireless Metropolitan Area Network (WMAN) that operates in between 10 and 66 GHz Line of Sight and 2-11GHz Non Line of Sight (Westech Communication 2005). Table 2 shows the frequency band where other 802.16 standards functions.

*Table 2: The evolution of IEEE 802.16 standard*

	<b>IEEE802.16</b>	<b>IEEE 802.16 Rev'd</b>	<b>IEEE 802.16e</b>
Completed	Dec 2001	May 2004	Est. Mid-2005
Spectrum	10-66GHz	2-11GHz	2-6 GHz
Application	Backhaul	Wireless DSL and Backhaul	Mobile Internet
Channel Condition	Line of Sight only	Non-Line of Sight	Non-Line of Sight
Bit Rate	32-134 Mbps at 28 MHz Channelization	Up to 75Mbps at 20 MHz Channelization	Up to 16Mbps at 5-MHz Channelization
Modulation	QPSK, 16 QAM and 64 QAM	OFDM 256, OFDMA 2048 QPSK, 16 QAM , 64 QAM	Same as 802.16d, Scalable OFDMA
Channel Bandwidth	20,25 and 28 MHz	Selectable Channel Bandwidth between 1.5 and 20 MHz	Same as 802.16d

Source:

[http://www.wimaxforum.org/technology/downloads/Can\\_WiMAX\\_Address\\_Your\\_Applications\\_final.pdf](http://www.wimaxforum.org/technology/downloads/Can_WiMAX_Address_Your_Applications_final.pdf), Westech Communication Inc, October 3, 2006.

IEEE 802.16 was developed after the security failures that weighted down the progress of IEEE 802.11 networks. The IEEE 802.16 Working Group in their design for a robust mechanism incorporated DOCSIS a pre-existing standard to solve last mile problems for cables. Recognizing the importance of security, the 802.16 working groups are busy designing several mechanisms and protocols to protect the service provider from theft of service, and to protect the customer from unauthorized information disclosure (Barbeau 2005).

## WIMAX SECURITY ISSUES

In this section an overview of the security issues in WiMAX is presented. The overview will provide how WiMAX tends to address confidentiality, integrity and authentication.

### Authentication

Authentication is a very important process which has be present to restrict network users from utilizing the services which there only allowed. From the 802.16 MAC protocol stack, physical layer is below the security sub-layer where a secure transport communication process exists. This means then the physical layer

communication is sent on clear text which makes it vulnerable to attacks such as jamming of the radio spectrum water tower attack and scrambling (Johnson 2004; Ansari 2007). These attacks are made possible since there are no sufficient techniques available to protect physical layer. Ever since the development of WiMAX, mutual authentication has been a major problem. The Base Station (BS) is the only entity which authenticates the Subscriber station, leaving the Privacy and Key Management (PKM) vulnerable to forgery or replay attacks. The only way this problem can be managed is to include an authentication mechanism which provides mutual authentication. The IEEE 802.16 Working Group solved the problem with an amendment added to the current 802.16e to support Extensible Authentication Protocol to WiMAX networks for more details on EAP (Johnson 2004).

## **Confidentiality**

In WiMAX scenario the first management messages are not encrypted. This can provide vital security cipher suite information to a person intending to get confidential user information. An attacker can passively (eavesdropping user traffic) listen to the communication between the BS and the SS. The PKM protocol uses the Temporal Encryption Key (TEK) sequence space to encrypt messages. The use of the sequence number to differentiate messages is subject to replay attacks. Since the early version of 802.16 uses the DES in CBC for data encryption, it can only provide a robust security up to  $2^{32}$  of the 64 blocks (Johnson 2004; Ansari 2007), making the security diminish as the data rate goes over 6.36Mbps. The introduction of the 802.16e standard tried to solve the data encryption and key management failure in the WiMAX initial standards. The 802.16e data encryption incorporates the AES-CCM which could encrypt the payload of the MAC PDUs. The advantage of using the AES-CCM compared to DES-CBC is in its encryption of the authenticated data and protection of the Generic MAC header (GMH). The 802.16e designers thought of using the AES-CCM for a based on a wide consideration such as co-exists with the 802.11i security standard (Johnson 2004).

## **Integrity**

The initial 802.16 standard did not include the data traffic protection mechanism. This meant that forgery and data modification attacks were prevalent. Hence the 802.16 introduced a CBC-MAC as a component of the AES-CCM for protecting the integrity of the payload of the MAC PDUs (Ansari 2007).

## **DWESA/CWEBE COMMUNITY SETTING**

This research paper is providing a background information to the ongoing investigation of the Telecommunication platform set at Dwesa/Cwebe. Dwesa/ Cwebe are two rural districts located on the Eastern Coastline of the Transkei, within the Eastern Cape Province of South Africa. Dwesa is on the southern side of Mbashe River, while the Cwebe is on the northern side.

Figure 2 shows the whole network currently in place at the Dwesa/Cwebe site. The rural area is isolated from the rest of the world not only by its remote location, but also through the “digital divide”. The University of Fort Hare and Rhodes University, sponsored by the Telkom Centre of Excellence (CoE) are deploying a telecommunication platform at the site. This multi-purpose Information Communication Technology (ICT) infrastructure is intended to help people in the area to gain access to products and services, as well as gaining important information technology knowledge and skills. Numerous projects are underway to fulfill these goals and to place the total ownership of the projects in the hands of the community.

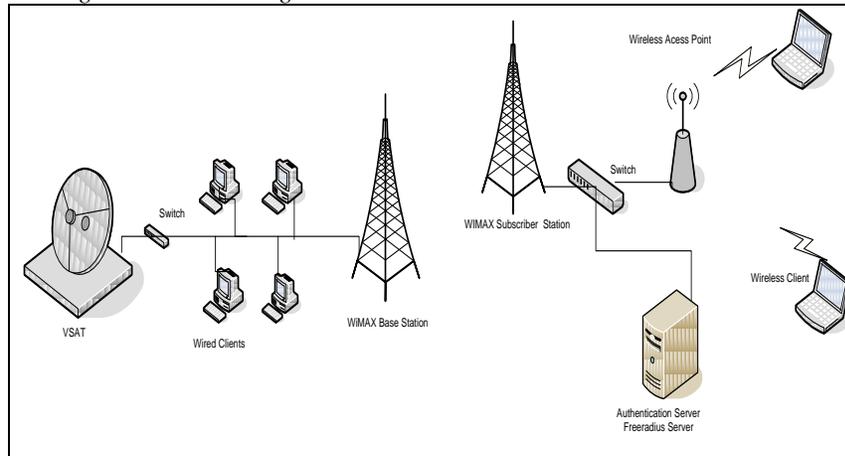
The IP converged wired and wireless network itself was designed and deployed as shown in Figure 1 (Whittington 2005). Our research on how security issues should be managed in such a converged network.

## **SECURITY CONSIDERATIONS**

The applications which are to be deployed at Dwesa/Cwebe telecommunication platform test will provide the following services:

- VoIP (as the area has poor coverage from cellular networks like Vodacom, MTN and few Telkom land lines)
- An e-commerce platform with shopping mall, e-government and billing services, e-learning
- Internet services: email, SMS, file sharing etc.

Figure 6: IP Converged wired and wireless network in Dwesa /Cwebe



Source: Wireless Security Corporation, VPN and IPSec: Imperfect Solution for Wireless Security

Our first step was thus securing each segment of the network using the inherent mechanisms considering the performance cost and effectiveness.

The major security consideration was on the interactions of the wireless networks devices taking the vulnerabilities and threat impact through impact analysis; e.g. shared resources between the wireless networks link and users such as RADIUS servers. We also considered network independent mechanisms such as IPSec or VPN.

Finally we need to optimize the security on the network according to the application requirements.

## INITIAL FINDINGS

The security mechanisms of each of the wireless technologies that comprise the network have already been discussed. As we have seen, the weakest link of the chain can be the WLAN segment. WLAN should be implemented using the 802.11i standard. This will probably not be possible right away in this project because of hardware incapacibilities of the Cisco Aironet 1100 AP to support 802.11i protocol standard. Another solution may have to be implemented which might be a WPA Enterprise mode using the TKIP for encryption.

We expect that IPSec and VPN should not be implemented, as they will impact on the cost of implementation and performance (Wireless Security Corporation; Wongthavarawat 2006). The only main advantage of using IPSec /VPN is that they can be implemented independently of a particular network, so they will be suitable for some applications like the e-commerce platform. However they are not suited to other applications like accessing the Internet.

According to WiMAX security findings, the initial 802.16d though provided high-data speeds and a larger wireless coverage as compared to the WiFi technology, it had some security flaws which needed addressing. This initial 802.16d had a weaker data encryption mechanism, 3DES which later replaced by AES-CCM in the mobile WiMAX (802.16e). The authentication and PKM enhanced access control by introducing PKM-EAP.

As the security mechanisms of these two wireless networks still could not provide robust and seamless security a Point-to-Point Protocol tunneling with MPPE security infrastructure was recommended. Currently,

there are test underway in evaluating Point-to Point Protocol over Ethernet (PPPoE) running 128bit Microsoft Point-to-Point Encryption (MPPE) tunneling over this converged wireless network (Vaughan-Nichols 2004).

We expect that the security within the WAN will impose insignificant bandwidth penalties, so that we will be able to provide basic security for all applications on the network, even though this may not be required for the application.

Further we have found that the industry standards are moving very quickly so that, hardware supported converged WiMAX and WiFi networks will probably available for end user devices or at least relays in the near future. In this case, the security best practices we will highlight must be built-in (Cisco 2006).

## CONCLUSION

In conclusion, we believe that the converged wireless network is an ideal choice for building inexpensive IP based communication networks that carry data, voice and video. Furthermore, the convergence of Wi-Fi and WiMAX wireless technologies may offer a solution to high-speed rural Internet connectivity. It may even provide ICTs a cost effective way of bridging the digital divide in the near future, by mixing the cheapest components for Wide-Area and Local-Area connectivity. Although these wireless technologies offer tremendous benefits to individuals, businesses, educational institutions and rural communities Internet connectivity, security is still a major concern. Confidentiality, integrity and authentication must be achieved on the converged network. From the initial findings the inherent security mechanisms in WiFi and WiMAX still could not manage to offer a robust network solution in a converged infrastructure. Therefore, a testing of the PPPoE running a 128bit MPPE is under investigation to evaluate its effectiveness and effects on network performance. In future after the final implementation and testing of the proposed security mechanisms, a best practice for deploying a converged wireless network will be presented.

## REFERENCES

Black Box (2005),, *802.11: Wireless Networking*, White Paper White Paper, [http://www.blackbox.com/Tech\\_Support/White-vPapers/802.11-Wireless-Networking2.pdf](http://www.blackbox.com/Tech_Support/White-vPapers/802.11-Wireless-Networking2.pdf)

Cam-Winget.N, Housley. R, Wanger. D and Walker.J, *Security Flaws: In 802.11 Data Link Protocols*, *Communication of The ACM*, May 2003/ Vol .46.No 5

Westech Communication Inc (2005), *Can WiMAX Address Your Application*, White Paper, accessed on 3 October 2006, [www.wimaxforum.org/technology/downloads/Can\\_WiMAX\\_Address\\_Your\\_Applications\\_final.pdf](http://www.wimaxforum.org/technology/downloads/Can_WiMAX_Address_Your_Applications_final.pdf),

Griffin (2005) “Creating a Secure Network for Your Business ,“White-Paper , accessed on 24 June 2006, <http://www.aometrosystems.com/whitepaper.htm>

King J.S ()*An IEEE 802.11 Wireless LAN Security White Paper* [www.wifi-plus.com/images/Whitepaper-8.pdf](http://www.wifi-plus.com/images/Whitepaper-8.pdf). Retrieved on the 11 April 2007

Page. K. H. Kismet. <http://www.kismetwireless.net/>, 2006. Retrieved 18 December 2006.

Xu. S., Matthews, M., Huang, C (2006),, *Security Issues in the Privacy and Key Management Protocols of the IEEE 802.16*, retrieved on 1st May 2006 from <http://www.cse.sc.edu/huangct/acmse06cr.pdf>

Best M.L., Maclay C.M., *Community Internet Access in Rural Areas: Solving the Economic Sustainability Puzzle*, Ch. 8 in *The Global Competitiveness Report 2001-2002*, WORLD ECONOMIC FORUM

Dymond .A, Oestmann. S, *A Rural ICT Toolkit for Africa, infoDev Program of the World Bank*, 2003,  
<http://www.infodev.org/projects/telecommunications/351africa/RuralICT/Toolkit.pdf>

Computer Science Corporation,(2005) *Converged Networks*, article , Retrieved on the 2 January 2007

Groupe Ingenico (2007): *WiFi vs. Bluetooth Two Outstanding Radio Technologies for Dedicated Payment Application*, White paper, accessed 23 April 2007,  
[http://www.ingenico.com/INGENICO\\_GALLERY\\_CONTENT/Documents/corporate/whitepaper/Whitepaper-Wi-fi-vs-Bluetooth.pdf](http://www.ingenico.com/INGENICO_GALLERY_CONTENT/Documents/corporate/whitepaper/Whitepaper-Wi-fi-vs-Bluetooth.pdf)

TeleDynamic Communication, *Bluetooth vs. WiFi in today's business environment*, accessed on 23 May 2007,  
[http://www.teledynamic.com/resources/Wireless/Blue\\_Tech\\_Over.pdf](http://www.teledynamic.com/resources/Wireless/Blue_Tech_Over.pdf)

Crookston R (2004): *Bluetooth vs. WiFi*, accessed on 23 August 2007,  
[http://www.verifonedevnet.com/VeriFone/Attachment/20040804/RetailTechnolog\\_407\\_28\\_316.pdf](http://www.verifonedevnet.com/VeriFone/Attachment/20040804/RetailTechnolog_407_28_316.pdf)

Vile D (2006): *WiFi Hotspots vs. 3G/HSDPA vs. WiMAX*, accessed on July 2007,  
<http://www.it-analysis.com/technology/mobile/content.php?cid=8587>

Lurie S (2006):*HSDPA vs. WiMAX: Comparing Characteristics and Prospects of Datacom Technologies*, accessed on 23 August 2007, <http://www.digit-life.com/articles2/mobile/wimax.html>

Mylavarapu R (2005): *Security Considerations for WiMAX-based Converged network* accessed on June 23,  
<http://rfdesign.com/mag/508RFDF1.pdf>

*IEEE. IEEE Supplement to IEEE Standard for Information technology-Telecommunications and information exchange between systems-Local and metropolitan area networks-Specific requirements Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications High-speed Physical Layer in the 5 GHz Band*, The Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York, NY 10016-5997, USA, June 2003. Institute of Electrical and Electronics Engineers, Inc. (IEEE)

Gast M. *1st Gast The Definite Guide*. O'Reily, 1st edition, 2002.

Morrow R. *Wireless Network coexistence*. McGraw-Hill, 1st edition, 2004.

Wikipedia. *IEEE 802.11*. <http://en.wikipedia.org/wiki/802.11>, 2006. Retrieved April 12, 2006.

ProCurve Networking, *Hewlett-Packard Development Company, L.P. Planning a Wireless Network - White Paper*. [www.hp.com/rnd/pdfs/802.11technicalbrief.pdf](http://www.hp.com/rnd/pdfs/802.11technicalbrief.pdf), 2006. Retrieved 8 December 2006.

*IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture*. Institute of Electrical and Electronics Engineers, Inc. (IEEE), March 2001

Rensburg.J.J, Investigation of the deployment of 802.11 wireless networks, MSc thesis from University of Rhodes, 2006,

J. Wexler. 2004 WLAN State of the Market Report. *Webtorials*, 2004

Mujinga. M, *Evaluation of the IPSec Performance on a Dual Stack IPv4/IPv6*, Masters Thesis from the University of Fort Hare, 2005

Barbeau M (2005) WiMAX/802.16 Threat Analysis, accessed on 20 March 2007, [www.scs.carleton.ca/~barbeau/Publications/2005/iq2-barbeau.pdf](http://www.scs.carleton.ca/~barbeau/Publications/2005/iq2-barbeau.pdf)

D. Johnson and Walker. J, "Overview of IEEE 802.16 Security", *IEEE Security and Privacy*, 2004

Ansari. N, *WiMAX Security Privacy Key Management*, Proceeding from Sendai International Workshop on Network Security and Wireless Communication, January 24, 2007

Whittington .B, *A low cost, IP-based access loop for consumer telephony in rural community*, Proceeding of the Southern Africa Telecommunication Network Application Conference, 2005

Wireless Security Corporation, *VPN and IPSec: Imperfect Solution for Wireless Security*

Wongthavarawat, K. (2005). *IEEE 802.16 WiMAX Security*, retrieved on 1st May, 2006 from [http://www.nectec.or.th/nac2005/documents/20050328\\_SecurityTechnology-05\\_Presentation.pdf](http://www.nectec.or.th/nac2005/documents/20050328_SecurityTechnology-05_Presentation.pdf)

Steven J. Vaughan-Nichols, "Achieving Wireless Broadband with WiMax," *Industry Trends*, IEEE Computer, June 2004.

Cisco IOS Release 12.0(5)XE5: *PPTP with MMPE*, accessed on 11 September 2007, <http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120limit/120xe/120xe5c/pptp.pdf>

# STUDENTS' PERCEPTIONS OF FACEBOOK AND THEIR IMPLICATIONS AS AN INSTRUCTIONAL MEDIUM

**Althea Mvula and Richard Shambare**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*The Facebook phenomenon has revolutionised communication patterns especially among students and youths. Increasingly young adults integrate Facebook into their daily lives. The commonly used features include chatting, uploading personal profiles, exchanging notes and study material. Several factors (e.g., real-time interactive messaging, 3G mobile telephony, faster and cheaper Internet access) encourage social network sites (SNS) and Facebook adoption. While Facebook started primarily as a social website, connecting friends, in the recent past, many users increasingly use the platform for business, marketing, and study purposes. However, despite the many opportunities for facilitating teaching and learning in universities, in particular promoting students–instructor interaction, Facebook's usage in classrooms is still low. It is therefore opportune to investigate students' perceptions of the SNS. This study is to: (1) examine students' Facebook usage habits and (2) investigate the perceived usefulness of Facebook in education. Following the introduction of Facebook in a Business Management course, students' perceptions towards Facebook were subsequently ascertained using constructs of the Rogers' diffusion model. Data was collected from a sample of 195 undergraduate students using self-administered questionnaires. Findings confirm Facebook's popularity and utility in education. Results are discussed in the context of existing literature, and the paper concludes by proposing both theoretical and practical implications.*

## INTRODUCTION

As the popularity of social network sites (SNS) increases, usage of networks such as Facebook, YouTube, Twitter, and MySpace are growing rapidly. This exponential growth, according to Boyd and Ellison (2008) has "helped tip SNSs into mainstream culture." Latest statistics indicate Facebook as the leading SNS – hosting more than 500 million subscribers (Facebook.com, 2011; WIUS, 2011). Even more interesting, is the fact that, Facebook's membership doubles every 6 months (Owyang, 2008). Therefore, by the end of 2011, Facebook is likely to have a staggering 2 billion users. Bicen and Cavus (2010) explain that social networking is most popular among young consumers, who are increasingly integrating SNS activities into their daily routines. Shambare, Rugimbana, and Sithole (2011), in a study on SNS usage patterns by South African students, reveal that 93 per cent of South African students log onto their Facebook accounts at least once a day. Daily, they spend an average of 3 ½ hours on Facebook. Thus, students are 'Facebooking' for almost a quarter of their daily productive time – 24 hours less eight hours of sleep.

For that reason, the Facebook phenomenon is more than a curiosity; it forms a pertinent topic for research. Despite the growing SNS literature (Bicen & Cavus, 2010; Carter *et al.*, 2008; Roblyer, McDaniel, Webb, Herman, & Witty, 2010), SNS usage, in particular, the Facebook experience in developing nations such as South Africa is hardly reported in the literature, at least in our literature searches. To address the paucity in the body of knowledge, this paper investigates the extent to which Facebook can be incorporated in university teaching and learning.

The remaining sections of the paper are structured as follows. First, the literature pertaining to SNSs is reviewed in the following section. Secondly, the methodology employed to answer the research questions is presented followed by results. The paper concludes by citing implications of these findings, as well as suggesting topics for future research.

## LITERATURE REVIEW

Modern SNSs were pioneered by SixDegrees.com in 1997 (Bicen & Cavus, 2010). Since then, the number of SNS subscribers has grown exponentially. Roblyer *et al.* (2010) point out that some 93 per cent of teenage Internet users between 12 and 17 years are active social network members. Of these SNSs, Facebook is the most popular and fastest growing (Boyd & Ellison, 2008). Current statistics show that globally there are 500 million Facebook subscribers (Facebook.com, 2011). SNS popularity, among the young consumers, is driven by the fact that social networks provide users with more flexibility and freedom to express themselves in ways that they could not possibly achieve in person (Shambare *et al.*, 2010). This presents an obvious opportunity, at least in theory, of extending Facebook into education. Students could be motivated to also communicate about their studies. For instance, Facebook may facilitate the sharing of school-related information and collaboration in assignments. Also, because of its 'freedom of expression' merits, discussion of "difficult topics" which could otherwise have been perceived as embarrassing to ask in a normal classroom setting, becomes possible to talk about on Facebook.

### The Role of SNSs in Education

Learning is a continuous and on-going process. Students acquire and assimilate new knowledge to develop new understanding. Therefore, effective teaching requires educators to guide, nurture, mould, and transmits knowledge to students on an on-going basis (Alger, 2009). In this context, Facebook's ability to promote the interchange of information among students on the one hand, and between students and lecturers on the other hand, potentially makes it a vital educational tool (Sabry & AlShawi, 2008). More specifically, Lavooy and Newlin (2003) demonstrate that effective use of computer mediated communication (CMC) can result in an increase, not a decrease, in learning interactions such as student-student and instructor-student interactivity. Therefore, technology tools such as Facebook can be used to communicate, scaffold and clarify course concepts and content while engaging students with information (Solvie and Kloek, 2007).

Sabry and AlShawi's (2008) Interactive Learning System (ILS) helps to understand the relevance of technology, and in particular SNSs such as Facebook, in teaching and learning. Effectively, an ILS is:

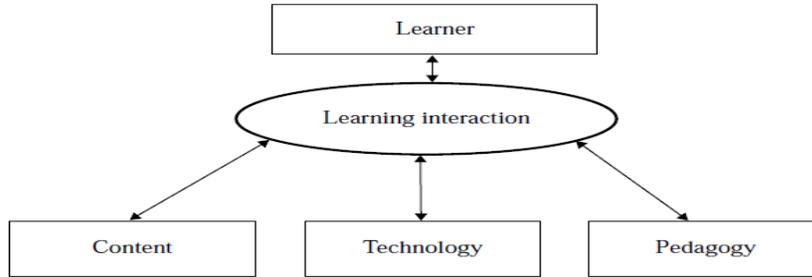
*an information and knowledge system for the purpose of learning and teaching, which incorporates certain design principles and qualities such as the ability to promote active thinking, allow for reflection and provide feedback, provide relevant interactions, different choices and variety of interaction patterns. It incorporates multimedia elements for supporting learning, which are generally preferred by many students compared with traditional learning methods. It incorporates latest technologies to enable both adaptability and adaptivity (Sabry and AlShawi's (2008:164).*

The components of an ILS (Figure 1) are (Baldwin & Sabry, 2003; Sabry, 2005; Sabry & AlShawi, 2008):

- (1) *Content* – refers to tasks to be taught in relation to course objectives.
- (2) *Learners* – are the individuals that are supposed to acquire the knowledge. As such, individual differences (e.g., gender, culture, age, personality, and behavior) should be taken in account.
- (3) *Technology* – is the media through which information and knowledge contents can be delivered to learners. It includes multimedia representation to accommodate different types of interactions, teaching and learning styles. This component is a dynamic component that seeks up-to-date technologies (whether asynchronous or synchronous), and use of variety of innovative technologies to accomplish the system's goals and objectives
- (4) *Pedagogy* - contains pedagogical knowledge, methods and styles of teaching relevant to each subject matter, aims and objectives, and learners' differences. The wider the range of included strategies, the more effective and efficient the teaching and learning will be.

- (5) *Interaction* - is the component that coordinates and balances the other four components. It includes decisions about interactivity level, type of interactions and teaching styles to be used in accordance to different contents, different learners and technologies used.

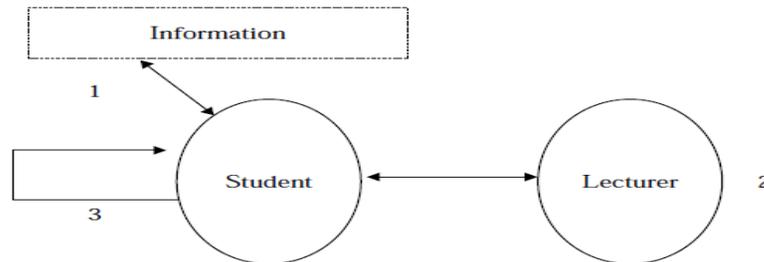
**Figure 1: The ILS Components**



Source: Sabry and AlShawi's (2008:165)

According to Bonk (1999), an interactive learning system engages the learner with a variety of interactions with materials, peers, and educators. These interactions are incorporated through the “interaction” component of the ILS (see Figure 1). Alternatively, Figure 2 shows the three main types of learning interactions: student-information (S-I), student-lecturer (S-L) and student-student (S-S). In particular, Facebook enhances S-L and S-S interactions, which is the focus of this paper.

**Figure 2: The ILS Components**



Source: Sabry and AlShawi's (2008:166)

Facebook subscribers form closer links with other members, friends, contacts, or followers by extending or accepting invitations (Bicen & Cavus, 2010). These contacts can be consolidated into a “group,” which basically is a collection of friends, associates, or class mates. Through this link, messages including text, voice, and video files can be exchanged. This feature, therefore, is that which is proposed to accommodate the S-S and S-L interaction (Figure 2).

## Adoption of Facebook

Currently, SNSs are the fastest growing and most popular Internet-based technology (Roblyer *et al.*, 2010). As more users incorporate social networking, SNS adoption is likely to accelerate in the foreseeable future (Bicen & Cavus, 2010; Owyang, 2008; Roblyer *et al.*, 2010; WIUS, 2011).

Several factors have been cited as influencers of the widespread adoption of Facebook. This includes applicability in numerous settings – social, business, education (Boyd & Ellison, 2008) and allowing subscribers to access personalised and interactive services such as chatting, uploading and sharing pictures, videos and music (Owyang, 2008; Roblyer *et al.*, 2010). This is indicative of Rogers' (1995) factors (e.g., relative advantage,

compatibility, complexity, observability, trialability) that facilitate adoption of innovations (Rugimbana & Iversen, 1994; Taylor & Todd, 1995). Rogers (1995) explains:

*Innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, and less complexity will be adopted more rapidly than other innovations. Past research indicates that these five qualities are the most important characteristics of innovations in explaining the rate of adoption (Rogers, 1995:16).*

Consistent with Rogers' findings, research has shown that as teenagers move into social networking, their use of other Internet technologies such as email and Instant Messaging (IM) rapidly declines (Lenhart, Madden, Smith, and Macgill, 2007). For that reason, it is anticipated that their integrating Facebook in education would significantly improve teaching and learning.

## RESEARCH OBJECTIVES

The following research questions were formulated and form the basis for data collection, data analysis, and interpretation of results:

**RQ1:** *What are the Facebook usage habits of students?*

**RQ2:** *Do Facebook usage habits vary according to experience or demography?*

**RQ3:** *Which factors influence the adoption of Facebook?*

## METHODOLOGY

A survey was used to collect data (Calder, Philips, & Tybout, 1981). A sample of students was drawn from a South African university in Pretoria. The data were collected using a self-administered instrument in January and February 2011.

### *Participants*

Third-year National Diploma (undergraduate) students in engineering and management participated in the study. Researchers, after obtaining permission from their lecturers, solicited volunteer participants from in their respective classes. Some 270 questionnaires were distributed, 210 were returned. Of these 194 questionnaires were usable, thus representing a 72 per cent response rate.

**Table 1: Demographic profile**

Demographic Characteristics		Percentage (%)
<i>Gender</i>	Male	51
	Female	49
<i>Programme of study</i>	Industrial Design	16
	Human Resources Management	74
	Unspecified	10
<i>Study status</i>	Full-time	98
	Part-time	2
Facebook experience	< 1 year	35
	1 - < 3 years	46
	3 - < 5 years	14
	5+ years	4

The average age of participants was 21.9 years with a standard deviation of 1.9 years. The youngest participant in the sample was 19 years old and the oldest 27 years old, with 51 per cent being male and 49 per cent female. In terms of study status, 98 per cent were full-time students and the remaining 2 per cent part-time students. Almost half of the respondents (46 per cent) had Facebook experience of between 1 and less than 3 years. Some 35 per cent had less than 1 year's experience. Those with 3 to less than 5 years' experience were 14 percent and 4 per cent exceeded 5 years' Facebook experience (Table 1).

## Questionnaire

The instrument used was developed from the literature as well from questions used in previous Facebook studies (Bicen & Cavus, 2010; Roblyer *et al.*, 2010; Shambare *et al.*, 2011). The 2-paged questionnaire consisted of three sections: demographics, Facebook usage habits, and an adoption scale.

**Table 2: The questionnaire items – sources and rationale**

Section	Description	Source	Rationale
1	Demographics	Developed for this research	To collect demographic information of participants
2	Facebook experience & patterns	Bicen & Cavus (2010); Roblyer <i>et al.</i> (2010); Shambare <i>et al.</i> (2011)	To collect Facebook usage habits
3	Adoption Scale	Rugimbana & Iverson (1994)	To establish factors influencing Facebook adoption

The questionnaire was pre-tested on a group of 20 undergraduate students to ensure that questions would be correctly interpreted by the target sample. Refer to Appendix A for a copy of the questionnaire.

### Data analysis

The following statistical tests were utilised to answer research questions: descriptive statistics, non-parametric tests including Mann-Whitney U tests and Pearson's Chi-squares, factor Analysis, and reliability analysis. PASW (SPSS) v.18 was used for data analysis.

## FINDINGS AND DISCUSSION

The findings are discussed according to the order of the research questions.

**RQ1:** *What are the Facebook usage habits of students?*

Facebook is a web-based application. As such, Internet device and type of Internet connection affect how Facebook is accessed. These factors determine available features such as downloading/ uploading pictures or Instant Messaging accessible to subscribers. Hence, the need to identify Facebook usage patterns – Facebook experience, daily Facebook usage and the mode of connection used. Frequencies, percentages and non-parametric tests were employed to answer this research question.

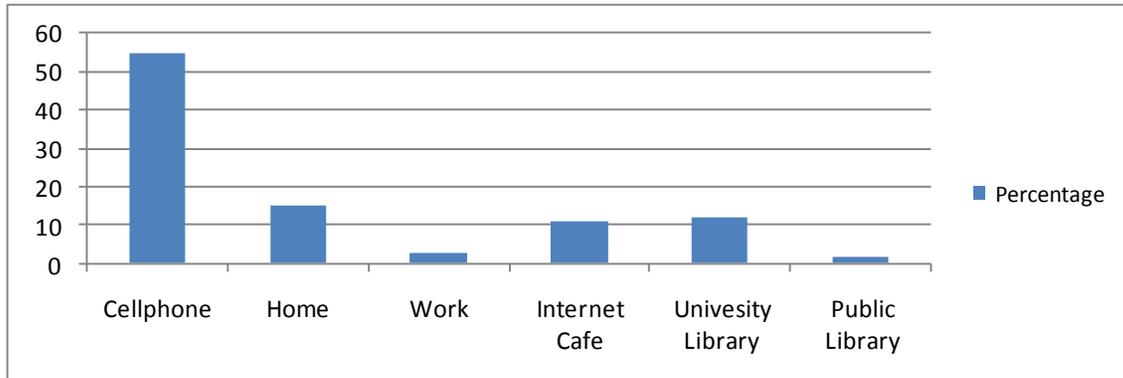
### *Type of device used to access Facebook*

Ability to connect to the Internet is a prerequisite for Facebook usage. There are numerous connection devices which individuals can use to access Facebook. Ultimately, these determine not only the speed but also the nature of the content accessible on the site. Subscribers therefore select connection types most suited to their needs, lifestyle, and budget.

While desktop computers generally provide faster broadband connection, these tend to be more expensive in that it requires modems and Internet connection through an Internet Service Provider (ISP). On the other hand, subscribers are also able to access Facebook with WAP-enabled cellular phones. Figure 3 illustrates different connections used by the respondents. Mobile wireless devices including cell phones were most popular with 55 per cent. Some 15 per cent access their Facebook accounts using desktops at home, which represented the second preferred type of connection. University libraries also are popular access points, accounting for 12 per cent of respondents. Another 11 per cent showed preference for Internet cafés. Those that accessed Facebook at

work, public library, and other unspecified devices were 3 per cent, 2 per cent, and 2 per cent of respondents, respectively.

**Figure 3: Facebook connection device used**



*Daily Facebook usage*

In terms of daily Facebook usage, results indicate that on average respondents spend 2.2 hours with a standard deviation of 2.6 hours logged onto their Facebook accounts. Daily Internet usage of male and female respondents was compared using the Mann-Whitney U test. Results ( $z = 2.084$ ;  $p < .05$ ) show that there is significant difference in daily Facebook usage across gender. Female respondents spend more time ‘Facebooking’ than male respondents. Females on average spend 2.6 hours with a standard deviation of 3.6 hours compared to 1.9 hours, with a 1.9 hours standard deviation, for male respondents.

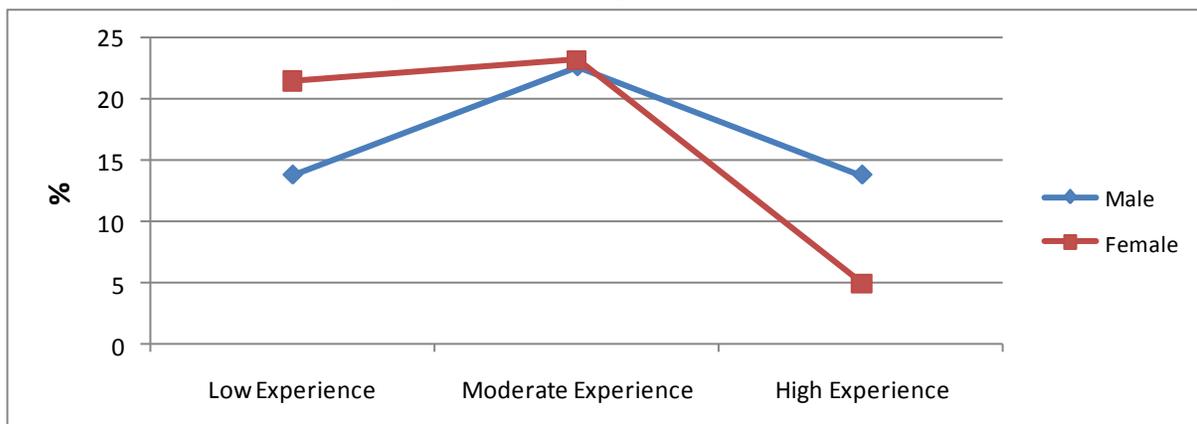
**RQ2:** *Do Facebook usage habits vary according to experience or demography?*

*Facebook experience*

In this context, Facebook experience refers to the total number of years participants have been using Facebook. Table 1 illustrates that some 81 per cent of the respondents have used Facebook for up to 3 years. Those exceeding 5 years’ experience represented some 4 per cent of the sample. Facebook experience was subsequently broken down into three categories:

- (a) Low experience – less than 1 year experience ( $n = 64$ )
- (b) Moderate experience – between 1 and 3 years’ experience ( $n = 83$ )
- (c) High experience – in excess of 3 years’ experience ( $n = 34$ )

**Figure 4: Facebook experience by gender**



**Table 2: Facebook experience by gender**

Access device	Facebook experience			Total
	Low	Moderate	High	
Cell phone	17.5%	27.5%	10.8%	55.8%
Home	1.5%	7.1%	6.3%	14.9%
Work	0.4%	1.9%	1.1%	3.3%
Internet Cafe	2.2%	7.1%	1.5%	10.8%
University library	4.5%	6.3%	1.5%	12.3%
Public library	0.7%	0.7%	0%	1.5%
Other devices	0.4%	1.1%	0%	1.5%
Total	27.1%	51.7%	21.2%	100%

**Table 3: Comparison of Facebook experience and demographic profile using Chi-square tests**

Facebook experience vs.	$\chi^2$ (p-value)	Cramer's V (p-value)
Programme of study	22.442 (.000)	.249 (.000)
Gender	10.599 (.005)	.242 (.005)
Study status (part-time or full-time)	1.031 (.597)*	.076 (.597)*

\*significant at 0.05 level

Table 3 presents results of Pearson's Chi-square test of Facebook experience and various demographic profiles. All but study status indicate insignificant result. However, given that the majority (98 percent of respondents) are full-time, the significant results considered with Cramer's test of strength of association ( $V = 0.076$ ;  $p = .597$ ) indicates a weak relationship. To get a more informed view of SNS usage across Facebook experience, a One Way ANOVA was utilised. The results ( $F = .551$ ;  $p > .05$ ) suggests that Facebook usage, operationalised by amount of time spent on Facebook, was the same across the different levels of experience.

**RQ3:** Which factors influence the adoption of Facebook?

This question sought to identify latent variable (or factors) influencing the adoption of Facebook by the respondents. Rogers' (1995) Adoption of Innovation scale, as adapted by Rugimbana & Iversen (1994) and numerous other adoption studies (Taylor & Todd, 1995) was used to answer this question. Subsequently, factor analysis was performed on the adapted adoption scale (see Table 2) to determine underlying variables. According to Rogers (1995), adoption of innovations is influenced by five factors: relative advantage, complexity, compatibility, trialability, and observability. These factors, as contained in the adoption scale, are supposed to load independently in five factors. The minimum requirements for factor analysis were satisfactory (KMO = 0.787; Bartlett's Test of Sphericity  $X^2 = 460.072$ ;  $df = 36$ ;  $p < 0.000$ ) (Field, 2000). A three-factor solution was extracted. Compatibility items loaded in Factor 1. Observability items loaded in Factor 2. Convenience loaded on Factor 3.

**Table 4: Three-factor solution of factors influencing adoption of Facebook**

	Factor 1 Compatibility	Factor 2 Observability	Factor 3 Convenience	Communalities
My fellow students find FB suitable	.782			.739
My fellow students would use FB	.753			.700
I understand the effects of all options on FB		.897		.833
FB has always been easy		.630		.620
I feel confident using FB		.526		.638
FB is convenient to use in teaching/learning			.799	.697

I would save time using FB			.738	.637
FB is more convenient than email			.469	.382
Eigen values	3.691	1.127	1.028	(Total)
Percentage of variance	25.449	19.973	19.525	64.948
Cronbach's alpha	.745	.724	.558	

As illustrated in Table 4 above, three factors accounting for almost 65 per cent of the variance were extracted. Cronbach's alpha was used to test the consistency of these factors. The high reliability loadings of the sub-scales indicate that the three different responses are in themselves distinct constructs (Field, 2000). Overall, results indicate that compatibility, observability, and convenience are instrumental in the adoption of Facebook. These factors had Cronbach's alphas of .745, .724, and .558, respectively, exceeding the .5 minimum cut-off (Hooper & Zhou, 2007).

## CONCLUDING REMARKS

This paper examined (1) drivers influencing young consumers' adoption of SNSs and (2) the most preferred social networks. Results confirm the dominance of Facebook (Bicen & Cavus, 2010; Facebook.com, 2011). More importantly, the importance and significance of SNSs among young consumers is validated, in that social network sites have revolutionised (computer-mediated) communication in the 21<sup>st</sup> century.

Since students integrate SNSs into their daily lives as well as the fact that Internet and SNS usage increases with progression of studies, there is considerable evidence to suggest massive expansion for social networking in many aspects of young consumers' including education. With the advent of cheaper and faster Internet access driven by affordable Smartphones, adoption of social networking among young adults is poised to accelerate to an estimated 2 billion users by the end of 2011. The implication for education, in particular teaching and learning can only be good, as learners stand a better chance of interacting with (1) peers, (2) instructors, and (3) content.

Given the widespread adoption of SNSs by students, educators, in particular, need to discover strategies to tap into this trend. Thus, finding common ground between education and SNSs could go a long way to address meaningful interaction between learners and their teachers. Future research could consider investigating how mobile devices such as Smartphones are used to access social network sites. In particular, examining how teaching and learning could be enhanced by using social network sites mediated on mobile phones.

## REFERENCES

- Baldwin, L.P. and Sabry, K. 2003, Learning styles for interactive learning systems. *Innovations in Education and Teaching International (IETI)*, 40 (4): 325-340.
- Bicen, H. & Cavus, N. 2010. The most preferred network sites by students. *Procedia Social and Behavioural Sciences*, 2 (2010): 5864-5869.
- Boyd, D.M. & Ellison, N.B. 2008. Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13 (1): 210-230.
- Bonk, C.J. 1999. Breakout from learner issues." *International Journal of Educational Telecommunication*, 5 (4): 387-410.
- Calder, B.J., Philips, L.W. & Tybout, A.M. 1981. Designing Research for Application. *The Journal of Consumer Research*, 8(8): 197-207
- Carter, H.L., Foulger, T.S., & Ewbank, A.D. 2008. Have You Googled Your Teacher Lately? Teachers' Use of Social Networking Sites. *The Phi Delta Kappan*, 89(9): 681-685.

Facebook.com 2011. *Press room* [Online]. Available at: <http://www.Facebook.com/press/info.php?statistics> [Accessed 15 January 2011]

Field, A. (2000). *Discovering Statistics using SPSS for Windows: Advanced techniques for the beginner*. London: Sage Publications.

Hooper, V. & Zhou, Y. (2007). *Addictive, dependent, compulsive? A study of mobile phone usage*. Conference Proceedings of the 20<sup>th</sup> Bled eConference eMergence: Merging and Emerging Technologies, Processes, and Institutions held in Bled, Slovenia, June 4 – 6.

Lavooy, M. and Newlin, M. 2003. Computer mediated communication: online instruction and Interactivity.” *Journal of Interactive Learning Research*, 14 (2): 157-165.

Lenhart, A., Madden, M., Smith, A., & Macgill, A. 2007. *Teens and social media. Pew Internet and American Life Project*. [Online] Available at: <http://pewinternet.org/Reports/2007/Teens-and-Social-Media.aspx> [Accessed 25 December 2010].

Owyang, J. 2008. *Social network stats: Facebook, MySpace, Reunion* [Online]. Available at: <http://www.webstrategist.com/blog/2008/01/09/social-network-stats-facebook-myspace-reunion-jan-20>

Roblyer, M.D., McDaniel, M., Webb, M., Herman, J., & Witty, J.V. 2010. Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *Internet and Higher Education*, 13 (2010): 134-140.

Rogers, E. 1995. *Diffusion of Innovation 4<sup>th</sup> Edition*. The Free Press: New York

Rugimbana, R & Iverson, P. 1994. Perceived Attributes of ATMs and Their Marketing Implications. *International Journal of Bank Marketing*, 12 (2): 30-35.

Sabry, K. 2005. “Interactive learning systems for higher education: learning styles and students’ attitude”, PhD thesis, Brunel University, London.

Sabry, K. & AlShawi, S. 2008. “Information systems for higher education: an interactive design perspective.” *Information Systems for Higher Education*, 3(2): 163-180.

Shambare, R. Rugimbana, R, & Sithole, N. 2011. “The Facebook phenomenon:” social networking among South African students. 13<sup>th</sup> IAABD Conference Proceedings, Edmonton, Canada. 17-20 May 2011.

Solvie, P. and Kloek, M. 2007. “Using technology tools to engage students with multiple learning styles in a constructivist learning environment”, *Contemporary Issues in Technology and Teacher Education*, Vol. 7 No. 2, pp. 7-27 (AACE).

Taylor, S. & Todd, P. 1995. Decomposition and crossover effects in the theory of planned behaviour: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12(1995): 137-155.

WIUS 2011. *Internet Usage Statistics: The Internet Big Picture World Internet Users and Population Stats* [Online] Available at: <http://www.internetworldstats.com/stats.htm> [Accessed 17 January 2011].

# **TRANSPORTATION INFRASTRUCTURE PROJECT MANAGEMENT IN THE UNITED ARAB EMIRATES: CURRENT PRACTICE AND IMPROVEMENT OPPORTUNITIES**

**Moza T. Al Nahyan, Amrik S. Sohal and Brian Fildes  
Monash University, Australia  
Yaser E. Hawas, UAE University, United Arab Emirates**

## **ABSTRACT**

*Over the past two to three decades, a number of large scale (mega) transportation infrastructure projects have been completed in the United Arab Emirates. Responding to a range of issues reported in the local media highlighting major project delays, our research set out to gain a better understanding of project management in the UAE (especially focusing on the softer aspects namely: communication, coordination, decision making and knowledge sharing). In this paper we report our findings from interviews conducted with twenty key stakeholders having extensive experience in the UAE transportation infrastructure construction industry. A range of issues are identified and based on these, we make three major recommendations namely: a higher level of engagement by the Sponsors/Clients in the planning and design stages of construction projects, improving the skills and competencies of professional staff and the use of global standards.*

## **INTRODUCTION**

Large scale infrastructure projects with increasing complexity are being constructed in many countries around the world and at an increasing rate in a number of developing countries. In this respect, project management is also becoming increasing complex not only because the projects are becoming larger (referred to as Mega Projects when investments amount to \$1 Billion or more), but also because of the large number of stakeholders involved. Since mega projects can take many years to complete, responding to the changing interests and demands of stakeholders over the life of a project can make project management a challenging task (Friedman and Miles, 2002). In this paper we examine a number of transportation infrastructure project management issues in the context of a rapidly developing country, namely the United Arab Emirates (UAE).

The UAE is a federation of seven emirates (Abu Dhabi, Dubai, Sharjah, Ajman, Umm al-Quwain, Ras al-Khaimah and Fujairah) that has developed rapidly over the past three decades in terms of economic, business and social activities. Along with this, there has been massive activity in the construction industry, especially in developing the necessary transportation infrastructure (seaports, airports, highways and light rail). These projects have met with many challenges with some local media reporting on these issues. For example, Ahmed (2007), Ditcham (2005, 2006), Kazimi (2005) and Zaneldin (2005) have all reported on a variety of issues that have resulted in project delays. Causes of delay mentioned in the media include lack of coordination, slow decision-making, errors in design, utility relocation, and sudden changes in governmental requirements or modifications of quality standards of the work. Our initial interest and observations of the transportation infrastructure industry in the UAE highlighted that project management systems across the emirates lack coherence and compatibility. From this initial interest and observation grew our current project that is examining the management of transportation infrastructure projects in the UAE. Our overall research question is:

“What are the major project management issues causing delays in completion of mega transportation infrastructure projects (TIPs) in the UAE and how can effective project management practice result in the successful completion of these projects?”

The first phase of our project, completed in 2010, involved detailed interviews with a total of 20 key stakeholders engaged at various stages of large scale transportation infrastructure projects. These stakeholders were selected based on the stakeholder theory. The second phase that is currently being completed involves an in-depth case study around a mega project examining a wide range of issues. In this paper, we present results from Phase I of our project focusing on the following three set of questions:

- What are considered to be the critical stages of TIPs by the key stakeholders and how do they affect overall project success?
- How are unsuccessful projects defined and what are the reasons causing failures?
- What are the major project management concerns and what is the current management practice? How can project success indicators be improved?

The rest of the paper is structured as follows. The next section examines relevant literature followed by the methodology section that describes the approach undertaken to complete our project. The findings section presents the detailed analysis of the data collected. The paper ends with the conclusions section that presents a number of recommendations.

## LITERATURE REVIEW

Westney (2000) defines project management as the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stockholders' need and expectations from the project. It has evolved from a management philosophy restricted to a few functional areas and regarded as something nice to have, to now an enterprise project management system affecting every functional unit (Kerzner, 2006). The Project Management Maturity Model which comprises of six major stages (namely planning, design, scoping, tendering, scheduling and ending with implementation which also includes benchmarking and continuous improvement) notes the degree of interaction between strategic management and planning and successful implementation of project (Gabor, 1990).

Because of the page limitation, it is not possible to present the relevant literature relating to each of the stages mentioned above. The key management aspects identified as of importance in project management are: Communication, Coordination, Knowledge Sharing, and Decision-Making. Effective communication practices ensures that all major players are kept fully informed of any problems or difficulties and have procedures for decision making and managing these immediately when they occur and not allow them to disrupt the project (Kerzner, 2001). Zwikael et al. (2005) examined project management practices and concluded that various types of management styles, scope and time management impact on improving technical performance of projects, while communication and cost management impact on improving overall success measures of projects. Other researchers have suggested the use of communication effectiveness models to predict satisfaction levels by contractors and clients at the earliest possible stage in the project life cycle (Soetanto and Proverbs, 2002). To minimize defective designs, and subsequent overrun of cost and schedules, Zou et al. (2007) reported that the design team needs to establish an efficient communication scheme among the designers. Stewart (2007) stressed that strategic implementation of innovative information and communication technologies are essential for the long-term survival of construction firms. The lack of communication among parties was reported among the ten most important causes of project delay by Sambasivan and Soon (2007).

Coordination is recognized as a key issue in transportation infrastructure projects. Timmermans & Beroggi (2000) stressed the importance of coordination between organizations with diverse objectives. The concept of international coordination for transportation infrastructure projects is addressed by Short & Kopp (2005). Chen and Partington (2006) emphasized the ability of project managers to coordinate activities on site. Lack of coordination among project participants was identified as a key risk factor in Australian projects (Zou et al., 2007).

Jackson & Klobas (2007) stressed the need to develop a knowledge sharing process model for project managers. Kovacs and Paganelli (2003) argued that data and knowledge interchange is urgently needed for improving efficiency and standardize operations of complex distributed organizations. The necessity of a feedback loop to gain insights on decision making in various projects is emphasized by Short & Kopp (2005); suggesting that in order to improve planning processes and decision making, it should be helpful to look back at the taken decisions and extract lessons from them. Decision-making is significantly tied to the communication media and effectiveness. Decentralized communication channels are known to facilitate better information flow and decision making when problems arise. Clients who have decentralized communication channels ease communication and facilitate faster decision-making (Soetanto & Proverbs, 2002). In assessing the project performance measures, project managers need to understand what causes or factors result in time overrun or cost overrun. Once these factors become clear, the managers can take proactive steps to avoid such situations. Sambasivan & Soon (2007) identified slow decision-making by clients as a primary factor for time and cost overrun. In the light of the above, our project specifically focuses on issues related to communication, coordination, knowledge sharing and decision-making in transportation projects in the UAE.

## METHODOLOGY

A qualitative research approach was considered appropriate and legitimate for our study. According to Manson (2005), “qualitative research is characteristically exploratory, fluid and flexible, data-driven and context-sensitive” and it aims at producing “rounded and contextual understandings on the basis of rich, nuanced and detailed data” (p.3). It has the advantage of being easily implemented, comprehended by decision makers and UAE culture, and is amenable to various project sizes and management forms. According to Woods (2006), methods of qualitative research involve observations, interviews, sampling, examining, written materials, questionnaires, focus group and case studies. Denzin and Lincoln (2000) argued that qualitative implies an emphasis on processes and meanings, which are not (and cannot be) rigorously examined or measured in terms of quantity, amount, intensity or frequency. Nevertheless, the approach is a useful technique for examining reasons for the success or otherwise of construction projects. Silverman (2001) states that there is no standard approach among qualitative researchers and claims that four primary methods are used namely, observations; analyzing texts and documents; interviews; and recording and transcribing.

Following the stakeholder topology concept by Mitchell et al. (1997), we identify Sponsors/Clients, Government Department, Management Firms, Consulting Firms and Contractors as the key stakeholders influencing transportation infrastructure projects in the UAE. In the context of the UAE, Sponsors are primarily the Council of Ministries or the Executive Council of Abu Dhabi that are responsible for the allocation of the federal funding, or for funding projects within the Emirate of Abu Dhabi. Clients on the other hand are those governmental agency initiating and responsible for the undertaking the project. Clients could be federal, state or private entities. An example of federal clients is the Ministry of Public Works (MPW). An example of a state client is the Municipality of Abu Dhabi.

Governmental Departments includes local Municipalities, the Police, the Utility companies, etc. They may be involved during various stages of the project, but mostly during the coordination activities made by the consultant during the design phase, and by the contractor during the construction phase. Management firms are third party entities responsible for coordinating and managing all project activities on behalf of the client or sponsors. Their responsibilities include reviewing all documents and design drawings prepared by consultants, approving payments, etc. Consulting firms have responsibilities that include design, scheduling, tendering and supervision of all construction activities by the contractors. Some consulting firms get involved in earlier stages of project planning and scoping on behalf of the clients, if the client organization has no internal planning departments. Contractors have responsibilities that include the scheduling of the activities of the construction phase and the execution of all civil work. Some contractors might get involved in the earlier design stages.

All the above groups are regarded as having a significant influence on transportation infrastructure projects as they possess significant roles during the execution of the various stages of the project. Project execution is affected by the quality of managerial decisions made by these stakeholders. Other stakeholders, such as the media; community groups; insurance firms; labor, legal and political entities; customer or road user, and

special interest groups (such as environmental protection agencies, traffic safety societies, and research institutes) are not included in our study.

Phase I field work involved undertaking interviews with 20 individuals representing the five key stakeholders mentioned above (see Table 1 below for profile of interviewees). A snowballing approach was adopted in this research to ensure the randomness in recruiting interview participants. Individuals who agreed to participate in our study were initially contacted by telephone and were briefed on the research project. Request for an interview was made and if granted, the interview date, time and place were arranged. The interview itself comprised ten sections with a total of 58 specific questions, intended to explore the interviewee’s opinion on the key research questions. A typical interview lasted for approximately 90 minutes which was sufficient to achieve the targeted depth to each of the detailed research questions.

Table 1: Details of the 20 Interviewees

Organization	Positions	No. Interviewed	Years experience	Fields of Specialization
Sponsors/clients	Exec. Mgr to Technical Advisor	5	>80yrs	Mgmt, Planning and design
Government Agents	Exec. Director, Strategy & policy	3	15yrs	Business development & Construction
Management Firms	Senior and Project Mgrs	2	>40yrs	Road and engineering construction
Consultants	Vice President to Senior Consultant	5	>80yrs	Management and road construction
Contractors	Manager and Project Director	5	>100yrs	Management, construction and quality

To analyze the data collected, NVivo was used. This is a proprietary desktop software package for the organization and analysis of complex non-numerical unstructured qualitative data. It is primarily used by qualitative researchers working with very rich text-based and/or multimedia information, where deep levels of analysis on small or large volumes of data are required. The software allows users to classify, sort and arrange thousands of pieces of information; examine complex relationships in the data; and combine subtle analysis with linking, shaping, searching and modelling.

## FINDINGS

### Critical Stages of Projects and Key Stakeholders Affecting Overall Project Success

Almost all of the interviewees identified ‘Planning’ as the most critical stage of transportation infrastructure projects whilst close to one-half of the interviewees identified ‘Design’ as the most critical stage. It is interesting to note that only one interviewee (a Contractor) identified ‘Tendering’ as the most critical stage. ‘Scoping’, ‘Construction’ and ‘Scheduling’ were considered critical stages by only a few of the interviewees.

Around one-half of the interviewees identified Government Agencies and Clients as two of the key stakeholders affecting the success of transportation infrastructure projects. Six out of the 20 interviewees also identified State Government Departments and Financial Institutes as key stakeholders. Private Developers and Ministries/Cabinets were judged as the least important stakeholders affecting the project success.

There was little agreement amongst the 20 interviewees on how stakeholders influenced projects. The highest response overall (seven interviewees in total) was the “ability to affect project execution and flow of activities”. The “ability to affect budget”, the “ability to conduct and influence planning and design”, the “level of involvement in a project” and the “role a stakeholder plays in a given project” was each mentioned by four interviewees out of the total 20 interviewees.

Overall, Clients and Local Government were identified as the most important stakeholders involved in the critical stages of transportation infrastructure projects, identified by half of the total interviewees. Followed in importance are Governmental Agencies, then Consulting Firms. Only one interviewee identified Contracting Firms and Management Firms as important.

## **Defining Unsuccessful Projects**

Unsuccessful projects were defined in a number of different ways. Overall, interviewees identified “Cost Overrun” (identified by eight interviewees), “Time Overrun” (seven interviewees) and “Poor Quality” (six interviewees) as the most common definitions used for unsuccessful projects. Only one interviewee identified “Not Achieving Stakeholders Expectations” and “Commuters Dissatisfaction” as definitions for unsuccessful projects.

Interviewees provided a variety of responses with regard to the factors that cause unsuccessful completion of projects. The most common responses relate to unqualified stakeholders. “Unqualified/Bad Contractors”, “Unqualified Consultants” and “Unqualified Engineers” were mentioned seven times as the major factors causing unsuccessful completion of projects. Another set of responses relate to lack of coordination mentioned six times and included responses such as “Lack of Coordination with local governments”, “Governmental Process” and “Poor Coordination with Utility Firms”. Other common responses relate to “Availability of Resources”/“Materials Procurements” - mentioned six times and “Bad Design” - mentioned four times and “Price Increments” - mentioned four times.

In examining more closely the reasons for project time overrun and cost overrun, interviewees gave a very wide range of responses. The responses given for time overrun cluster around five major reasons, namely: variation in or un-reviewed design and schedules (mentioned 10 times), improper planning, scoping or cost estimates (mentioned seven times), human resources issues (mentioned seven times - responses included “Availability and reliability of human resources”, “Varieties of work labor skills”- employees having different cultural background, experience and skills, and “Insufficient resources - labor/ staff”), availability of materials (mentioned six times), and availability of qualified Contractors and Consultants ( mentioned five times).

With respect to project cost overrun, the most common response, mentioned 16 times, relates to material cost increases/inflation. The next most common responses were project variations/rework (mentioned six times) and un-reviewed design/schedule (mentioned four times and changes in stakeholder requirements (mentioned four times).

## **Management Practice in the UAE**

Two questions were asked with respect to management practice in the UAE. The first question asked interviewees to rank management practice as “Excellent”, “Very Good”, “Good”, or “Fair”. The second question asked for a reason for the response given to the first question. One-half of the interviewees regard management practice in the UAE as “Good” whilst one-quarter indicated this was “Excellent” (mentioned by three interviewees) or “Very Good” (mentioned by two interviewees). Three interviewees identified management practice as “Fair” and two of them did not provide a clear answer to this question.

A range of reasons was given for the above responses to the ranking of management practice. These cluster around the following three major reasons:

- Poor human resources – mentioned five times (responses included “Unqualified managers”, “Still learning”, “Engaging best qualifications” – hiring appropriately qualified staff, “Workforce variations” and “Availability of resources”),
- Lack of use of international design and quality standards – mentioned four times, and
- Lack of a continuous improvement culture – mentioned three times.

Two interviewees clarified that the double track mega projects that are currently taking place in the UAE is overloading all entities and hence affecting negatively on the ranking of management practice in the UAE. Poor

human resources were also identified above as a key management concern in the implementation of infrastructure projects in the UAE.

## **Communication in Project Management**

A series of questions focused on communication, namely how critical communication is to the success of projects, the common methods used for communication, effectiveness of communication within the organization and across the stakeholders, and how communication can be improved. The responses are summarized below.

Except for one interviewee providing no clear answer and another saying that it was “Critical to some extent”, all of the other interviewees indicated that communication is “Very critical” (five interviewees) or “Critical” (13 interviewees) to the success of the project. Interviewees indicated using multiple methods for communication within their organization/department. The most commonly used methods are “meetings with minutes” (mentioned 13 times) and “written documents” (also mentioned 13 times). Although “e-mail” was used reasonably frequently (mentioned 9 times), the use of “e-meetings” was only mentioned once.

Generally, there was agreement amongst the 20 interviewees that communication within their organization/department is “effective” (14 out of 20). Two of the interviewees indicated that it was “effective to some extent”, one saying that it was “not effective”, and three provided no clear answer. There was less agreement amongst the interviewees on the effectiveness of communication across the different stakeholders involved: seven indicating it was “effective”, six indicating it was “effective to some extent” and four saying that it was “not effective”. Interviewees made a number of suggestions as to how to improve communication methods. One set of responses relates to establishing communication committees (mentioned three times) that meet regularly (mentioned twice) and having a chair to avoid wasting time (mentioned once). “Making electronic communication official” and “Create a manual or system procedure for communication” were both mentioned twice as suggestions for improving communication.

## **Coordination amongst Stakeholders**

Overall, one-half of the interviewees indicated that coordination amongst the stakeholders was “effective” whilst another seven interviewees indicated that it was “effective to some extent”. The remaining three interviewees indicated that coordination amongst the stakeholders was “not effective”. Interviewees provided many suggestions with respects to improving coordination amongst stakeholders. The majority of responses fall into the following areas:

- Introduction of coordination regulations/model – mentioned six times,
- The introduction of new technology – mentioned four times (responses included “Develop a GIS-based master plan with federal and local governments involved”, “Introduce e-government in all aspects”, “Introduce electronic communication”, and “Merge the stakeholder network via software technology”),
- Early involvement of stakeholders –mentioned four times (responses included “Clarify project requirements from beginning”, “Encourage local authorities to share plans at early stages of project”, “Involve all stakeholders in early stages”, and “Briefing meetings with the right people”),
- Introduction and legalization of coordination committees/introduction of documented procedures – mentioned three times.

Other suggestions included “information exchange amongst agencies”, “increasing the level of trust and professional capabilities”, “enhancing problem understanding”, and “enhancing decision-making and giving authority”.

## **Improving Project Success Indicators**

Interviewees were asked to make suggestions as to how the various project success indicators (project quality, time overrun, cost overrun, and increasing stakeholders’ satisfaction levels) could be improved. These are discussed below.

*Improving Quality of Projects* - From the responses given, the following four ways of improving quality of projects are identified:

- Using competent staff/stakeholders – mentioned seven times (responses included “More qualified staff”, “Qualified Contractors”, “Better Consultants and Contractors”, and “Training staff”),
- Adoption of standards – mentioned four times (responses included “Adopt international standards” and “Adopt optimal standards to suit environment”,
- Improved coordination – mentioned three times (responses included “Better coordination amongst stakeholders” and “Good coordination in planning stage”), and
- Improved design – mentioned twice.

*Reducing Project Time Overrun* - Five major suggestions identified from the range of responses given by the interviewees are:

- Proper planning and monitoring, and proper design – mentioned eight times,
- Qualified staff/stakeholders – mentioned five times (“More qualified staff”, staff training’, and “Qualified contractors”),
- Increase coordination and cooperation – mentioned four times,
- Correct outsourcing/timely procurement – mentioned four times, and
- Increase financial and human resources - mentioned four times.

*Reducing Project Cost Overrun* – From the responses given, the following four ways of reducing project cost overrun are identified:

- Qualified staff/equipment – mentioned seven times (responses included “Proper equipment and staff”, “More qualified staff”, and “Staff training”),
- Improved project management – mentioned five times (responses included “Meeting time schedule”, Minimize interruptions”, and “Proper project management”),
- Control over materials – mentioned four times (“Control material cost”, “Looking for different material options and designs’, and “Secure materials ahead of time’),
- Enhance design – mentioned four times, and
- Coordination with and meeting stakeholder expectations – mentioned four times.

Interestingly, use of Value Engineering and New Construction Technologies was each mentioned only once. “Slowing down activities” was also mentioned once as a measure for reducing project cost overrun.

*Increasing Stakeholder Satisfaction* – A large number of suggestions were made by the interviewees. From these responses, three major ways for increasing stakeholder satisfaction are identified:

- Improved communication, coordination, support and involvement of stakeholders – mentioned six times (responses included “Having better communication & coordination”, “Better stakeholder involvement in planning and scoping”, “Getting Governments to talk more”, “More support from higher levels (the Cabinet) and “Better coordination between clients and municipality”),
- Meeting project objectives (budget, quality and time) – mentioned four times, and
- Good design – mentioned three times,

Interestingly, addressing safety and environmental issues, and minimizing claims was each mentioned only once by the interviewees.

## **DISCUSSION AND CONCLUSION**

The detailed findings detailed above highlights the complexity involved in managing transportation infrastructure projects in the UAE. With multiple stakeholders (Government Agencies, Clients and Consultants and Contractors themselves) influencing various stages of projects from planning to implementation suggests the need for effective communication, coordination, knowledge sharing and decision-making amongst the stakeholders, especially during the planning and design stages. With reference to the stakeholder typology (Mitchell et al., (1997), we identify the key stakeholders having high or medium levels of legitimacy, power and

urgency and hence the need for effective project management so that projects can be executed without major delays.

There was general agreement amongst the interviewees that majority of the projects were completed successfully and in cases where projects were considered unsuccessful, the common factors identified related to lack of resources, poor project design and planning and overall poor project management. The last factor mentioned results from availability of well qualified professional managers, engineers and other employees as well as having to deal with local government authorities. There was agreement amongst the interviewees that project management in the UAE is generally good but there is considerable room for improvement in terms of communication, coordination, knowledge sharing and decision-making amongst the key stakeholders.

Based on the research findings, there are a number of suggestions for making improvements. Firstly, federal government, through its various ministries/departments and agencies clearly have a major role to play in improving project management practice in the UAE. Communication and coordination amongst government departments need to be streamlined in a number of ways so that effective knowledge sharing and decision-making can take place, leading to successful project outcomes. This is particularly necessary during the planning and design stages which can subsequently reduce the number of changes (redesigns and variations) that are introduced in later stages of construction projects.

Secondly, there is an urgent need to improve the skills and competencies of professional staff at all levels and subsequently delegating authority to lower levels. Unqualified staff was given as a major reason by the interviewees a number of times for many of the issues being faced by the transportation construction industry. Appropriate human resource strategies that emphasize recruitment and development of personnel need to be developed and implemented effectively. Thirdly, organizations should adopt global standards to improve planning, design and construction activities. There is much to be gained at the individual, organizational and national levels from the adoption of such standards.

These three areas clearly need further examination and Phase II of our research is currently exploring these issues through an in-depth case study of a mega project underway in the UAE. Key stakeholders involved in this mega project have been identified and data collected through interviews, focus group discussion sessions, site visits and document analysis. Our aim is to develop a risk-based decision model to tackle the soft aspects (communication, coordination, decision making and knowledge sharing) of managing transportation infrastructure projects in the UAE. Results from Phase II of our study will be reported in subsequent papers.

## REFERENCES

Ahmed, A., "Al Ittihad interchange work is delayed, admits contractor", published in Gulf News on 24 November (2007) <http://archive.gulfnews.com/articles/05/06/09/168413.html>

Chen, P. and Partington, D., "Three Conceptual Levels of Construction Project Management Work". *International Journal of Project Management*, Vol. 24, (2006): 412–421.

Denzin, N.K., & Lincoln, Y.S., "Introduction: The Discipline and Practice of Qualitative Research" *Handbook of Qualitative Research*, Thousands Oaks, CA: Sage Publications, 2000.

Ditcham R., "Nakheel unfazed by project delay", published in Gulf News on the 26 October (2006) <http://archive.gulfnews.com/articles/06/10/25/10077316.html>

Ditcham R., "Burj Dubai hits snags" published in Gulf News on 2 January (2007) <http://archive.gulfnews.com/articles/07/02/01/10101017.html>

Friedman, A. L. and Miles, S., 2002, "Developing stakeholder theory". *Journal of Management Studies*, Vol. 39, No. 1 (2002): 1-21.

Gabor, A., *The Man Who Discovered Quality*, New York: Random House, 1990.

Jackson, P. and Klobas, J., "Building Knowledge in projects: A practical application of social constructivism to information system development", *International Journal for Project Management*, doi:10.1016/j.jiproman.2007.05.11

Kazmi, A., "Compensation claims ride the boom in construction projects" published in Gulf News on the 24 November (2005). <http://archive.gulfnews.com/articles/05/05/10/164180.html>

Kerzenr, H., *Project Management: A System Approach to Planning, Scheduling and Controlling*, 9<sup>th</sup> Edition, New York: John Wiley & Sons, Inc. 2006

Kovacs, G.L. and Paganelli, P., "A planning and management infrastructure for large, complex, distributed projects – beyond ERP and SCM", *Computers in Industry*, Vol. 51(2003):165–183.

Manson, J., *Qualitative Researching*, 2nd edition, London: Sage Publications, 2005.

Mitchell, R.K., Agle, R.R. and Wood, D.J., "Toward a theory of stakeholder identification and salience: Defining the principle of how and what really counts". *Academy of Management Review*, Vol. 22, No. 4 (1997):853 - 886.

Sambasivan, M. and Soon, Y.W., "Causes and Effects of Delays in Malaysian Construction Industry", *International Journal of Project Management*, Vol. 25 (2007):517–526.

Short, J. and Kopp, A., "Transport Infrastructure: Investment and Planning. Policy and Research Aspects", *Transport Policy*, Vol. 12 (2005):360–367.

Silverman, D., *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*. 2<sup>nd</sup> Edition, London: Sage Publications, 2001.

Soetanto, R. and Proverbs, D.G., 2002, "Modelling the satisfaction of contractors: the impact of client performance", *Engineering, Construction and Architectural Management*, Vol. 9, Nos. 5/6 (2002):453–465.

Timmermans, J.S. and Beroggi, G.E.G., "Conflict Resolution in Sustainable infrastructure Management", *Safety Science*, Vol. 35 (2000):175-192.

Stewart, R.A., "IT Enhanced Project Management in Construction: Pathways to improve Performance and Strategic Competitiveness", *Automation in Construction*, Vol. 16 (2007):511–517.

Westney, R., *The Strategic Project Planner: A Profit-Driven Project Management Process for Planning Projects to Meet Business Goals*. Marcel Dekker Inc., 2000.

Wood, Peter, , *Quantitative Research*, Faculty of Education, University of Plymouth, UK, 2006.

Zanelidin, E., "Construction Claims in the United Arab Emirates: Causes, Severity and Frequency", Paper presented at the 6<sup>th</sup> Annual Research Conference, UAE University, 2005.

Zou, P.X.W., Zhang, G. and Wang, J., "Understanding the Key Risks in Construction Projects in China", *International Journal of Project Management* Vol. 25 (2007):601–614.

Zwikael, O., Shimizu, K. and Globerson, S., "Cultural Differences in project management capabilities: A field study", *International Journal of Project Management*, Vol. 23 (2005):454–462.

# **DETERMINATION OF EXTERNAL ORGANIZATIONAL SUSTAINABILITY**

**Kęstutis Navickas, Antanas Makštutis, Renata Navickienę  
Mykolas Romeris University, The Republic of Lithuania**

## **ABSTRACT**

*The article analyses organizational internal and external environments, their possible correlations with 4 components of sustainability, and the principal determination models for sustainability of organizations. Based on the general principles of sustainable development organizations, a model for the determination of organizational sustainability has been developed. The use of self-organizing neural networks allows the identification of the external sustainability of each forest enterprise and the endeavour to explore vital, social, antropogenical and economical efficiency. The determination of the forest enterprise external sustainability is expected to help better manage the external sustainability of forest enterprises and explain the reasons for a respective level of external sustainability.*

## **INTRODUCTION**

The analysis of the scientific literature on sustainable leads to the observation that a substantial work has been done in this field however very little attention is given to the assessment of external organizational sustainability in scientific literature. The researches carried out in Lithuania have not examined the topic of external organizational sustainability assessment in detail.

In the real world, an organization functioning in a certain region generates many different types of data while performing functions assigned to it. When we examine the sustainability of such an organization or individual components of the organizational sustainability, we are dealing with the data describing each component of the organizational sustainability, the analysis of which presents a complex task, especially when the data of individual components of the organizational sustainability reflect a complex and integrated phenomenon, the sustainability of the entire organization. External organizational sustainability is generally characterized by a large amount of multicomponent indicators and indicator values. In the scientific literature, the data describing any component of organizational sustainability are commonly known as multidimensional data. It is very important for the persons in charge of organizational sustainability to retrieve the necessary information from the available multidimensional data which could help to understand the distribution of the forest enterprise external sustainability level, i.e. the distribution of external organizational sustainability across individual components of the forest enterprise sustainability as well as the reasons for a respective external sustainability level of the forest enterprise. Use of a visualization method for a self-organizing neural network makes this task easier.

The science of artificial intelligence provides perspective for modern computer systems development. Artificial intelligence techniques enable simplification of the complex sustainable development processes of organizations and their more effective management however the expert assessment of the sustainable development indicators remains the essential condition for the application of this type of technique (Dzemydienę, 2006).

As an alternative to contemporary models of the sustainable development of organizations, we hereby present the model for the determination of organizational sustainability to facilitate targeted interventions

inducing the sustainable development of an organization, performed by the sustainable development organizations' experts.

Forest enterprises play an enormous role in the competitive ability of a certain region. First of all, forest enterprises are large-scale forest managers acting in accordance with the Law on State and Municipal Enterprises and having the legal form of a state enterprise. Furthermore, forest enterprises own and exploit one of the basic natural assets of our country, a forest specifically, which shall serve the prosperity of the State and its citizens and preserve the landscape stability and the environment quality. Forest enterprises, at their own expense, restore cut down forests and plant new ones, develop and supervise them, protect them against fires, pests and diseases, and exercise environmental and recreational measures. The consensus of opinion is that the main purpose of the forest enterprise activities is sustainable forest management in order to meet the public needs for wood and other forest products and to perform the protective and recreational functions of forests. For this reason, it is appropriate to determine and examine the external sustainability of Lithuanian forest enterprises.

**Research subject:** External sustainability of Lithuanian forest enterprises.

**Research objective:** To determine the levels of vital, social, antropogenical and economical efficiency and external sustainability in forty Lithuanian forest enterprises on the basis of the developed model for the determination of organizational sustainability.

**Research techniques:** Analysis of Lithuanian and foreign scientific literature on sustainable development, statistical data analysis, questionnaire survey, expert assessment, simulation, ranking method for determining the indicator significance, visualization method for a self-organizing neural network – the unified distance matrix.

## **DEVELOPING MODEL FOR DETERMINATION OF ORGANIZATIONAL SUSTAINABILITY**

On the grounds of the organizational environment model developed by (Brownlie, 1987) whereby the breakdown of different organizational environment components in levels is explicitly presented, and the sustainable organizational environment model developed by us, the levels of internal and external sustainability can be distinguished.

Examination and assessment of organizational sustainability at two different levels allow us to determine the sustainability of internal and external organizational environment which is closely associated with the components functioning in internal and external environments. In addition, such analysis of organizational sustainability at different levels allows more accurate considerations on a respective level of organizational sustainability.

To illustrate the simplified determination and visualization process of the external sustainability of the forest enterprise, we have developed a model for the determination of the forest enterprise external sustainability.

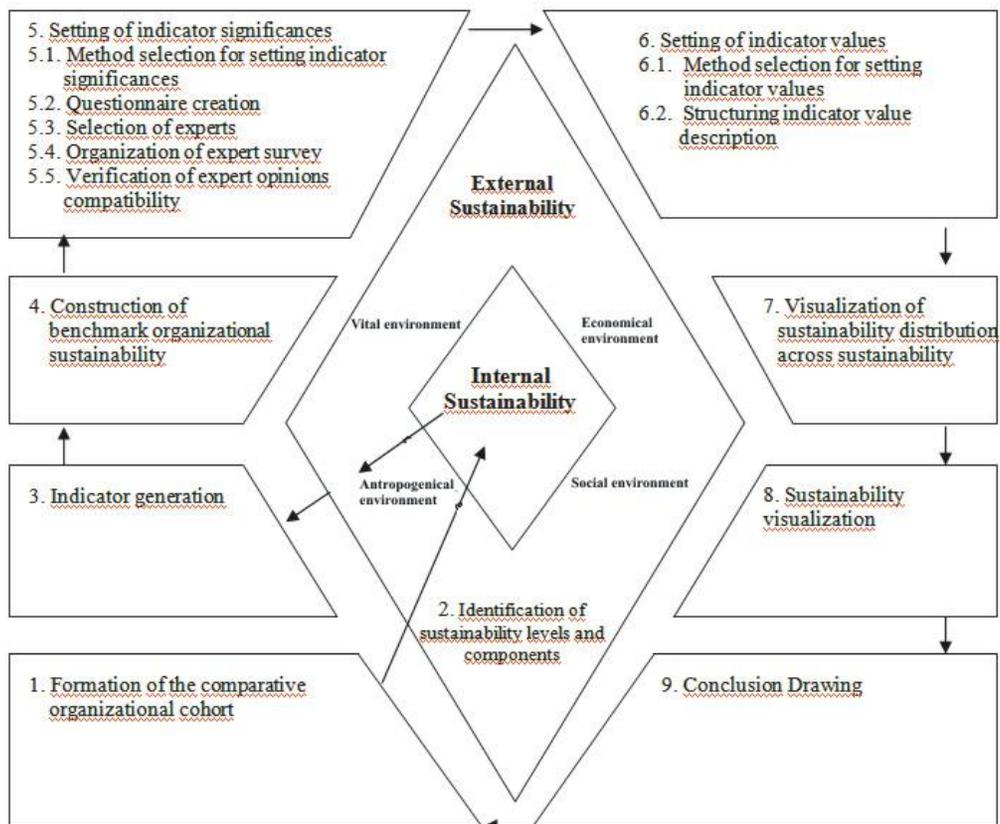
The representation of the model for determination of organizational sustainability in Fig. 1 shows that the simplified determination process of a certain organization's sustainability (a forest enterprise, in the given case) can be divided into 9 basic stages. In the central part of the model (the second stage of the model), an intervention in the internal and external organizational environment is visualized, wherein the identified vital, social, and antropogenical internal and external environments form the basis for the creation of sustainable organizational environment.

The formation of the comparative organizational cohort is the first stage of the determination process of the forest enterprise sustainability, in which the model input function is actualized. The formation of the comparative organizational cohort requires taking account of the legal form, the operational area, the main purpose of the activity, the number of employees, etc. of the organizations entering the same organizational cohort since it would be inappropriate to draw a comparison between the state budgetary institution and a private individual enterprise, or between a company with several thousand employees operating in a number of foreign markets and a joint stock company with a dozen of employees functioning in the local market. It should be noted that the accuracy of the formation of the comparative organizational cohort is closely related to the accuracy of

the determination of organizational sustainability accordingly a special attention should be given to the formation process of the comparative organizational cohort in order to minimize the distortions of organizational sustainability distribution across sustainability components and sustainability results.

The identification of sustainability levels and components is the second (intermediate) stage of the determination process of the forest enterprise sustainability which provides two sustainability levels and four sustainability components specifying the levels at which the determination process of the forest enterprise sustainability will be carried out, and the organizational sustainability components across which sustainability distribution will be identified. In the given case, we are going to examine only the external sustainability of the forest enterprise.

**Figure 1: Model for Determination of Organizational Sustainability**



Source: Compiled by the authors.

From the internal organizational environment in the second stage of the determination process of the forest enterprise sustainability, a gradual intervention in the firmly intrasynergically correlating vital, social, antropogenical and economical components of the internal sustainability is initiated. A transition from the economical component of sustainability to the firmly intrasynergically correlating vital, social, antropogenical and economical components of the internal sustainability is performed. A transition from the economical component of sustainability of external organizational environment to the second stage of the model takes place.

The generation of indicators is the third (intermediate) stage of the determination process of the forest enterprise sustainability. At this stage, the indicator-generating function of sustainable development researchers or professionals responsible for the sustainable development of the organization is actualized.

Absolute, relative, or other kinds of indicators, generally recognized and acceptable to many organizations, should be selected. In our case, the choice of a larger number of indicators would allow a more

accurate assessment of organizational sustainability but it would be more time-consuming and would result in various problems connected with data retrieval.

Sustainability visualization is the final stage of the determination of organizational sustainability. Conclusion drawing is the ninth stage of the determination process of the forest enterprise sustainability, in which the model output function is actualized. At this stage, the new knowledge derived during all the previous stages of the sustainability determination process is summarized. This knowledge helps to make appropriate decisions in the positive inducement of organizational sustainability.

## **DISTRIBUTION VISUALIZATION AND DETERMINATION OF FOREST ENTERPRISE EXTERNAL SUSTAINABILITY**

During the determination process of a particular forest enterprise's external sustainability, we can have a real time record of the values of a set of respective indicators of sustainability components which, if appropriately aggregated, can reflect the external sustainability of the organizational environment (see the seventh stage of the determination of organizational sustainability).

In order to determine the forest enterprise external sustainability and its distribution across sustainability components, it is appropriate to use the the visualization methods for self-organizing neural networks and to generate the unified distance matrix (or U-matrix for short). Moreover, the U-matrix values should be placed on the self-organizing map to identify the existing data clusters.

Based on the data of the self-organizing neural network, the U-matrix is generated which represents the distances between neighbouring neurons that are calculated using T. Kohonen's formula (Kohonen, 2001):

$$(1) \left\| M_p - M_{kl} \right\|$$

Where:

$M_p$  is the neuron neighbouring the  $M_{kl}$  neuron.

Self-organizing maps (SOM) have the essential advantage to perform high accuracy multidimensional data clustering and visualization operations. It is for this reason that the use of self-organizing maps in the visualization of multidimensional components of organizational sustainability is quite attractive (Kohonen, 2001).

In the case of the rectangular map,  $M = \{M_{kl}, k = 1, \dots, r, l = 1, \dots, s\}$ , where:  $r$  is the number of the network rows,  $s$  is the number of the network columns,  $M_{kl}$  is the vector, the number  $n$  of its dimensions equaling the number of training vectors (Dzemyda & Tiešis, 2001). At the beginning of training, the initial values of the components of the neurons/vectors  $M_{kl}$  are usually determined randomly. The neurons next to the neuron-winner are called first-order neighbours, the neurons next to the first-order neighbours are called second-order neighbours, and so on (Stefanovič & Kurasova, 2009).

In the scientific literature, one can come across a comparatively large number of visualization methods for self-organizing neural networks (component planes, histograms, etc.). The unified distance matrix (or U-matrix for short) is one of more popular visualization methods for self-organizing neural networks. The U-matrix is made up of distances between the neighboring neurons of the self-organizing neural network. E.g., with a dataset consisting of 4 columns and 150 rows, the U-matrix will be a vector of 150 rows and 4 columns. After generating the U-matrix from the initial data, its values must be placed on the self-organizing map which typically consists of rectangular or hexagonal neurons. The scientists Kraaijveld M.A, Mao, J., Jain, A.K. (1995) proposed a visualization method for self-organizing neural networks by means of which the average distances between neighbouring neurons are presented in gray or coloured scale tones (Kraaijveld & Mao & Jain, 1995)

If the average distances between neighbouring neurons are short, the map components matching these neurons are light-coloured; longer distances between neighbouring neurons are dark-coloured. Consequently, the data clusters existing on the self-organizing map are determined by light tones and the margins are determined by darker tones (Kohonen, 2002, Dzemyda & Kurasova, 2002).

The visualization method for self-organizing neural networks, the U-matrix, was tested using the multidimensional data model (Fisher, 1936) - the four-dimensional Fisher's iris dataset akin to the multidimensional data of organizational sustainability components.

It should be noted that the determined respective external level of organizational environmental sustainability has a strong influence on the external components functioning within organizational environments.

Distribution visualization and determination of the forest enterprise external sustainability are possible only if the vital, social, antropogenical and economical levels of external efficiency for each forest enterprise have been defined showing the distribution of the forest enterprise external sustainability across all the components of sustainability.

In addition, the set quantitative values for the vital, social, antropogenical and economical levels of each forest enterprise's external efficiency account for the derived overall level of the forest enterprise external sustainability.

## **EXPLICATION OF FOREST ENTERPRISE EXTERNAL EFFICIENCY LEVELS**

The vital levels of the forest enterprise external efficiency occasionally show the progress made by the forest enterprise within the external vital organizational environment.

We maintain that the unified distance matrix (or U-matrix for short) is one of more popular visualization methods for self-organizing neural networks. In our case, the U-matrix is made up of distances between the neighboring neurons of the self-organizing neural network, which are placed in the generated unified distance matrix of the forest enterprise vital external efficiency multidimensional dataset.

The vital efficiency levels of the benchmark sustainability of each forest enterprise and organization that are based on a certain distance existing between the benchmark sustainability of the forest enterprise and organization. The less the distance, the higher the level of efficiency which declares a more significant progress made by a relevant forest enterprise within the external vital organizational environment in respect of other forest enterprises concerned.

The analysis of the data provided in the U-matrix shows that the maximum distance of 7.45 exists between Valkininkai Forest Enterprise and the benchmark organizational sustainability. Consequently, Valkininkai Forest Enterprise is making the least progress within the external vital organizational environment in comparison with other forest enterprises. This is confirmed by the lowest vital external efficiency level recorded among all the forest enterprises. Meanwhile, the minimum distance of 2.61 exists between Ukmergė Forest Enterprise and the benchmark organizational sustainability. As a result, Ukmergė Forest Enterprise is making the most progress within the external vital organizational environment in comparison with other forest enterprises as confirmed by the highest vital external efficiency level recorded among all the forest enterprises. It can be maintained that Ignalina Forest Enterprise is making an average progress within the external vital organizational environment. This is confirmed by Ignalina Forest Enterprise vital external efficiency level of 5.03 positioning between the benchmark organizational sustainability and the maximum and minimum average distance of respective forest enterprises.

The social levels of the forest enterprise external efficiency occasionally show the progress made by the forest enterprise within the external social organizational environment. We maintain that the unified distance matrix (or U-matrix for short) is one of more popular visualization methods for self-organizing neural networks. In our case, the U-matrix is made up of distances between the neighbouring neurons of the self-organizing neural network, which are placed in the generated unified distance matrix of the forest enterprise social external efficiency multidimensional dataset.

The social efficiency levels of the benchmark sustainability of each forest enterprise and organization that are based on a certain distance existing between the benchmark sustainability of the forest enterprise and organization. The analysis of the data provided in the above table shows that the maximum distance of 8.92 exists between Ignalina Forest Enterprise and the benchmark organizational sustainability. Consequently, Ignalina Forest Enterprise is making the least progress within the external social organizational environment in comparison with other forest enterprises.

This is confirmed by the lowest social external efficiency level recorded among all the forest enterprises. Meanwhile, the minimum distance of 6.45 exists between Šiauliai Forest Enterprise and the benchmark organizational sustainability.

As a result, Šiauliai Forest Enterprise is making the most progress within the external social organizational environment in comparison with other forest enterprises as confirmed by the highest social external efficiency level recorded among all forest enterprises concerned.

It can be maintained that Trakai and Veisiejai Forest Enterprises are making an average progress within the external social organizational environment.

This is confirmed by Trakai and Veisiejai Forest Enterprises social external efficiency level of 7.70 positioning between the benchmark organizational sustainability and the maximum and minimum average distance of respective forest enterprises.

The antropogenical levels of the forest enterprise external efficiency occasionally show the progress made by the forest enterprise within the external antropogenical organizational environment.

Antropogenical efficiency levels of the benchmark sustainability of each forest enterprise and organization that are based on a certain distance existing between the benchmark sustainability of the forest enterprise and organization. The less the distance, the higher the level of efficiency which declares a more significant progress made by a relevant forest enterprise within the external antropogenical organizational environment in respect of other forest enterprises concerned.

The analysis of the data provided in the above table shows that the maximum distance of 8.75 exists between Jurbarkas Forest Enterprise and the benchmark organizational sustainability. Consequently, Jurbarkas Forest Enterprise is making the least progress within the external antropogenical organizational environment in comparison with other forest enterprises. This is confirmed by the lowest antropogenical external efficiency level recorded among all the forest enterprises. Meanwhile, the minimum distance of 4.24 exists between Veisiejai Forest Enterprise and the benchmark organizational sustainability. As a result, Veisiejai Forest Enterprise is making the most progress within the external antropogenical organizational environment in comparison with other forest enterprises as confirmed by the highest antropogenical external efficiency level recorded among all the forest enterprises.

The economical levels of the forest enterprise external efficiency occasionally show the progress made by the forest enterprise within the external economical organizational environment.

We maintain that the unified distance matrix (or U-matrix for short) is one of more popular visualization methods for self-organizing neural networks. In our case, the U-matrix is made up of distances between the neighboring neurons of the self-organizing neural network, which are placed in the generated unified distance matrix of the forest enterprise economical external efficiency multidimensional dataset.

Economical efficiency levels of the benchmark sustainability of each forest enterprise and organization that are based on a certain distance existing between the benchmark sustainability of the forest enterprise and organization. The less the distance, the higher the level of efficiency which declares a more significant progress made by a relevant forest enterprise within the external economical organizational environment in respect of other forest enterprises concerned.

It can be maintained that Trakai Forest Enterprise is making an average progress within the external economical organizational environment. This is confirmed by Trakai Forest Enterprise economical external efficiency level of 10.22 positioning between the benchmark organizational sustainability and the maximum and minimum average distance of respective forest enterprises.

## **DETERMINATION OF FOREST ENTERPRISE EXTERNAL SUSTAINABILITY**

The levels of the forest enterprise external sustainability occasionally show the progress made by the forest enterprise within the external organizational environment.

We maintain that the unified distance matrix (or U-matrix for short) is one of more popular visualization methods for self-organizing neural networks. In our case, the U-matrix is made up of distances between the neighboring neurons of the self-organizing neural network, which are placed in the generated unified distance matrix of the forest enterprise economical internal efficiency multidimensional dataset.

The table below shows a fragment of the U-matrix of the forest enterprise external sustainability multidimensional dataset, which represents the distances between neighboring neurons of the self-organizing neural network between forest enterprises and the benchmark organizational sustainability.

**Table 1: Fragment of U-matrix of Forest Enterprise Economical External Sustainability Multidimensional Dataset**

	<b>Forest Enterprise</b>
--	--------------------------

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BOS	14.42	16.21	15.97	14.99	15.01	15.27	16.12	15.79	15.18	15.05	14.04	14.60	15.11	16.72	16.18	15.43	14.16	15.72	15.31	15.24
<b>Forest Enterprise</b>																				
No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BOS	16.09	14.86	15.53	14.89	14.20	15.58	16.35	16.82	15.20	14.97	15.53	15.72	15.88	14.44	15.17	16.45	14.61	14.60	15.52	16.25

Source: Compiled by the authors.

#### Here:

1. Vilnius Forest Enterprise	15. Kuršėnai Forest Enterprise	29. Tauragė Forest Enterprise
2. Nemenčinė Forest Enterprise	16. Tytuvėnai Forest Enterprise	30. Anykščiai Forest Enterprise
3. Ukmergė Forest Enterprise	17. Šiauliai Forest Enterprise	31. Zarasai Forest Enterprise
4. Švenčionėliai Forest Enterprise	18. Pakruojis Forest Enterprise	32. Utena Forest Enterprise
5. Trakai Forest Enterprise	19. Joniškis Forest Enterprise	33. Ignalina Forest Enterprise
6. Šalčininkai Forest Enterprise	20. Radviliškis Forest Enterprise	34. Alytus Forest Enterprise
7. Jonava Forest Enterprise	21. Kupiškis Forest Enterprise	35. Valkininkai Forest Enterprise
8. Kaišiadorys Forest Enterprise	22. Biržai Forest Enterprise	36. Varėna Forest Enterprise
9. Prienai Forest Enterprise	23. Rokiškis Forest Enterprise	37. Druskininkai Forest Enterprise
10. Kaunas Forest Enterprise	24. Panevėžys Forest Enterprise	38. Veisiejai Forest Enterprise
11. Kėdainiai Forest Enterprise	25. Telšiai Forest Enterprise	39. Šakiai Forest Enterprise
12. Raseiniai Forest Enterprise	26. Rietavas Forest Enterprise	40. Marijampolė Forest Enterprise
13. Kretinga Forest Enterprise	27. Mažeikiai Forest Enterprise	<b>BOS: Benchmark Organizational Sustainability</b>
14. Šilutė Forest Enterprise	28. Jurbarkas Forest Enterprise	

The external sustainability levels of the benchmark sustainability of each forest enterprise and organization that are based on a certain distance existing between the benchmark sustainability of the forest enterprise and organization. The analysis of the data provided in the above table shows that the maximum distance of 16.82 exists between Jurbarkas Forest Enterprise and the benchmark organizational sustainability. Consequently, Jurbarkas Forest Enterprise is making the least progress within the external organizational environment in comparison with other forest enterprises. This is confirmed by the lowest external sustainability level recorded among all the forest enterprises. Meanwhile, the minimum distance of 14.04 exists between Kėdainiai Forest Enterprise and the benchmark organizational sustainability. As a result, Kėdainiai Forest Enterprise is making the most progress within the external organizational environment in comparison with other forest enterprises as confirmed by the highest external sustainability level recorded among all forest enterprises concerned.

It can be maintained that Tytuvėnai Forest Enterprise is making an average progress within the external organizational environment. This is confirmed by Tytuvėnai Forest Enterprise external sustainability level of 15.43 positioning between the benchmark organizational sustainability and the maximum and minimum average distance of respective forest enterprises.

## CONCLUSIONS

Any Lithuanian State Forest Enterprise is a complex multidimensional structure which regularly hosts a variety of quantitative and qualitative changes. The sustainable development of forest enterprises can be induced by regulated, spontaneous or planned interventions which can be formed both, internally and externally, and which can be directed to the employees functioning within the internal environment of the organization or to the local/regional-scale customers, suppliers, partners and community members operating within the external environment of the organization.

The developed and described model for the determination of organizational sustainability explains the determination process of a certain organization's sustainability, which consists of 9 basic stages, however it does not reveal all the side factors governing the determination process of organizational sustainability (decision-making, grouping of responsible persons, task assignment, coordinating actions, primary data collection, etc.).

The self-organizing maps (SOM) have the essential advantage to perform high accuracy multidimensional data clustering and visualization operations. It is for this reason that the use of self-organizing

maps for the transformation of multidimensional components of organizational external sustainability into two-dimensional space is quite attractive.

The analysis of the data provided in a fragment of the U-matrix of the forest enterprise vital external efficiency multidimensional dataset showed that Valkininkai Forest Enterprise is distinguished for the minimum vital efficiency which is argued by the maximum distance of 7.45 existing between Valkininkai Forest Enterprise and the benchmark organizational sustainability. Meanwhile Ukmergė Forest Enterprise is distinguished for the maximum vital efficiency which is argued by the minimum distance of 2.61 existing between Ukmergė Forest Enterprise and the benchmark organizational sustainability.

The analysis of the data provided in a fragment of the U-matrix of the forest enterprise economical external efficiency multidimensional dataset showed that Ukmergė Forest Enterprise is distinguished for the minimum economical efficiency in comparison with other forest enterprises. This is confirmed by the maximum distance of 11.83 existing between Ukmergė Forest Enterprise and the benchmark organizational sustainability. It should be emphasized that the minimum distance of 8.66 exists between Kėdainiai Forest Enterprise and the benchmark organizational sustainability. As a result, Kėdainiai Forest Enterprise is making the most progress within the external economical organizational environment in comparison with other forest enterprises concerned.

The respective vital, social, antropogenical and economical levels of the forest enterprise efficiency indicate the distribution of each forest enterprise's external sustainability and account for the causes of levels of a certain external sustainability.

The analysis of the data provided in a fragment of the U-matrix of the forest enterprise external sustainability multidimensional dataset proved that Jurbarkas Forest Enterprise is distinguished for the lowest level of external sustainability which is confirmed by the maximum distance of 16.82 existing between Jurbarkas Forest Enterprise and the benchmark organizational sustainability. Meanwhile, the minimum distance of 14.04 existing between Kėdainiai Forest Enterprise and the benchmark organizational sustainability proves that Kėdainiai Forest Enterprise is distinguished for the highest external sustainability level.

## REFERENCES

- Brownlie, D.T. (1987). *Environmental analysis*, in M.J. Baker (ed.), The Marketing Book. London: Heinemann. 10-58.
- Dzemyda, G., Kurasova, O. (2002). *Comparative analysis of the graphical result presentation in the SOM software*. Informatica, 13 (3). 35-64.
- Dzemyda, G., V.Tiešis (2001). *Visualization of multidimensional objects and the socio-economical impact to activity in EC RTD databases*. Informatica, 12(2), 239-262. ISSN 0868-4952, 12-22.
- Dzemydienė, D. (2006). *Intelektualizuotų informacinių sistemų projektavimas ir taikymas: monografija/Dalė Dzemydienė; Mykolo Romerio universitetas. Vilnius: Mykolo Romerio universitetas, 2006. 3-15.*
- Kohonen, T. (2001). *Self-Organizing Maps*. 3rd ed. Springer series in information sciences. Springer-Verlag. Vol. 30. 72-81.
- Kohonen, T. (2002). "Self-Organizing Neural networks: Recent Advances and Applications", Studies in Fuzziness and Soft Computing, Heidelberg, New York: Physica-Verl. Ed U. Seiffert, L.C. Jain, Vol.78: 1–11.
- Kraaijveld, M. A., Mao, J., Jain, A. K. (1995). "A Nonlinear Projection Method Based on Kohonen's Topology Preserving Maps", IEEE Transactions on Neural Networks, Vol. 6(3). 22-63.
- Stefanovič P., Kurasova O. (2009). *Saviorganizuojančių neuroninių tinklų sistemų lyginamoji analizė // Informacijos mokslai, ISSN 1392-0561 Nr. 50. 16-35.*

# THE CONTRIBUTION OF INTERNAL AUDITING TO ENHANCE ORGANIZATIONAL PERFORMANCE IN THE RWANDA REVENUE AUTHORITY (RRA)

Tshepiso I Ngwenya and Pascal Buregeya  
Tshwane University of Technology, South Africa

## ABSTRACT

*The study determines how the internal auditing can contribute to improve organisational performance for Rwanda Revenue Authority (RRA). Internal auditing is perceived by others as a cost to organisation whereas on the other hand as a tool which enhance organisational performance. A survey of questionnaires and closed interviews using a coding method were conducted on three groups of RRA employees: namely; managers, internal auditors and middle managers. 86% respond was received which was strengthened by interviews to ensure the reliability and validity of data collection.*

*The investigation shows that the RRA's internal auditing function was not being objective and lack independence along reporting lines. Moreover, there were no audit committees to help in resolving this matter. Hence, the internal auditing assurances were seen as not adding value to the RRA in general.*

## INTRODUCTION

An organization cannot afford to operate ineffectively in a competitive environment. It is crucial for the Rwanda Revenue Authority (RRA) to be aware of all the factors that influence its business strategy. And one of the ways is to have an effective internal auditing which can play an important role in contributing to organizational performance.

It is now rare indeed to find an enterprise of any size, which does not have an internal auditing function. In many cases, internal auditing has now eclipsed other management services to become management's primary source of advice on efficiency, effectiveness, and economy. Accompanying its status within organisation, internal auditing is now much more strongly established professionally (Chambers and Rand, 1997).

However, in Rwandan enterprises it is seldom to find an internal auditing function. One of the causes of business failure in Rwanda organisations is the absence of an internal auditing function. Also not all internal auditing departments function at their full potential capacity because internal auditing is a relatively new profession in the Rwandan business environment. A number of internal auditing functions are in the process of either being established or of being upgraded.

Being part of the structure in many organisations, the internal auditing function is actually operational in few of them. Sometimes, organisations resort to external audit exercised by national as well as international private auditing agencies to carry out the audit function. This shows that the internal audit function is neglected and considered as useless in most of Rwandan organisations. It seems that this important function is neglected in most of the Rwandese organizations.

Based on the issues mentioned above, the research sought to answer this question: *Is internal audit contributing to the improvement of the organisational performance of the Rwanda Revenue Authority?*

To be in a position to respond to this question, the study is aimed at improving the internal auditing role and its organizational performance in the Rwanda Revenue Authority (RRA), and that internal auditors, as management consultants, should advice management on how to achieve organization's objectives and goals.

Throughout this research, the auditor's role in helping the audit committee and/or managers to improve organizational performance is emphasized. The purpose of this study is to focus on how auditors can contribute to the Rwanda Revenue Authority's performance. To do this, auditors must have a thorough knowledge of the business. If the auditor doesn't understand the business, he may focus on the wrong area or fail to provide meaningful recommendations for improvement to organizational performance. It aims also at diagnosing the service of internal auditing of the RRA. This research should allow decision-maker to understand the internal auditing role in the organisational performance and opportunity criteria for the establishment of internal auditing service in the organisation.

The literature is based on reviewing the effectiveness of internal auditing contribution to the enterprise's profitability. There is increasing management interest in the value which internal auditing can add to an organization's internal control framework. Internal auditors provide a mixture of benefits, from quality in the performance of internal auditing work and associated other services, to contributions to the achievement of organisation objectives; from experience, training and development gained by internal auditors, to future contribution to their organisation's management and specialist careers (Ridley and Chambers, 1998).

At a time when internal auditing is being challenged by outsourcing alternatives and by other methods of reviewing managerial effectiveness, it is particularly important to be able to measure its contribution to the enterprise's profitability. In this section we take a look at performance measures for internal auditing – measures of inputs (*economy*), process (*efficiency*) and especially outputs (*effectiveness*). Appropriate specific measures are recommended. In doing this we will be identifying the key aspects of internal auditing which need to be focused upon in order to improve internal auditing contribution to the enterprise's profitability. We consider the difficulties of reaching reliable measures of internal audit performance, and distinguish between qualitative and quantitative measures. We suggest a value for money approach to assessing internal audit performance.

It will be necessary to identify the categories of performance measures which may be used to evaluate internal audit performance and the strengths and weaknesses of each. Advice on their interpretation is given. The measurement of internal audit is placed in context with: (a) the general business environment, (b) professional standards for internal auditing, and (c) good management practice on planning and control (Chambers and Rand, 1997).

## **PLACING INTERNAL AUDIT IN CONTEXT**

Historically, the growth of internal auditing as a business service has been counter-cyclical, though not uniformly so. By this we mean that in the past, internal auditing has developed most strongly during times of economic constraint. Where directors, managements and regulators consider internal auditing as investment that reduces risk and cut costs in organizations. Al-Twajry et al., (2003) and Spira and Page (2003), cited that internal audit could add value by helping organizations achieve economy, efficiency and effectiveness through consulting management and employees and assisting in the management of risk. However, internal audit effectiveness and organizational performance has not been empirically examined sufficiently so as to warrant conclusive facts. Moreover, although the existing literature (for example, Al-Twajry et al., 2003; Cohen et al., 2004; Mat Zain et al., 2006; Mihret and Yismaw, 2007) recommend that Internal Auditing (IA) may not always be effective, the antecedents of IA effectiveness appear not fully explored as yet.

Even though internal auditing has its own setbacks as stated above, it has yield so much benefits to companies by providing qualitative assurance services( auditing services) and non assurance( for example, consultation), but still management are putting it under the microscope to determine whether it out ways the costs as this is a very expensive service. (Ridley and Chambers, 1998). To find out whether internal auditing is adding value or not and to determine its performance in the RRA, steps are carried in the methodology below to determine this.

## METHODOLOGY

A survey is used to address the knowledge of and the role played by internal audit regarding the organisational performance. Qualitative methods are used to describe internal audit's role in improving organisational performance, to identify performance of managers and auditors and to link them to the organisational performance. Furthermore, the mechanisms are used to find out factors leading to the improvement of organisational performance and internal audit's contribution in improving organisational performance.

A survey questionnaire is administered to three categories of employees in the targeted population. The first category of respondents ranged from first-level supervisors to departmental heads. The second category concerned the internal auditors and the third category concerned the division heads. The questionnaire was distributed, with the assistance of the internal audit division, to all senior managers, middle managers and internal auditors. The researcher collected the completed questionnaires from the respondents. These actions (the efforts of the researcher and internal audit division) increased the reliability and validity of the study. The feedback on the questionnaire represented 86% of the target population for this research.

The information was collected through various data collection instruments such as documentary sources, a survey questionnaire, and interview. The interview, aimed at compensating for the eventual shortcomings of the questionnaire.

The main source of data was annual reports of the Internal Audit Division. Data collected from reports were used to examine the realizations of internal audit function within the organization and the functions of the internal auditors. The first step of data analysis was about organizing raw qualitative data by using a coding technique.

## RESULTS

For the RRA, to achieve its mission, it is necessary to have an effective internal control. Establishing and maintaining an effective system of internal control calls for skills that can only be provided through a competent and professionally qualified internal audit function. Auditing is a key factor in the corporate governance. In addition to statutory auditor attestations on financial reports, internal auditing is an essential linkage in assuring an adequate system of internal control.

The RRA internal audit function is not totally independent and objective because of the reporting line. Internal auditors should be independent of the activities they audit. Audit reporting is at the heart of effective audit independence.

Many see a growing value from internal audit contributions in the assessment and reporting of control status. The RRA doesn't have an audit committee and this is a problem for internal audit to be objective and independent. Ridley and Chambers (1998) state the importance of audit committee. For internal audit units to be objective and independent, in all control and governance issues, their work should always be reviewed and supported by an audit committee or a similar group of senior no-executive management.

The Institute of Internal Auditors' policy is to recommend that businesses should have audit committees on the board. Where there are not present it is difficult to provide an adequate substitute in order to preserve audit independence. In the absence of either an audit committee of the board or an internal audit committee, greater reliance has to be placed on forging formally accepted direct lines of reporting to the board itself, the chief executive, the regulatory authorities and the external auditors. These reporting lines should be present even where there is an effective audit committee – with the exception that reporting to the board would, in that case, be via the audit committee (Chambers, 1992).

Even though the RRA internal audit function perform well according to the respondents, it is still not easy to rely on this because since the existence of this function there is no audit or evaluation made in order to measure its performance.

According to Ratliff et al. (1996), performance audits generally focus on efficiency and effectiveness, and they require that performance criteria be established. These audits depend on the availability of a set of accepted objectives and goals against which performance can be evaluated.

The internal auditor may use existing performance measures to assess performance. Effective Internal audit has then an important role to play in improving organizational performance but one can ask what makes effective internal audit. Vinten (1999) echoed that the critical condition for effective internal audit is adequate status and independence within the organization and the widest possible remit. The prerequisite is therefore visible and overt top level support and commitment of resources. The organization should be seen to listen to and act upon the advice of its internal auditors. It should invest the time, money, and energy in ensuring its internal auditors perform and that their advice is sound.

## CONCLUSION

The present research was an experimental assessment of the contribution of internal audit to organizational performance. The research investigated the performance of the internal audit function within the organization and its contribution in organizational performance. To achieve this, we emphasized on the performance in terms of activities done against the activities planned and some data were processed and analyzed.

While the results in this study are by no means conclusive, it is hope that this study has contributed to the research done in the extent of the internal auditing practices. This study has also provided some evidence on the extent of the internal auditing practices and the influence it has on the internal control system.

## REFERENCES

- Al-Twaijry, A.A.M., Brierley, J.A., Gwilliam, D.R. "The development of internal audit in Saudi Arabia: an institutional theory perspective", *Critical Perspectives on Accounting*, Vol. 14 Iss.5, (2003):507-31.
- Chambers, A. and Rand, G. *The operational auditing handbook: auditing business process*. Chichester: WILEY. 1997.
- Cohen, J., Krishnamoorthy, G., Wright, A. "The corporate governance mosaic and financial reporting quality", *Journal of Accounting Literature*, Vol. 23 No.1, (2004):87-155.
- Mat Zain, M., Subramaniam, N., Goodwin-Stewart, J. "Internal auditors assessment of their contribution to financial statement audits: the relation with audit committee and internal audit function characteristics", *International Journal of Auditing*, Vol. 10 No.1, (2006):1-18.
- Mihret, D.G., Yismaw, A.W. "Internal audit effectiveness: an Ethiopian public sector case study", *Managerial Auditing Journal*, Vol. 22 No.5, (2007):470-84.
- Ridley, J. and Chambers, A. *Leading Edge: Internal Auditing*. Cornwall: ICSA. 1998.
- Chambers, A. *Effective Internal Audits: how to Plan and Implement*. London: Pitman. 1992.
- Ratliff, R.L., Wallace, W.A., Sumners, G.E., Mcfarland, W.G. and Loebbecke, J.K. *Internal auditing: principles and techniques*. 2<sup>nd</sup> ed. Florida: IIA. 1996.
- Spira, L.F., Page, M. "Risk management: the reinvention of internal control and the changing role of internal audit", *Accounting, Auditing & Accountability Journal*, Vol. 16 No.4, (2003):640-61.
- Vinten, G. Audit independence in the UK – the state of the art. *Managerial Auditing Journal*, Vol. 14 No. 8 (1999):408-437. <http://www.emeraldinsight.com/0268-6902> (Accessed: 18<sup>th</sup> May 2006).

# **MICROFINANCE ORGANIZATIONS IN SOUTH AFRICA: ARE THEY SUSTAINABLE AND SELF-SUFFICIENT IN RURAL SOUTH AFRICAN BUSINESS ENVIRONMENT?**

**Tshepiso I Ngwenya and Ntombi Skosana  
Tshwane University of Technology, South Africa**

## **ABSTRACT**

*This paper seeks to establish whether micro-lenders in South Africa (SA) directed at the rural poor aimed at poverty alleviation are self-sufficient and self-sustainable. The chances are that, the poorer you are, the more expensive or onerous informal financial arrangements there is (Sapovadia, n.d). As cited by Baumann (2004), donors, government and many analysts used sustainability as a benchmark of microfinance institutions' performance.*

*The concept of sustainability was used as a measurement to determine performance of microfinance organizations in South Africa. In addition to this, South Africa was compared to other developing countries to generate more concrete data; however the results indicated that it cannot be comparable due to its dual economic circumstances.*

*Data was collected from CEOs using structured questionnaires from all the micro-lenders registered under section 21 companies. South Africa reveals that South African micro-lenders are neither self-sufficient nor self-sustainable. Furthermore, findings indicate that South Africa situation doesn't allow comparison to micro-lenders in other developing countries because of its dual economic nature.*

## **INTRODUCTION**

A Millennium Summit was held in the United Nations Headquarters, in New York on the 6-8 of September 2000. This Summit consists of world leaders who adopted what is called the Millennium Declaration. The purpose of the Declaration was to outline goals that will be able to reduce poverty, hunger and other daunting issues for 2015, that will enhance a better socio-economic and political development of the world. These goals were called the Millennium Development Goals (MDGs) which were in turn craft into intense goals from so called, goal 1 to 8 outcomes (<http://www.un.org/millennium/backgrounder.htm>).

Based on these goals, South Africa (SA) took upon herself to ensure that these goals are its national priorities. Among them, SA sees it fit that it needs to introduce microfinance companies, which are organizations that will be within the SA Law under the umbrella of the UN, to combat poverty and provide funding to the needy (i.e. those who do not meet the banks' requirements to receive funding for various purposes) to better the living conditions for all South Africans. Also below are the targets set by Paris Declaration in 2000 which were scaled down and introduced in by the work that The Honorable, former President of SA, Thabo Mbeki and other African leaders, took upon themselves to drive the needs of the African continent by introducing what they call, NEPAD (New Partnership for Africa's Development).

## **BACKGROUND**

To ensure that the targets set in 2000 are in motion, the world leaders came together again in March 2<sup>nd</sup> 2005 in France, Paris. This occurs to form a commitment once more to which they called it the Paris Declaration. This Declaration was divided into sections and the commitments on its aid effectiveness include that:

- Developing countries will exercise effective leadership over their development policies, strategies, and to coordinate development actions;
- Donor countries will base their overall support on receiving countries' national development strategies, institutions, and procedures;
- Donor countries will work so that their actions are more harmonized, transparent, and collectively effective;
- All countries will manage resources and improve decision-making for results;
- Donor and developing countries pledge that they will be mutually accountable for development results(<http://www.aidharmonization.org/ah-overview/secondary-pages>)

To make these commitments more specific and suitable for the African continent, the Honorable former President Thabo Mbeki of South Africa (SA) and other African leaders came together to formulate NEPAD. NEPAD was developed to consolidate democracy, good governance and implement sustainable socio-economic development programmes on the African continent. SA has taken this even further by being involved in the India Brazil South Africa Dialogue Forum. The Forum strengthens the co-operation in removing distortions in the world that are skewed against developing countries and among others, rules of multilateral trade system and making the international financial architecture more responsive to development.

Based on the MDGs and the Paris Declarations concepts, more is directed to goal 8 which is more relevant to this study and explain fully the need of global partnership development by developed countries to developing countries in a form of donations for sustainability development. Goal 8 effectively underpins the efforts of developing countries to achieve all of the other MDGs (South Africa Millennium Development Goals Mid-Term Country Report, 2007). However, with regard to the financial system in SA, there are still no indicators that can be used to measure the present outcomes (South Africa MDGs Report, 2007).

That is why SA is still in a mess of sorting out issues of finance. However, SA is not alone in this financial crisis. At the time of writing this paper even developed countries like USA, EU and Asia are experiencing financial difficulties. When narrowing these financial issues to direct to the paper investigation, we try to find out whether micro lenders are sustainable and self sufficient in SA business environment or not?

## **South African Economy**

According to Encyclopedia of Nations (2009), South Africa has what it may be called a dual economy which is one comparable to industrialized nations and another which is comparable to developing countries. This type of an economy is double sided whereby the other portion is characterized by highly sophisticated way of doing things like developed countries and on the other hand, there is this tragic part of the economy, which is traditional and is mainly taking place in the rural areas. It is characterized by poverty, hunger and joblessness and other factors that are distorting for the betterment of live for all. The two economies have no contact to each other and there is a huge gap between the two in relation to matters of development in economic sustainability and self sufficiency. The two concepts, sustainability and self sufficiency are explained below to show what impact they have in relation to the dual SA economy.

The word sustainability came from the verb sustain meaning: to hold up; to bear; to support; to provide for; to maintain; to sanction; to keep going; to keep up; to prolong or to support the life of (Chambers Concise Dictionary). Sustainable growth, sustainable use and sustainable development do not have the same meaning; however, in some cases they are been used interchangeably. For the sake of this paper, only the term, sustainable development is defined since it one of the key terms in this study. The [www.ecifm.rdg.ac.uk/definitions](http://www.ecifm.rdg.ac.uk/definitions) refers sustainable development as a way to continue to improve the quality of human life whilst living within the carrying capacity of the ecosystems. This means that the system in which it operates must be in a position that it is capable of taking care on its own on an on-going process without receiving any support or help anyway or anyhow. Taking in to account these two definitions, the SA economic development explanation is circle around

these concepts. Due to its dual economy as outlined above, SA has nine provinces with each has its uniqueness. The Gauteng Province( meaning a place of gold), with is regarded as a power house of SA economic development, occupying 14% of the land area with 9,5 million people( South African National census, 2001), it is the most urbanized , affluent, sophisticated and modernized location followed by the Western cape. However, SA has this other side which is characterized by extreme poverty, lack of jobs and poor infrastructure. These include provinces like the Eastern Cape (e.g. Port Elizabeth) followed by Free State and Northern Province (Statistics South Africa Report). As elaborated above, about SA dual economy, now the question is whether SA economic sustainability and self sufficient is it comparable to other countries and or its region?

## **Comparability of South African economic development with other countries**

The Grameen Bank in Bangladesh is well known for its success in providing credit to the poor (Jain & Moore, 2003; Baumann, 2004; Van Ruit, 2001; Karlan, 2001).The main pillars of the lending model for the Grameen Bank is group lending rather than collateral and credit screening as a form of money lending .Because of it success outcomes, South Africa have attempted to replicate its model of lending however without any success. Factors like lack of self-sustainability and self-sufficiency have been identified as setbacks just like in most micro-lenders including group-lending organizations. (Seibel & Torres, 1999).

Another setback for South African it is its dual economy. The first economy is similar to that of Southern Europe which is categorized under those individuals who are well up economically and able to meet their basic needs whilst the second one related to South Asia where people are still living under impoverish sever and unbearable life style (Baumann, 2004). According to Gardner (2002), South Africa has been unable to generate the type of microfinance sector that has been successful in many African, Asian and Latin American countries.

As stated above, the Grameen Bank has being success in providing credit to the poor, however, its strategies has not been rewarding to other countries including South Africa. In a study of 27 explicators conducted by the Agricultural Credit Policy Council (ACPC) in the Philippines “The repayment performance was impressive, averaging a rate of 96.8 per cent, but the overall picture was dismal. The program was found to be donor – driven rather than self - sustainable. According to Small Enterprise Foundation, one of the best performing group-lending organizations in South Africa since 1992, they only managed to improve its self-sufficiency ratio from 51% to 83% in 2003.In a financial performance analysis done by the Micro Finance Regulatory Council in South Africa in 2004, it was found that the costs for micro lenders are twice the size of their income. As a result, they could not cover their normal operating costs like administration costs.

With these problems in hand ,the study’s main objective is to ensure that factors that are associated with good repayment of farmer groups in South Africa are identified which in turn will yield to self- sufficiency and sustainability of micro-lending institutions. Now, the big question is, “Are group lending microfinance organizations in South Africa self- sufficient and sustainable”? This question can be understood well when broken down in to sub questions as follows:

- Are the goals of the micro lenders aligned to the goals of government and or donors?( Link to Paris Declaration)
- Are group lenders that have a greater outreach self-sufficient and sustainable?

Taking into account the above questions in mind, the environment in which South African microfinance markets operate, are in a form of group associations, group co-operation and group responsibility that apply basic traditions of African societies in a traditional savings and credit schemes” (Harms, 2002). South Africa’s microfinance markets operates differently from others due to their differences in client characteristics, loan purposes, repayment mechanisms, motivations of the key institutions, and policies supporting service expansion. These differences make it difficult to directly transplant lessons learnt and or models from other developing countries to South Africa.

To make a good platform for the above to occur, the investigation operates under the following assumptions:

- A portion of the micro-lenders that fund rural communities finances them for agricultural purposes.
- Access to credit by the poor have the desired outcome by the non-profit micro-lenders such as poverty alleviation.
- Group lending is mainly for enterprises and not for consumption.
- All respondents have answered the questions honestly and truthfully.
- Rural communities are satisfied with the service offerings of the rural Micro-lenders.

With this in mind, the following key topics are discussed in details to get more light in what is happening with SA micro-lenders.

## **Microfinance & poverty alleviation in South Africa**

According to Porteous (2002), “Micro finance is the key to development in the Southern African Development Community (SADC) region and Africa in general”. The definition of microfinance depends on the purpose it performs. For example, micro-lenders aimed at poverty alleviation use definitions that enable them to exclude that portion of the population that do not fall within their scope or target group by using a threshold amounts for lending or a minimum or maximum lending amount.

The purpose of the micro-lending institutions is to:

- Provide service that can be targeted specifically at the poor and poorest of the poor.
- Make a significant contribution to the socio-economic status of the targeted community.
- Deliver services that can develop within a few years into sustainable organizations with steadily growing outreach.

## **Group lending**

Group lending according to Goeldner (2004) involves “the formation of a group with a fairly homogenous need for credit (in terms of loan size and term)” were group members individually usually act as the guarantor of the loan. In cases where a member of the group cannot make a payment, the other members of the group must repay on that person’s behalf. In a research done by Finmarktrust in 2006 for South African development micro-lenders, all micro-lenders that aimed at reaching the poor use one form of social intermediation methodology. Bay Research and Consultancy Service (2006) refers social intermediation methodologies as programmatic strategies that identify, develop, and employ community-level relational resources to extend micro-financial services to poor households.

## **Asia pacific countries**

In Indonesia, the BRI-Unit Desa(BUD) operates as a profitable organization that focus on increasing access to financial services and not on targeting poor people or resolving gender issues. In the case of BAAC (Bank for Agriculture & Agricultural Co-operatives) in Thailand, it uses a small group’s joint liability as a mechanism to generate costs savings and to harness peer pressure to enhance loan repayments. In terms of assessment of success or sustainability, one out of seven micro-lenders in the Philippines, was found to be viable as cited by the Asian and Pacific Development Centre (APDC).

# **METHODOLOGY**

The targeted population for the study was CEOs and CFOs of 17 organizations registered with the MFRC development micro-lenders or Section 21 or non-profit making companies in South Africa. Structured questions using face to face interview and faxing of documentations in case of failure to perform an interview, were methods of collecting data from the respondents. The questions were based on:

- Are group lenders sustainable?
- Are group lenders that have a greater outreach more likely to be sustainable?
- Are lenders that have been operating for longer periods more sustainable?
- Is there a relationship between sustainability and good repayments or bad repayment rates?

The respond rate was 100% since the population was not big. The numbers of the employees range from 1-10 depending on the activities and the number of the borrowers. At the time of writing this article, Capitec bank was a huge borrower which had 801 809 borrowers. Based on ethical issues, the names of the CEOs/CFOs contacted should not be disclosed however, their main activities is to provide manage loans to the participants.

## RELIABILITY & VALIDITY

Information was collected from CEOs or CFOs was reliable since they are in charge of exercising authority and delegating duties according to the micro-lenders requirements. Also the valuable, reasonable and relevant data that come from previous research and statistics to support the questionnaires to respondents add more force and strengthen the investigation.

## RESULTS & DISCUSSIONS

Underneath are the outcomes of this study as outlined by tables and figures:

**Table 1**

Outreach or number of provinces

<b>Targeting/Outreach</b>	
<b>Number of provinces</b>	<b>Percentage</b>
1-3	83%
4-6	17%
7-9	0%

As presented in Table 1, it was established that 83% of the respondents operate in a maximum of only three provinces. Seventeen percent (17%) operate in up to six provinces and none operate in more than six provinces or all provinces.

**Table 2**

Number of years in operation or existence

<b>Number of years in existence</b>	<b>Percentage</b>
Less than 3 years	0%
4-6 years	50%
7-10 years	33%
More than 10 years	17%

According to the results in Table 2, only 17% of the micro-lenders indicated to have been in operation for a period of more than ten (10) ten years. Half of the micro-lenders (50%) have operated for a period of between 4-6 years and the rest (33%) has been in operation for a period between 7-10 years. This question was meant to found out if given enough time, micro-lenders will be able to reach the numbers that might enable them to cover all their transaction costs.

**Table 3**

Lending or targeting method

<b>Lending method/targeting</b>	<b>Percentage</b>
Loans to individuals	17%
Loans to Groups	83%
Loans to Groups and individuals	0%

The findings in respect to the lending method used by the lenders are summarized and presented in Tables 3. An overwhelming majority of 83% of the micro-lenders grant loans only to groups while only 17%

lend to individuals. These findings are also supported the argument by Bay Research and Consultancy Services (2006) stating that the only South African institutions consistently reaching very poor households employ SIMs or group-lending to do so.

**Table 4**

Group targeting method: Organizations lending to groups only

Targeting method	Percentage
New groups are formed in line with the credit policy of the organization	80%
Existing groups are funded	20%

Eighty percent (80%) of the micro-lenders form groups in line with their credit policies while only 20% lend to groups that already exist. If the micro-lenders themselves are involved in the process, that might have an impact on their ability to reach big numbers hence the need to limit the number of province of operation.

**Table 5**

Loan Purpose

Purpose of loan	Percentage
Consumption spending	0%
Agricultural enterprises	0%
The purpose of the loan is not a criteria for funding	0%
Other	100%

Although all the micro-lenders indicated that they lend for **other** purposes, they all specified that they lend for micro enterprises but not specifically agricultural enterprises. None of the lenders grant loans for consumption spending and the purpose of the loan is a criterion for the granting of funds in the form of a loan for all lenders. These findings are very crucial to the research topic as they give a clear indication that loans for agricultural enterprises are catered for as just loans for other enterprises and not singled out. Baumann (2004) supports these findings by citing that “The South African pro-poor MFIs are mainly rural, but because South Africa has very few small-scale cash farmers, their clients are not agricultural microenterprises. They are mainly petty traders, dressmakers, traditional brewers, etc. in rural villages”.

**Table 6**

Trends in cost to income ratio

Trends in cost to income ratios	2003	2004	2005	2006
Less than 10%	50%	40%	40%	40%
10%-30%	0%	0%	0%	0%
30%-50%	25%	20%	20%	20%
Above 50%	25%	40%	40%	40%

Of the micro-lenders that completed and returned the questionnaires, 50% had a cost to income ratio of less than 10% in 2003, 25% had a cost to income ratio of between 30 and 50% and the remaining 25% had cost to income ratio of more than 50%. In 2004, 2005 and 2006, 40% of the respondents had a cost to income ratio of less than 10% while 20% had a cost to income ratio of 20%. The remaining 40% had a cost to income ratio of more than 50%. These findings show that costs remain high in most of the micro-lenders as compared to income, which can inevitably hamper operational and financial efficiency.

Figure 1 illustrates that most micro-lenders have an operational self-sufficiency of less than 40% and that the number is increasing although it remained the same in 2003, 2004, and 2005.

Figure 2 also indicates an increase in the inability to be financial self-sufficient by a majority of micro-lenders.

**Table 7**

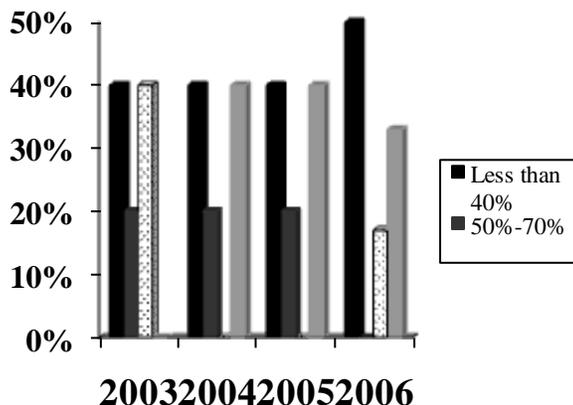
Sources of funding

Government	17%
Donor funding	50%
Commercial Bank loans	0%
Government and donor funding	33%

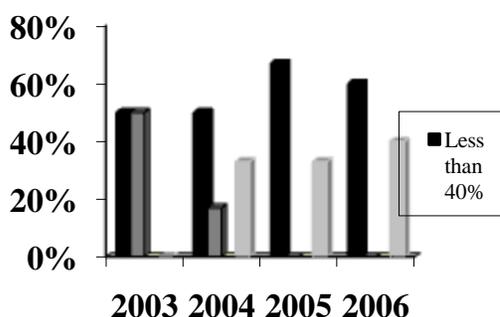
Other loan funding	0%
100% self funding	0%

None of the respondents are 100% self-funding. The majority (50%) depends on donors while 17% rely on government funds. Thirty three percent (33%) of the respondent organizations rely on funding from both donors and government for their financial survival. Given the low levels of both operational and financial self-sufficiency in most micro-lenders, it should be expected that most of them would be relying on some kind of donor or grant assistance.

**Figure 1**  
Operational Self-sufficiency



**Figure 2**  
Financial Self- sufficiency



## CONCLUSIONS AND RECOMMENDATIONS

Credit lending was found not to be an appropriate method of alleviating poverty in SA. Micro-lenders should ensure that the requirements of lending money basically focus on poverty alleviation and not on other business transactions. There is also a need to revisit the definition of sustainability within the South African context especially given the nature of the country's economy, factors such as the regulatory framework relating to deposit taking as well as the definition as it relates to the ability to attract and retain donor funding.

Although according to Baumann (2004), donors are themselves starting to re-look their own expectations in respect of sustainability of micro-lenders, it is however incumbent upon the micro-lenders themselves to be proactive and ensure that donor grants do not come with requirements that will put pressure on them to be self-sustaining within a short period of time and shift their focus from their goal of poverty alleviation. Further to this, in reporting to donors, micro-lenders need to be transparent in terms of the challenges and the paradox relating reaching the poor and self-sufficiency and sustainability.

## PROPOSAL FOR FUTURE RESEARCH

A comparative study of the performance of all the different South African micro-lenders registered in the different categories by the MFRC might be beneficial to the industry. Although other types of micro-lenders such as banks may not have the same goals as development MFIs however there might be some lessons to be drawn from them given the fact that they operate in the same regulatory or legal environment and of course the same economy. There is also a need for further research to establish what models of poverty alleviation would be most appropriate to South Africa given its unique and dual economy.

Now that the National Credit Act has been promulgated, a study on the effects of the act on the sustainability of micro-lenders is also proposed. Further to this, there will be a need to establish and understand the effects of the National Credit Act on access to finance by the poor that are targeted by development micro-lenders.

## REFERENCES

- Baumann, T. (2004). Pro-poor microcredit in South Africa: Cost-efficiency and productivity of South African pro-poor microfinance institutions. <http://www.cmfnet.org.za> (Accessed :15th May 2007).
- Bay research and consultancy services. (2006). The pro-poor microfinance sector in South Africa. <http://www.cmfnet.org.za> (Accessed 30<sup>th</sup> May 2004).
- Encyclopedia of Nations. (2009). South Africa-Economic Development. <http://www.nationsencyclopedia.com/Africa/South-Africa-ECONOMIC-DEVELOPMENT.htm> (Accessed: 6<sup>th</sup> May 2009).
- Grameen bank. (2006). [http://www.grameen\\_info.org](http://www.grameen_info.org) (Accessed: 2nd June 2006).
- Gardner, C. (2002). Micro finance South Africa: What went wrong and where to now? Microfinance best practices seminar proceedings. [http://www.acia.sun.ac.za/projects/conferences/2002/MicroF/microfinance\\_best\\_practices.htm](http://www.acia.sun.ac.za/projects/conferences/2002/MicroF/microfinance_best_practices.htm) (Accessed: 30<sup>th</sup> May 2006).
- Goeldner, K.A. (2004). Rural finance in Afghanistan: The challenge of the Opium Economy- roles and opportunities for rural credit initiatives in Afghanistan's Opium Economy. <http://siteresources.worldbank.org> (Accessed: 30<sup>th</sup> May 2006).
- Harms, B. (2002). Co-operative banks (Financial services co-operatives). Microfinance best practices seminar proceedings. [http://www.acia.sun.ac.za/projects/conferences/2002/MicroF/microfinance\\_best\\_practices.htm](http://www.acia.sun.ac.za/projects/conferences/2002/MicroF/microfinance_best_practices.htm) (Accessed: 30th May 2006).
- Jain, P. & Moore, M. (2003). What makes microcredit programmes effective? Fashionable fallacies and workable realities. <http://www.cmfnet.org.za> (Accessed: 15<sup>th</sup> May 2007).
- Karlan, D.S. (2001). Social capital and group banking. <http://www.cmfnet.org.za/Marang.htm> (Accessed: 27<sup>th</sup> January 2007). Millennium summit. (2000).
- Millennium assembly of the United Nations.2009. <http://www.un.org/millennium/background.htm> (Accessed: 5<sup>th</sup> May 2009).
- Paris Declaration. (2005). Paris Declaration on Aid Effectiveness. <http://www.aidharmonization.org/ah-overview/secondary-pages/editable?key=205> (Accessed: 5<sup>th</sup> May 2009).

Porteous, D. (2002). Introductory comments to ACIA microfinance best practices seminar. Microfinance best practices seminar proceedings. [http://www.acia.sun.ac.za/projects/conferences/2002/microfinance/microfinance\\_best\\_practices.htm](http://www.acia.sun.ac.za/projects/conferences/2002/microfinance/microfinance_best_practices.htm) (Accessed: 30th May 2006).

Sapovadia, V. K. n.d. **Micro finance: the pillars of a tool to socio-economic development.** [http://www.sarpn.org.za/documents/d0002220/Micro\\_Finance\\_Sapovadia.pdf](http://www.sarpn.org.za/documents/d0002220/Micro_Finance_Sapovadia.pdf) (Accessed: 5th May 2007).

SIEGEL, H.D. & TORRES, D. (1999). Are Grameen replicators sustainable and do they reach the poor? The case of card in the Philippines. <http://www.cmfnet.org.za> (Accessed: 2<sup>nd</sup> June 2006).

South Africa. (2007). Millenium Development Goals Mid-Term Country Report. [http://209.85.229.132/search?q=cache:IeFFs88caBgJ:planipolis.iiep.unesco.org/upload/South%2520Africa/South\\_Africa\\_MDG\\_midterm.pdf+mdgs+south+africa](http://209.85.229.132/search?q=cache:IeFFs88caBgJ:planipolis.iiep.unesco.org/upload/South%2520Africa/South_Africa_MDG_midterm.pdf+mdgs+south+africa) (Accessed on 5<sup>th</sup> May 2009).

Statistics South Africa report: measuring poverty in South Africa. <http://www.ecparks.co.za/about-ecprovince/index.html> (Accessed: 23rd July 2009).

The dictionary of Sustainability management. (2009).Sustainability <http://www.sustainabilitydictionary.com> (Accessed: 6<sup>th</sup> May 2009).  
<http://www.ecifm.rdg.ac.uk/definitions.htm> (Accessed: 22nd May 2009).

Van de ruit, C. (2001). Micro-finance, donor roles and influence and the pro-poor agenda: The cases of South Africa and Mozambique. <http://www.cmfnet.org.za> (Accessed: 27<sup>th</sup> January 2007).

# **INTEGRATED FRAMEWORK FOR MEASURING CORPORATE SUSTAINABILITY, SOCIAL, ENVIRONMENTAL IMPACTS, CUSTOMER ATTRACTION AND BUSINESS SUCCESS**

**Emmanuel Obinali Obioha and Heinz Eckart Klingelhöfer**  
**Tshwane University of Technology, South Africa**

## **ABSTRACT**

*In recent times, the lack of a single widely accepted measurement tool for corporate sustainability and business success continues to be a matter of concern. Most sustainable development dimension measures have been developed in isolation of business activity and are not yet directly linked to business strategy. Conversely, many business executives have asked themselves, how would a greater focus on potential social, environmental impacts and customer attraction affect the performance of their company? This article presents a framework that can measure the impact of corporate sustainability on financial performance of firms by investigating the effect of potential social and environmental impacts on customer attraction and firm's financial performance. It will further explore and establish how the integrated forces of socio-economic development, human rights, environmental process focus (ecological footprint), and environmental product focus (eco-efficiency) drive customer attraction until the link to profit is clear.*

## **INTRODUCTION**

### **Background**

An increasing number of sustainability practitioners, managers, business executives and investors recognize the importance of developing a universal tool that can measure the relationship between dimensions of corporate sustainability performance and business success (Sustainability, 2001:05; Marc and Marie, 2001:587; Gerbens-Leenes, Moll and Uiterkamp, 2003:232; Francisco and Marianna, 2005:642; Schaltegger and Wagner, 2006:2:8:12). Although the majority of research revealed a strong positive link between sustainability and business success supporting the business case, most of it completely fails to address the key issues that could bring the bulk of mainstream investors and corporate managers to the table. Most sustainable development dimension measures such as cost-benefit analysis (CBA), environmental impact assessment (EIA), risk assessment (RA), life-cycle assessment (LCA), lagging indicators (LIs), leading indicators (LIs), benchmarking etc. have been developed in isolation of business activity and are not yet directly linked to business strategy (Sustainability, 2001:5; Marc and Marie, 2001:587; Francisco and Marianna, 2005:642; Gerbens-Leenes, Moll and Uiterkamp, 2003:232; Figge and Hahn, 2004; GEMI, 2009; GRI, 2010). Hence, many business executives have often demanded to know, if and how a greater focus on potential social, environmental impacts, and customer attraction would affect the performance of their company. Conversely, the lack of a single widely accepted measurement tool for corporate sustainability and business success continues to be a matter of concern.

Thus, by carefully identifying and articulating the drivers of financial performance and measuring and managing their broad effect on potential social and environmental impacts, managers can make a significant contribution both to the company and to the society. The framework provides a comprehensive approach for

examining the drivers of corporate sustainability and its use by managers can provide a clearer understanding of the impacts of the various past, pending and future corporate decisions on both the company and the society (Marc and Marie, 2001; Francisco and Marianna, 2005; Schaltegger and Wagner, 2006; GEMI, 2009; GRI, 2010)

## Linkages between corporate sustainable development dimensions and measures of business success

Tables 1 and 2 below illustrate ten dimensions of corporate sustainable development performance and also ten measures of business success. The aim of these tables is to classify the development performance dimension (i.e. socio-economic development, human rights, environmental process focus (ecological footprint) environmental product focus (eco-efficiency)) into a bigger scheme and then to cross-link them with the measures of business success. For the purpose of this article customer attraction ,as one of the drivers of financial performance is taken as a measure of business success in order to determine and communicate if and how sustainable development performance dimensions drives it until the link to profit is clear. Studies have found that customer attraction as a driver of financial performance is strongly influenced by potential social and environmental impacts including almost all the sustainable development factors (Sustainability 2001:5; Francisco and Marianna, 2005:642; Marc and Marie, 2001:587; Schaltegger and Wagner, 2006:2:8; GEMI, 2009; GRI, 2010). However, for a long time there has been the need for empirical research to test these relationships in South Africa (South African Foundation, 1998; Business and Marketing Intelligence, 1999; Centre for Development and Enterprise, 1999; JSE (SRI), 2008)

In this article, we chose sustainable development performance dimensions, according to company indicators as socio-economic development, human rights, environmental process focus (ecological footprint), environmental product focus (eco-efficiency) as in table 1 and customer attraction (financial driver) as the measure of business success as in table 2, because there is a positive relationship between customer attraction and sustainable development initiative as indicated above.

Table1. Ten Dimensions of Corporate Sustainable Development Performance

A. Governance:	1.	Ethics, Values and Principles
	2.	Accountability and Transparency
B. General	3.	Triple Bottom Line Commitment
	4.	<u>Environmental Process Focus</u>
C. Environment	5.	<u>Environmental Product Focus</u>
	6.	<u>Socio Economic Development</u>
D. Socio- Economic	7.	<u>Human Rights</u>
	8.	Work Place Conditions
E. Stakeholder Engagement	9.	Engaging Business Partners
	10.	Engaging Non- Business Partners

Source: Sustainability, 2001: 05

Table2. Ten Measures of Business Success

A. Financial Performance	1.	Shareholder Value
	2.	Revenue
	3.	Operational Efficiency
	4.	Access to Capital
B. Financial Drivers	5.	<u>Customer Attraction</u>
	6.	Brand Value and Reputation
	7.	Human and Intellectual Capital
	8.	Risk Profile
	9.	Innovation
	10.	License to Operate

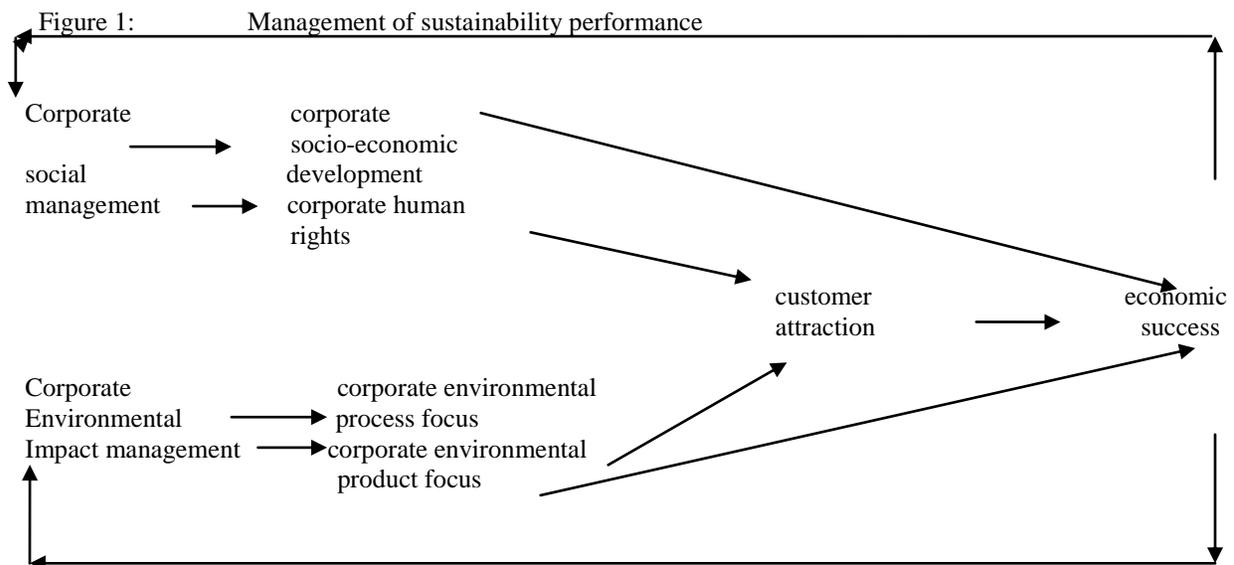
Source: Sustainability, 2001: 05

Thus, for sustainable development to become truly integrated into business decisions and strategy, a systematic sustainable development performance measurement is essential (Elkington, 1998; Gemi, 2002:2009; Sustainability, 2001; Marc and Marie, 2001; Francisco and Marianna, 2005; Schaltegger and Wagner, 2006)

## **MEASURING THE BROAD EFFECTS OF POTENTIAL SOCIAL AND ENVIRONMENTAL IMPACTS ON CUSTOMER ATTRACTION AND FIRM'S FINANCIAL PERFORMANCE**

### **Theoretical Framework**

The objective of this article is demonstrated in the figure 1 below, illustrating the theoretical framework of the links between corporate sustainability (socio-economic management and environmental impacts management) and economic success through the pathway of customer attraction and economic success/financial performance. The independent variables include, corporate socio-economic development, corporate human rights, corporate environmental process focus, and corporate environmental product focus while the dependent variables are, customer attraction and firm's economic performance/economic success. This paper will establish and develop the relationship between the independent variables on dependent variables by exploring the impacts/effects of the independent variables on dependent variables until profit is clear.



According to figure 1, successful management of corporate sustainability performance is achieved if the management of corporate socio-economic development, human rights, environmental process focus and environmental product focus are in line with increased customer attraction and economic performance.

Although many theoretical and empirical studies (mostly correlated-based) have been performed on the relationship between environmental and economic performance, only a few take a closer look at the above link (Lankoski, 2000; Margolis, Weber and Walsh 2003; Pearce, 2003; Porter, 1991; Reinhardt 1999a, 1999b; Schaltegger and Burritt 2005; Schaltegger and Synnestvedt 2002; Wagner and Schaltegger 2003:2004; Figge, Hahn, Schaltegger and Wagner, 2002; Schaltegger and Wagner, 2006; Margolis, Weber and Walsh, 2003)

Therefore, the following paragraphs of this section will measure the impact of corporate potential social and environmental impacts on financial performance of firms by investigating at first the effects of corporate

socio-economic development, corporate human rights, corporate environmental process focus (ecological footprint), and corporate environmental product focus (eco-efficiency) on customer attraction, and in the second step - the effects of customer attraction on financial performance.

## **Impacts on Customer Attraction**

### **Effects of Corporate Socio-Economic Development**

Corporate socio-economic development will help customers to differentiate between similar products and providers, price and performance being equal (Sustainability, 2001; Francisco and Marianna, 2005; Schaltegger and Burritt, 2003; Marc and Marie, 2001). Consumers are the most responsive to the sustainable development performance of the firms they buy products from. Ethics contribute value to the company by deepening the values connections with customers (Dalla, 1998; Avery, 2000)). Cause-related marketing is a powerful customer attractor, linking products to a charitable cause that can boost short-term sales (Sustainability, 2001; GRI, 2000; Nordisk, 1999; Rochlin and Christoffer, 2000). According to Sustainability, (2001) customer attraction is a company's ability to attract and retain customers through interesting products, attractive brands, a strong reputation, customer service or particular company activities. Thus, a company's ability to retain customers is clearly a driver of future revenues. The importance companies place on customer attraction is underscored by the typically vast amounts invested in marketing and advertising. However, high levels of community investment e.g. socio-economic development and partnerships, supporting local development by developing commercial or manufacturing activities in the area, hiring local staff, education etc, have been shown to increase brand differentiation, effectively acting as a tie-breaker in consumers' purchasing decision (Maser, 1996; Avery, 2000; Cowe and Williams, 2000; Walker and Grisaffe, 2000; GEMI, 2009). The socio-economic dimension is likely to have much impact on business to customer relationships, e.g. London-based Diageo plc reported that between 1994 and 1998, 22 cause-related marketing projects helped it raise \$600,000 for business-to customer causes while increasing sales of tracked brands by 37% (Sustainability, 2001:23). Thus, companies with good records in this dimension increase their brands/reputation in the market resulting in huge revenue, a factor of customer attraction, e.g. Coca-Cola, BP, Shell, Nike, Sasol have been well-documented in this dimension, which have brought issues such as human rights into corporate boardrooms (Sustainability, 2001:11; Marc and Marie, 2001:586; Ernst and Young, 2008:2009; JSE, 2008) A company's socio-economic development performance could be based on any of the following initiatives:

- Its policies on community investment
- The number, type and size of its donations
- The percentage of staff and suppliers that are based in the local community
- Community ratings of the company

Thus, a company that has high socio-economic development performance in the above areas, attracts more customers, increases its brands and records high level of financial performance.

### **Effects of Corporate Human Rights**

In this article, human rights is defined as the degree to which a company actively and constructively contributes to the protection of human rights for its employees, its neighbors' and indeed all host country residents, in the regions in which it does business and even, potentially, in regions it decides not to do business (Sustainability, 2001; WRI, 2001; WBCSD, 2000; GEMI, 2009). Sustainability, (2001) tells us that most consumers get their impressions of companies' sustainable development credentials from the press and civil society groups which monitor corporate behavior. As a consequence, corporate performance on human rights and the environment tends to weigh more heavily in their assessments than other sustainable development performance dimensions, hence poor performance in human rights may result in reduced consumer interest. Although little direct research exists, a number of incidents have shown that customers boycott products from companies with poor human rights performance e.g. BP's efforts to eradicate human rights abuses, and the direct involvement of the chief executive officer (CEO) Sir John Browne, have built public trust in the company and helped it strengthen its reputation. Shell realized when customers boycotted the company due to its perceived lack of opposition to a string of human rights abuses by the Nigerian government in 1995 (Shell, 2000; [www.bp.com/alive](http://www.bp.com/alive)). One would expect a positive and major increase in customer loyalty due to reputation for

superior ethical behavior. Conversely, the reputation-destroying effects of unethical behavior can drive customers away: e.g. The Coca-Cola Company paid out a record \$192.5 million in November 2000 to settle a racial discrimination lawsuit brought by black employees who claimed that Coca-Cola discriminated against them in pay, promotions and evaluations (Coca-Cola, 2000; Sustainability, 2001:19). Above all, some business customers are beginning to screen out suppliers with poor human rights performance but the net effect on contracts is marginal. 43% of socially responsible investment (SRI) funds use human rights performance as a screen, although definitions vary widely (Sustainability, 2001:21). Between 77% and 88% of consumers are more likely to buy from a good corporate citizen (Hillard, 1999). According to Sustainability, (2001:11), company's performance in this area could be based on the following criteria:

- The scope and depth of its human rights policies regarding, e.g. freedom of association or racial, ethnic and gender discrimination and the company's record of implementation
- Actual operating decisions, such as whether to go to or stay in the regions prone to human rights abuses and whether and how it uses its bargaining power with host governments to promote human rights
- Number of complaints against the company for human rights abuses, or alternatively, awards for proactive human rights performance.

Hence, human rights is a determinant of customer attraction and brand value or corporate reputation

## **Effects of Corporate Environmental Process Focus (Ecological footprint)**

According to Sustainability, (2001) the environment was the first sustainable development dimension to grab the attention of business, and environmental performance, to a greater or lesser degree, is now an integral part of most commercial operations. Environmental or ecological footprint refers to the extent to which a company minimizes any adverse environmental impacts associated with its production processes, through, for example, changes in materials, equipments or practices. Companies that operate in high environmental impact industries may exhibit relatively poor performance in terms of sustainability elements such as consumption of natural resources, emission and health risk of their products or services compared to companies operating in low environmental impacts industries. Thus, according to this article, a company's environmental performance records account for the relevant environmental impacts of the company's operation. Six indices are commonly used by most of the companies in their environmental reports (Elkington, 1998; Degan, 2003; Figge and Hahn, 2004; Marc and Marie, 2001; Francisco and Marianna, 2005; GEMI, 2002:2009; GRI, 2002:2010). The indices include energy consumption, resource consumption, water use, land use, waste generation and greenhouse gases emission (GEMI, 2009; GRI, 2010).

Despite a company's commitment to the above requirements, its environmental performance should aim at among other things delivering a competitively-priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle, at a level at least in line with the Earth's estimated carrying capacity – Eco-environmental Shear Zone (WBCSD, 2000; Francisco and Marianna, 2005; Marc and Marie, 2001; Schaltegger and Wagner, 2006). By far the most compelling business case can be made for the environmental process focus. Its impact on all business performance measures including customer attraction is positive. This is partly a reflection of its business enhancing potential, but also of the fact that the environment is becoming firmly entrenched in business practice and is getting a great deal of management attention, allowing its potential to be realized. All these initiatives, whether proactive or reactive, are aimed at improving corporate environmental and financial performance.

## **Effects of Corporate Environmental Product Focus (Eco-efficiency)**

The concept of eco-efficiency is defined as creating value for society and business by doing more with less over the full life cycle by, reducing the material intensity of its goods and services, reducing the energy intensity of its goods and services, enhancing the recyclability of its materials, maximizing the sustainable use of renewable resources, extending the durability of its products and increasing the service intensity of its goods and services (WBCSD, 2000; Veleva and Ellenbecker, 2000; GRI, 2010; Schaltegger and Burritt, 2005; Sustainability, 2001; GEMI, 2009 ). On the other hand, environmental product focus is the extent to which a company has embedded environmental principles throughout a product's life cycle by for example, developing or re-designing its product and service portfolio to minimize adverse environmental impacts, e.g. product stewardship initiatives, design for the environment (Sustainability, 2001; Schaltegger and Burritt, 2005; IFAC,

1998:36; Howes, 2002; GRI, 2002:2010). Eco-efficiency is a concept and strategy enabling sufficient de-link of the use of nature from economic activity, needed to meet human needs, to keep it within carrying capacities; and to allow equitable access to, and use of the environment, by current and future generation (EEA, 1998). Two indices are identified to demonstrate a company's performance on eco-efficiency namely reuse rate and recycling rate.

Thus, in evaluating the company's sustainability performance and environmental quality, its environmental policy and product stewardship must set out its commitment towards achieving a cleaner environment, hence increase their bottom lines. A company will not only be sustainable through commitment to pollution prevention, reduction of environmental risks but to a greater extent on the principle of product stewardship (Sustainability, 2001; Francisco and Marianna, 2005; Schaltegger and Wagner, 2006; GEMI, 2002:2009; GRI, 2002:2010). Often the examination of product functionality and customer needs have led to radical new product and service strategies providing increased levels of customer satisfaction, e.g. Interface Inc, is using this strategy in its core business of floor carpeting. Rather than selling carpets to customers which are generally discarded after their useful life, Interface Inc leases carpets which it then takes back after use and recycle. Customer satisfaction is increased as customers receive high levels of service without concerns about post-customer waste and the company benefits through higher levels of customer retention and more efficient use of recycled materials. On the other hand, the society is improved through lower levels of waste in landfills. Studies have found out that customers will always patronize products of a company, provided price and quality are equal to alternative products (GEMI, 2002). Research confirms that a majority of retail customers will opt for the greener product (Sustainability, 2001; GRI, 2002:2010; GEMI, 2009).

## **Effects of Customer Attraction on Financial Performance of Firms**

Customer attraction is the golden road to shareholder value for most of the companies (Sustainability, 2001; Francisco and Marianna, 2005). Its link to brand value and reputation has been increasingly clear in recent years. Shareholder value represents Treasure Island for most organizations (GEMI, 2002:2009; GRI, 2010). Volkswagen notes that environmental performance links to competitive advantage via attractive conditions offered by banks and insurers, buoyant share prices and positive customer perception of the company (Volkswagen, 1999/2000). Customer attraction appears to have a positive relationship with innovation which is a driver of economic success (Walsh, Weber and Margolis, 2003; Keller, 2003). In an economic environment characterized by dramatic change, the ability to explore emerging opportunities by launching and learning from strategic experiments is more critical for survival than ever (Govindarajan and Trimble 2004). Organization which adapts to changes most effectively will be rewarded by consequential growth in sales, profits and possibly employment. In the high tech industries and industries with high brands and reputation, innovations are more frequent which show a high level of financial performance (Furman, Porter, and Stern, 2000; Govindarajan and Timble, 2004 Schaltegger and Wagner, 2006).

Companies like Shell International, stressed that a key driver of their sustainable development efforts is the desire to win customers, enhancing the brand by providing services and products built on sustainability thinking to create customer loyalty and market share (Shell, 2000). The Co-operative Bank also focuses on the ways in which its partnership approach to stakeholders is delivering value for each of the seven different categories of stakeholders, including customers (Co-operative Bank, 1999). The German chemical giant BASF (1999) is convinced that the markets of the future will shun companies who fail to take account of the environmental aspects of their products and processes. They therefore believe it is all the more important to have an effective yardstick for the company's environmental and economic performance. Eco-efficient products and processes will give them a decisive competitive edge. The company's latest environmental report introduces an eco-efficient tool designed to help customers to understand this area. Thus, customer attraction is the company's ability to attract and retain customers through interesting products, attractive brands, a strong reputation, customer service or particular company activities, which is clearly a driver of future revenue. The importance companies placed on customer attraction is underscored by the typically vast amounts invested in marketing and advertising. To compete successfully in today's global competitive environment companies are becoming customer-driven and making customer satisfaction an overriding priority (Drury, 2008). Customers are demanding ever-improving levels of service regarding cost, quality, reliability, delivery and the choice of

innovative new products. Thus, companies that are able to incorporate these business activities into their business strategy will gain competitive advantage and hence increase their bottom-lines.

## **RESEARCH METHODOLOGY**

The paper is cross-sectional, combining qualitative and quantitative approaches. The instruments will include face-to-face and telephonic interviews. A liker-rated items/questionnaire will also be used to collect data. The population is all 57 constituents listed companies within the Johannesburg Securities Exchange (JSE) subscribing to socially responsible investment (SRI) index classified by the reserve bank of South Africa, e.g. Resources, Commercial and Industrials). Data is analyzed in the following ways:

- Factor analysis was performed to reduce the data items
- Chronbach's alpha was used to validate the instrument
- Chi-square test was employed to test for association between the categorical variables and
- The analysis was performed at 95% confidence limit, Stata or SPSS served as statistical software packages.

## **OUTLOOK**

This paper is a work-in-progress since our aim is to produce a paper with international orientation we considered this audience appropriate for the kind of inputs that will help to furbish the paper. Thus, suggestions and contributions from this conference will be incorporated in the real study making it a balanced piece of study.

However, the theoretical as well as empirical evidence presented in this paper suggests that customer attraction will translate to corporate financial performance if managed and measured through the above linkages. Thus, Socio-economic development, human rights, environmental product focus and environmental products focus will positively drive customer attraction indicating that customer attraction is a good measure of corporate sustainability performance. A model characterized of the above linkages in consideration with the inputs from this conference, will be developed which completes this paper.

## **CONCLUSION**

By carefully identifying and articulating the drivers of financial performance and measuring and managing their broad effect on potential social and environmental impacts, managers can make a significant contribution both to their company and to the society. For sustainable development performance to become truly integrated into business decision and economic success, a systematic sustainable development performance measurement is essential. In our view, companies that not only identify and communicate key issues and value drivers but also clearly prioritize social and environmental impacts can gain a competitive edge by proactively managing sustainable development performance. Improved overall performance can be achieved by setting sustainable performance targets that are consistent with the company's operating principles that can measure, report and if necessary adapt performance to these targets over time. A company will successfully manage its corporate sustainability performance if the management of corporate socio-economic development, human rights, environmental process focus and environmental product focus are in line with increased customer attraction and economic performance.

On completion, this paper will develop and test a framework that can measure the impact of corporate social and environmental impacts (sustainability performance) on financial performance of a company through the path way of customer attraction and economic success. It will demonstrate how the integrated forces of potential social and environmental impacts drive customer attraction until the link to profit is clear. The framework developed will provide a comprehensive approach for examining the drivers of corporate sustainability and its use by managers can provide a clearer understanding of the impacts of the various past, pending and future corporate decisions on both the company and the society. Above all, it will assist organizations to better understand how to gain competitive advantage, increase firms' performance and provide an economic rationale for organizations involvement in sustainable development performance.

## REFERENCES

- EVERY C, 2000: *Business and Human Rights in a Time of Change for the Amnesty International UK Business Group*
- BASF, 1999: *Environment, Safety and Health. Sustainability Report.*
- BUSINESS and MARKETING INTELLIGENCE, 1999: *Corporate Social Investment and Development Handbook. Johannesburg: BMI*
- CO-OPERATIVE BANK, 1999: *The Partnership Report, Measuring our Progress*
- CENTRE for DEVELOPMENT AND ENTERPRISE (CDE), 1999: *Corporate Business in a Wider Role, CDE Focus*
- COLIN DRURY, 2008: *Management and Cost Accounting, 7<sup>th</sup> edition, pg 548*
- COCA-COLA, 2000: *The New York Times*
- COWE R and WILLIAMS S, 2000: *Who are the Ethical Consumers? The Co-operative bank*
- DEGAN C, 2003: *Environmental Management Accounting: An Introduction and Case Studies for Australia. Sydney: Institute of Chartered Accountants in Australia. [http://www.icaa.org.au/upload/download/Emap\\_print.pdf](http://www.icaa.org.au/upload/download/Emap_print.pdf)*
- DALLA COSTA J, 1998: *The Ethical Imperative: Why Moral Leadership is Good Business Harper Collins*
- EUROPEAN ENVIRONMENT AGENCY (EEA), 1998: *Making Sustainability Accountable: Eco-efficiency, Resource Productivity and Innovation, Proceedings of a Workshop on the occasion of the Fifty Anniversary of the EEA in Copenhagen*
- ERNST and YOUNG, 2009: *Sustainability Reporting Awards. South Africa*
- ERNST and YOUNG, 2008: *Sustainability Reporting Surveys. South Africa*
- ELKINGTON J. 1998. *Cannibal with Forks. The Triple Bottom Line of 21<sup>st</sup> century business. Capstone, Oxford.*
- FIGGE, F, HAHN, T, SCHALTEGGER, S and WAGNER M. 2002: *The Sustainability Balanced Scorecard, Linking Sustainability Management to Business Strategy. Business Strategy and the Environment Vol. 11, 269 – 284*
- FURMAN J., PORTER M. and STERN S. 2000: “Undertaking the Drivers of National Innovative Capacity”. *Academy of Management Proceedings. Pgs 1-7*
- FRANCISCO S. and MARIANNA K. 2005. *Responsible Leadership and Corporate Social Responsibility: Metrics for Sustainable Performance. Vol.23,Pg 645*
- FRANK FIGGE and TOBIAS HAHN 2004: *Ecological Economics: Sustainable Value-Added: Measuring Corporate Contributions to Sustainability beyond eco-efficiency. Elsevier.*
- FLEISHMAN HILLARD, 1999: *Consumers Demand Companies with a Conscience*
- GOVINDARAJAN V. and TRIMBLE C. 2004:”Strategic Innovation and Science of Learning”. *MIT Sloan Management Review. Vol. 45, No.2, Pg 67*

GLOBAL ENVIRONMENTAL MANAGEMENT INITIATIVE (GEMI), 2002: *Exploring Pathways to a Sustainable Enterprise. Sustainable Development Planner. Washington.*

GLOBAL ENVIRONMENTAL MANAGEMENT INITIATIVE (GEMI), 2009: *Exploring Pathways to a Sustainable Enterprise. Sustainable Development Planner. Washington.*

GLOBAL REPORTING INITIATIVE (GRI), 2010: *Sustainability Reporting Guidelines on Economic, Environmental and Social Performance, Draft Version edn, vol.*

GLOBAL REPORTING INITIATIVE (GRI), 2002: *Sustainability Reporting Guidelines on Economic, Environmental and Social Performance, Draft Version edn, vol.*

GERNENS-LEENES P.W, MOLL and SCHOOT UITERKAMP, 2003: *Ecological Economics: A Method to Determine Land Requirements Relating to Food Consumption Patterns. Agriculture Eco-systems and Environment 90, 47 – 58*

GLOBAL REPORTING INITIATIVE (GRI), 2000: *Sustainability Reporting Guidelines*

HOWES R, 2002: *Environmental Cost Accounting: An Introduction and Practical Guide. London: The Chartered Institute of Management Accountants.*

INTERNATIONAL FEDERATION OF ACCOUNTANTS (IFAC), 1998: *Management Accounting Concepts, New York*

JSE, 2008: *Ground Rules for Management of the JSE SRI Index*

KELLER, KEVIN L. 2003: *“Strategic Brand Management: Building, Measuring and Managing Brand Equity, 2<sup>nd</sup> ed. Upper Saddle River, NJ: Prentice Hall.*

LANKOSKI L. 2000: *Determinants of Environmental Profit. Helsinki University of Technology, Helsinki. GRI*

MARGOLIS J. D, WEBER, K. and WALSH J. P. 2003: *Misery Loves Companies. Rethinking Social Initiatives by Business, Administrative Science Quarterly. Vol.48, Pgs 268-305*

MARC J. E and MARIE J. R. 2001: *Sustainability in Action: Identifying and Measuring the Key Performance Drivers*

MASER C, 1996: *Resolving Environmental Conflicts, Towards Sustainable Community Development, Dalray Beach*

NOVO NORDISK, 1999: *Putting Values into Action: Environmental and Social Report*

PORTER M. 1991: *‘American’s Green Strategy’, Scientific American. Vol.264, No.4, Pg 96*

PORTER M.E. 2001: *Winter Special Issue: Towards a Dynamic Theory of Strategy. Strategic Management Journal. No. 12, pg 95-117*

PEARCE, B. 2003: *Sustainability and Business Competitiveness. Measuring the Benefit for Business Competitiveness Advantage from Social Responsibility and Sustainability, London: Forum for the Future*

REINHARDT, F. 1999a: *‘Bringing the environment down to earth’, Harvard business review. Pgs 149-157*

REINHARDT, F. 1999b: *‘Market failure and the environmental policies of companies. Economic rationales for ‘beyond compliance’ behavior’, journal of industrial ecology. Vol.3, no.1, pgs 9-21*

- ROCHLIN Sand CHRISTOFFER B, 2000: *Making the Business Case: Determining the Value of Corporate Community Involvement*, Boston College Centre for Corporate Community Relations.
- SCHALTEGGER S. and BURRITT R. 2005: *Integrative Management of Sustainability Performance, Measurement and Reporting*. *International Journal of Accounting, Auditing and Performance Evaluation(IJAAP)*, No.4
- SCHALTEGGER S, BURRITT R and PETERSEN H, 2003: *An introduction to Corporate Environmental Management, Striving for Sustainability*. Sheffield: Greenleaf Publishing
- SCHALTEGGER S. and SYNNESTVEDT T. 2002: 'The Link between Green and Economic Success'. *Environmental Management as the Crucial Trigger between Environmental and Economic Performance*, *Journal of Environmental Management*. Vol.65, Pgs 339-346
- SUSTAINABILITY, 2001: *Buried Treasure. Uncovering the Business Case for Corporate Sustainability*. London, United Kingdom.
- SHELL, 2000: *How do we stand? The Shell Report*
- SCHALTEGGER S. and WAGNER M. 2006: *Managing and Measuring the Business Case for Sustainability: Capturing the Relationship between Sustainability Performance, Business Competitiveness and Economic Performance*. Greenleaf Publishing
- SOUTH AFRICA FOUNDATION (SAF), 1998: "Big and Small Business in South Africa: Where the Twine Meets", *SAF Viewpoint*.
- VOLKSWAGEN, 1999/2000: *Environmental Report*
- VELEVA V. and ELLENBECKER M. 2000. A *Proposal for Measuring Business Sustainability*. *Greener Management International*. Vol; 31, pgs101-120.
- WBCSD, 2000: *Corporate Social Responsibility: Making Good Business Sense*.
- WRI, 2001: [www.wri.org](http://www.wri.org)
- WALKER F, and GRISAFFE D, 2000: *Measuring the Business Value of Corporate Citizenship Presentation at the Council of Foundations Annual Conference*
- WAGNER, M and SCHALTEGGER, S. 2003. *How does Sustainability Performance Relate to Business Competitiveness? Greener Management International (special edition)*, vol; 44, pgs 5-16
- WAGNER, M and SCHALTEGGER, S. 2004: *The Effect of Corporate Environmental Strategy Choice and Environmental Performance on Competitiveness and Economic Performance. An Empirical Analysis in EU Manufacturing; European Management journal*. Vol.22, issue 5, pgs557-572
- WALSH, J. WEBER, K. and MARGOLIS, J. 2003. *Social Issues and Management. Our Lost Cause Found*, *Journal of Management*, vol.29, No.6, pgs 859-881

# **FIRMS PERCEIVE THE SAME HOST COUNTRY DIFFERENT, DEPENDING ON FIRM EXPERIENCE**

**Maud Oortwijn**  
**University of Warwick, United Kingdom**

## **ABSTRACT**

*During international expansion, firms face unknown foreign host country environments (Aharoni, 1966). The key problem for international business is the lack of knowledge and the related uncertainty about a host country (Johanson and Vahlne, 1977). Especially in transition economies, like China, it is impossible for foreign firms to make decisions with full knowledge of the host country conditions. Managerial interpretation of the local business context plays a critical role. The main aim of this paper is to discuss how firm experience relates to the perception of host country conditions (Oortwijn, 2010b). With increasing firm experience in international business, the perception of the same host country, China, becomes more optimistic.*

## **INTRODUCTION**

International business is inherently risky, because of the lack of knowledge of local politics, culture, market systems and language (Johanson and Vahlne, 1977). Knowledge is ascribed a pivotal role in the firm's internationalization process (Petersen, 2008). The level of commitment to international business often develops with increasing knowledge and experience that comes with experiential learning in international business in general and in the host market in particular. A firm's host country experience and its history of entry patterns in other countries shape entry preferences for entrance into a new host country (Pan and Tse, 2000; Chung and Enderwick, 2001; Yiu and Makino, 2002; Li and Meyer, 2008; Oortwijn, 2010a).

Many scholars define uncertainty about the host country as a characteristic of the host country, whereas part of the uncertainty is related to the firm's "not knowing". The present state of internationalization affects perceived opportunities and risk which in turn influences entry commitment decisions. Reduced uncertainty drives firm growth, because it makes perceptions of opportunities more accurate (Penrose, 1959). Experience in a host country or neighbouring countries helps understand foreign opportunities. It enables better judgements for entry and supports success of operations abroad (Barkema, Bell *et al.*, 1996). The perception of international business opportunities becomes more realistic, when based on experiential learning (Barkema, 1998; Delios and Beamish, 1999; Petersen, 2008). A lack of experience is related not only to the cost of developing proper operations, but it also limits the options considered by decision makers (Hutzschenreuter, Pedersen *et al.*, 2007). Perceived market uncertainty influences a firm's willingness to commit to markets. Firms have a tendency to avoid or reduce uncertainty (Cyert and March, 1963; Thompson, 1967).

### **Perceptions of foreign countries**

Entry choices are made by firms based on the perception of the external business contexts in which the business activities are due to take place. International Business scholars intensively studied the host country. Most research gathers secondary data on the host country variables from official sources. While these are important contributions, in practice decisions are made based on perceptions, not on objective macro-level measures of host country conditions. Primary data on managerial *perception* of host country opportunities, uncertainties and difficulties is studied less often (Collinson and Houlden, 2005). The host country perception has been largely neglected in International Business research. Recently, scholars become aware that the

managerial perception of host country conditions not necessarily mirrors the macro-level measures on host countries (Simon, 1991; Chapman, Gajewska-De Mattos *et al.*, 2008; Dong and Glaister, 2009; Dow, 2009; Jansson, Hilmersson *et al.*, 2009; Oortwijn, 2010b; Oortwijn, 2010c). While most research measures the macro-level variables of host country conditions, the perception is relevant for entry choices (Dow and Karunaratna, 2006; Oortwijn, 2011).

To develop an international business strategy, large amounts of complex data needs to be interpreted about a new and unknown business environment, while data is often only limited available. In new or unknown business environments organizations and decision makers need to interpret and make sense of large amounts of complex and often limited information (Daft and Weick, 1984). To assess new business problems or environments, managers follow implicit theories distilled from prior experience or knowledge (Hohenthal, Johanson *et al.*, 2003; Branzei, Ursacki-Bryant *et al.*, 2004). This activity is referred to as 'sense making' and is often defined as "*efforts to create order and make retrospective sense of what occurs*" (Weick and Roberts, 1993). This means that managers make sense of the new business environments by unconsciously applying relevant cognitive frameworks based on previous business experience, for instance experience in international business or experience within a specific host country. The firm's and manager's international experience influences the present perceptions, foreign entrance choices and global strategic posture (Carpenter and Fredrickson, 2001; Collinson and Houlden, 2005).

Another way, in which firm experience shapes perception, is through the organizational practices that develop over time. These are a reflection of past firm experience and present ongoing business activities. Organizational practices provide for instance conditions of decision procedures, share certain information, raise expectations with regard to punishment or reward and offer specific resources to a manager (Jarzabkowski, 2008). Managers thus interpret situations, within a certain social context and history that is attached to it, based on information provided by organizational information processes that reflect past needs. For small firms, decision making for international business is extra challenging (Knight and Kim, 2009; Oortwijn, 2010d). Given the limited financial and human resources available within most Small and Medium-sized Enterprises (SMEs), international business decisions are often based on know-how, skills and general business competences of the individual SME decision makers (Knight and Kim, 2009).

This paper reports on how host country conditions in China are evaluated in firms with different international business experience. It is not the intention to provide quantitative statistical proof for a relationship between firm experience and host country perception, but rather to reveal a mechanism which requires further investigation: The managerial assessment reflects the learning assumed in the Internationalization theory.

## METHOD

During 2006 and 2007, a number of 25 Dutch firms are studied while making decisions on 54 international business activities in or with China. Data is gathered on the entry strategy, the firm experience in international business and on the perception of the host country conditions. The entry strategy process is studied in time through interviews with the main decision maker. The managerial perception of host country conditions is measured in a Likert-scale survey with 15 statements about host country conditions in China. The physical and cultural distance between China and the Netherlands is significant, providing sufficient material to study how managers respond to perception of opportunities and uncertainties in unknown environments (Hofstede, 1980).

### Data gathered on firm experience

The firm's international business experience is measured semi-structured with factors that are known to influence foreign entry choices. The data is gathered through desk research and checklists in face-to-face interviews. Below the data on firm experience is defined.

#### Level to which the strategy is global

The level of internationalization is rated in two categories:

- Market within the EU and/or Supply chain within the EU
- Global supply chain and market seeking outside the EU

### Number of years

The number of years in international business is a relevant measure for international business experience, though it is a dimension less often discussed (Erramilli, 1991):

- Number of years in international business < 25 years
- Number of years in international business > 25 years

### Percentage of sales abroad

The percentage of sales that is realized outside the home country is a good measure for international business success (Sullivan, 1994; Rugman and Collinson, 2005). In the present study the cases are categorized:

- Sales abroad is < 75% of the total revenues
- Sales abroad is > 75% of the total revenues

### Experience host country

The perception of international business opportunities in a foreign country becomes more realistic, when based on experiential learning (Barkema, 1998; Delios and Beamish, 1999; Petersen, 2008):

- No, no activities in China *or* only trade activities in China
- Yes, a presence in China

### Experience host region

Experience in a host country or neighbouring countries helps understand the foreign opportunities and uncertainties (Barkema, Bell *et al.*, 1996). It is rated in two categories:

- No, no activities in Asia *or* only trade activities in Asia
- Yes, a presence in Asia

## **Data gathered on host country perception**

The data central to this paper is gathered in a structured written questionnaire. The 5 host country conditions are operationalized with three variables per construct. These variables are known determinants for entry choices (Agarwal and Ramaswami, 1992; Kim and Hwang, 1992; Davis, Desai *et al.*, 2000; Brouthers, 2003). Below an overview is provided of the statements per construct. The constructs concern political uncertainty, economic uncertainty, cultural distance, ease to conduct business and size of the opportunity.

### Political uncertainty

Three statements together provide a balanced view on the perception of political uncertainty in the host country:

- *"I don't expect any major changes in the political system in China."*
- *"China will not undo her market reforms."*
- *"The Chinese government offers foreign firms a beneficial investment climate."*

### Economic uncertainty

Economic uncertainty is measured in three different variables, through four different statements. First, the manager is asked directly his/her perception of economic stability. Then the manager is questioned on the long term revenue growth expectations, reflecting expected future growth of the Chinese market (expected revenue in 10 years time minus the expected revenue in 3 years time). In case the Chinese economy does evolve in a manner not beneficial, uncertainty on repatriating investments or profits increase the risk of economic uncertainty as it limits strategic flexibility. The survey statements on perception of 'economic stability' in China:

- *"China is economically stable."*
- *"Sales in China will be a large part of our worldwide revenue in 10 year time."*
- *"Sales in China will be a large part of our worldwide revenue in 3 year time."*
- *"I don't expect any difficulties repatriating profits or investments."*

### Cultural distance

Cultural distance is measured by asking the respondent to what extent they perceive cultural differences between the Netherlands and China. Since geographical distance relates strongly to the level of knowledge of a different

culture, the geographical distance is the second statement. The third statement rated concerns quality standards. In interviews managers explain this to be the most important aspect of cultural distance for decision making.

- *“There are very significant cultural differences between the Netherlands and China.”*
- *“The geographical distance to home does not have a large impact on our decision to do business in China.”*
- *“We can maintain the same quality standards in China as at home.”*

#### Ease to conduct business

The survey statements on perception of ‘ease to conduct business’ in China:

- *“China’s infrastructure (telecom, road net, etc) is limiting business in China.”*
- *“The Chinese government’s general attitude towards foreign companies is positive.”*
- *“Product specifications in our industry are comparable to the Netherlands.”*

#### Size of the Opportunity

Survey statements on perception of ‘size of the opportunity’ in China:

- *“The Sales in China will be a large part of our worldwide revenue within 3 years.”*
- *“Doing business in China will improve our overall margins significantly.”*
- *“Transport cost will highly impact our decision to do business in China.”*

The questionnaire statements are rated by respondents on a five-option Likert-scale. The Likert-scale is coded quantitatively later on, in a rating of 1 to 5, with 5 being the most beneficial circumstances for the foreign company, e.g. for most statements “Strongly disagree”=1, “Disagree”=2, “I don’t know”=3, “Agree”=4 and “Strongly agree”=5. The statements in the questionnaire that are formulated negative, are coded with opposite rating values (“Strongly disagree”=5; “Disagree”=4, “I don’t know”=3, “Agree”=2 and “Strongly agree”=1).

## RESULTS

The analysis reveals how different firms perceive the host country conditions differently for the same host country. Firms with more international business experience worldwide and in China, on average have more optimistic perceptions of China as a host country.

### Worldwide international business experience

Table 1 shows firms grouped into two groups. The firms that already focus outside Europe for both sales and the supply chain, have a more optimistic perception of China as a host country (sum of perceptions is 49.75 versus 45.43 for firms that do not search for market opportunities outside the EU). A One-Way ANOVA test reveals that the difference between the groups is significant, with a p-value of p=0.03. Firms are more optimistic about China as a foreign business environment, when their international business focus already includes countries outside Europe. This optimism is reflected in all five host country conditions.

**Table 1: Host country perception and level of strategy international**

	Global SCM & Market (N=12)		Market or SCM in EU (N=14)	
	Average answer	Standard deviation	Average answer	Standard deviation
Political stability	11.58	1.51	10.57	1.70
Economic stability	7.42	1.56	6.93	1.33
Cultural closeness	10.00	1.21	9.29	1.98
Ease to do business	10.75	2.14	9.57	1.65
Size of the opportunity	10.00	2.37	9.07	1.69
	49.75		45.43	

Perception China: Average of the sum of three ratings on a Likert-scale from 1 to 5, with 5 most optimistic.

**Table 2: Host country perception and number of years international business experience**

	Number of years > 25 years (N=10)		Number of years < 25 years (N=16)	
	Average answer	Standard deviation	Average answer	Standard deviation
Political stability	11.70	1.57	10.63	1.63
Economic stability	7.60	1.58	6.88	1.31
Cultural closeness	9.30	1.25	9.81	1.91
Ease to do business	10.80	1.62	9.69	2.06
Size of the opportunity	10.20	2.44	9.06	1.69
	49.60		46.06	

**Table 3: Host country perception and the percentage of sales realized abroad**

	Sales abroad > 75% (N=9)		Sales abroad < 75% (N=17)	
	Average answer	Standard deviation	Average answer	Standard deviation
Political stability	11.44	1.13	10.82	1.88
Economic stability	7.78	1.64	6.82	1.24
Cultural closeness	10.11	0.60	9.35	2.00
Ease to do business	10.78	1.99	9.76	1.89
Size of the opportunity	9.67	2.60	9.41	1.77
	49.78		46.18	

Table 2 reveals how perceptions differ between firms depending on the number of years they are involved in international business. Again the more experienced firms are more optimistic about China as a host country (sum of perceptions is 49.60 versus 45.06 for firms that do not search for market opportunities outside the EU). A One-Way ANOVA test proves the difference between the groups is just significant, with  $p=0.09$ .

Table 3 shows how perceptions differ between firms depending the percentage of the sales they realize outside the Netherlands. Again, the more experienced firms are more optimistic in their perception of China as a host country (sum of perceptions is 49.78 versus 46.18 for firms that do not search for market opportunities outside the EU). A One-Way ANOVA test for the sum of perceptions per case company reveals that the difference between the groups is just significant, with a  $p$ -value of  $p=0.10$ .

From the above we learn how worldwide international business experience of the firm makes the perception of host country conditions in China more optimistic.

## Host region international business experience

International business experience in host country China shapes the perception of conditions in China even more (table 4). Firms that already have a presence in China are more optimistic about China as a host country. They are on average more optimistic about all five host country conditions. A One-Way ANOVA test is conducted on the sum of the host country perceptions between a group of firms with an existing presence and a group of firms that has no or only trade experience with China. The  $p$ -value of the test is  $p=0.002$ .

**Table 4: Host country perception and International business experience in China**

	Existing presence China (N=7)		Trade/No experience China (N=19)	
	Average answer	Standard deviation	Average answer	Standard deviation
Political stability	12.14	1.68	10.63	1.50
Economic stability	8.00	1.63	6.84	1.26
Cultural closeness	9.86	1.35	9.53	1.81
Ease to do business	11.57	1.27	9.58	1.89
Size of the opportunity	10.71	2.36	9.05	1.78
	52.29		45.63	

Perception China: Average of the sum of three ratings on a Likert-scale from 1 to 5, with 5 most optimistic.

**Table 5: Host country perception and International business experience in Asia**

	Existing presence Asia (N=16)		Trade/No experience Asia (N=10)	
	Average answer	Standard deviation	Average answer	Standard deviation
Political stability	11.30	2.00	10.88	1.45
Economic stability	7.70	1.70	6.81	1.17
Cultural closeness	9.80	1.14	9.50	1.97
Ease to do business	11.10	1.79	9.50	1.83
Size of the opportunity	10.00	2.45	9.19	1.76
	49.90		45.88	

A similar analysis is conducted dividing the firms into two groups depending on their experience in Asia (table 5). The first group with a presence in Asia and the second with no or only trade experience in Asia. The firms with a presence in Asia are more optimistic on all host country conditions. The difference is largest on the perceived 'ease to conduct business'. The p-value of the One-Way ANOVA test on the variances between groups for the sum of the five perceptions, results in  $p=0.06$ . On average, firms with a presence in Asia perceive host country China (49.90) significantly more optimistic compared to firms without a presence in Asia (45.88).

The analysis reveals how the perception of the conditions in host country China varies between firms, depending on firm experience in international business. Firms with more international business experience are more optimistic about conditions in the host country China. Confidence in foreign markets grows with firm experience. The optimism in perception is most notable for firms with a presence in China.

## FINDINGS

The role of the managerial cognitive processes is a factor mistakenly ignored in IB research. Managerial perceptions of host country business conditions differ from general macro-level measures of host country conditions (Chapman, Gajewska-De Mattos *et al.*, 2008; Dong and Glaister, 2009). The present work reveals a mechanism which at least partially explains why the macro-level measures and perceptions of the host country differ. The main contribution of this paper is that it links firm international business experience to managerial perceptions (Cho and Padmanabhan, 2005). The learning effect of international experience is reflected in the perception of the host country conditions. The intention of the paper is not to provide statistical significant support for this claim, but rather to reveal it as a mechanism which needs further investigation.

### Impact findings

The most common trend across the various sorts of firm experience across the five host country conditions is that perceptions become more optimistic with increasing firm experience. These findings are in line with the underlying assumption of the Uppsala model, that experiential knowledge reduces perceptions of host country uncertainty and risk (Hadley and Wilson, 2003). The results on firm experience and host country perception uncovers and makes explicit the learning process of international business within the firm. Another findings is how experience within the host country and host region shapes the perception more significantly compared to general international business experience.

These effects have hardly been studied before and are just limited taken into account in previous work in International Business. Knowing these effects exists, the biased sampling in previous work towards large MNEs certainly is an issue for the generalizability of research. More work can be done to apply these insights in the field of international business study and entry choices. A few studies reveal how individual experience impacts managerial choices on expansion (Buckley, 2007; Hutzschenreuter, Pedersen *et al.*, 2007). Individual managers are influenced by contextual factors and by personal and group cognitive processes (Yiu and Makino, 2002; Collinson and Houlden, 2005). It is the *perception* that in the end impact foreign entry choices, not so-called macro-level measures as reported by institutions.

Policy makers can benefit from the research findings, as it becomes clear how firms perceive the host country different depending on their history in international business in general and in the host region specifically. Firms with more optimistic perceptions more often decide to start conducting business with that market (Oortwijn, 2010a; Oortwijn, 2011). Moreover, firms with more optimistic perceptions more often choose a WOE, JV or partnership entry mode (Oortwijn, 2011). These entry modes support long term economic growth in a host country. Familiarity with the host country supports business activities of foreign firms in a host country. Policy makers thus do well to share knowledge of and insight in the general business conditions in the host country, to create a perception of “familiarity” and “understanding”. Moreover, previous work finds that perception of familiarity is best created through interaction with local firms (Eriksson, 2003; Schwens and Kabst, 2011). Policy makers could help facilitate networking activities of foreign firms. Another opportunity lies in de finding that firms with a presence in the host country, perceive China as a host country most optimistic. Extra attention of policy makers for firms with an existing presence, can lead to successful expansion of their business activities.

## Research limitations

The paper does not aim to provide statistical proof of how the assumed learning within the internationalizing firm is reflected in the perception of host country conditions, but rather aims to reveal its existence and relevance. Despite the promising quantitative findings, further research is recommended with larger sample sizes, including varying home and host countries. The host and home country both influence the entry decisions and the perceptions of foreign business conditions, and the same is true for a combination of a host and home country (Chapman, Gajewska-De Mattos *et al.*, 2008; Dimitratosa, Petroub *et al.*, 2011).

The nature of the research, including comparative analysis of managerial assessments of the host country, requires the selection of cases based on one host country and one host country. Otherwise, comparison of managerial perceptions is not feasible. As a result, all findings are based on the perception of one host country, i.e. China. The mechanisms revealed are assumed similar for other home and host countries, while at least the size of the effects is likely different per country. The host country conditions in China themselves are different from other countries, which has an impact on the (variations in) perceptions of conditions (Eicher and Kang, 2005; Madhavan and Iriyama, 2009).

Though it was critical for the research design to limit the scope of the research to one home country and one host country, this is also a limitation. Firms with a home market in small open economies, like the Netherlands, tend to undertake rapid internationalization to either grow revenue, or achieve scale economies or cost advantages to compensate a limited scale typical for the home market (Bellak and Cantwell, M. Storper, Thomadakis, S., Tsipouri, L., 1998; Petersen, 2008). Dutch firms are more likely to pursue international business activities than firms from other countries. Also, the perceived pressure to expand operations abroad may overshadow the perceived uncertainties and risk of entering a foreign country. Moreover, the Dutch have a long

history in international business, which shapes their perception of and behavior towards other cultures. However, these characteristics for the Dutch home market do not interfere with the overall findings of the paper.

Another recommendation is to investigate how different experiences influence the perceptions of the various sorts of host country conditions. The present work suggests that experience in the host country shapes perceptions most. One recommendation is to study a broader set of firm and manager characteristics, to reveal how the different conditions of the host country are perceived differently within various working contexts. In-depth longitudinal study is recommended to learn about growth in firm experiential knowledge, influences the patterns of host country perception (Chetty, 2006). This will help understand what the mechanisms are that relate the experience to opinion forming on commitment to foreign countries.

## REFERENCES

Agarwal, S. and S. N. Ramaswami (1992). "Choice of foreign market entry mode: Impact of Ownership, Location and Internationalization factors." Journal of International Business Studies **23**(1): 1-27.

Aharoni, Y. (1966). *The Foreign Investment Decision Process*. Cambridge, Harvard University Press: 362.

Barkema, H. G., H. J. Bell and J. M. Pennings (1996). "Foreign entry, cultural barriers, and learning." Strategic Management Journal **17**(2): 151-166.

Barkema, H. G., Vermeulen, F. (1998). "International expansion through start-up or acquisition: A learning perspective." Academy of Management Journal **41**(1): 7-26.

Branzei, O., T. J. Ursacki-Bryant, I. Vertinsky and W. Zhang (2004). "The formation of green strategies in Chinese forms: Matching corporate environmental responses and individual principles." Strategic Management Journal **25**(11): 1075-1095.

Brouthers, K. D., Brouthers, L.E. (2003). "Why service and manufacturing entry mode choices differ: The influence of transaction cost factors, risk and trust." Journal of Management Studies **40**(5): 1179-1204.

Buckley, P. J., Devinney, T.M., Louviere, J.J. (2007). "Do managers behave the way theory suggests? A choice-theoretic examination of foreign direct investment location decision-making." Journal of International Business Studies **38**(7): 1069-1094.

Carpenter, M. A. and J. W. Fredrickson (2001). "Top management teams, global strategic posture, and the moderating role of uncertainty." Academy of Management Journal **44**(3): 533-545.

Chapman, M., H. Gajewska-De Mattos, J. Clegg and P. J. Buckley (2008). "Close neighbours and distant friends: Perceptions of cultural distance." International Business Review **17**(3): 217-234.

Chetty, S., Eriksson, K., Lindbergh, J. (2006). "The effect of specificity of experience on a firm's perceived importance of institutional knowledge in an ongoing business." Journal of International Business Studies **37**(5): 699-712.

Cho, K. R. and P. Padmanabhan (2005). "Revisiting the role of cultural distance in MNC's foreign ownership mode choice: The moderating effect of experience attributes." International Marketing Review **14**(3): 307-324.

Chung, H. F. L. and P. Enderwick (2001). "An investigation of market entry strategy selection: Exporting vs Foreign Direct Investment modes - a home-host country scenario." Asia Pacific Journal of Management **18**(4): 443-460.

Collinson, S. and J. Houlden (2005). "Decision-making and market orientation in the internationalization process of small and medium-sized firms." Management International Review **45**(4): 413-436.

- Cyert, R. M. and J. G. March (1963). A behavioral theory of the firm. Cambridge, Blackwell Business.
- Daft, R. L. and K. E. Weick (1984). "Toward a model of organizations as interpretation systems." Academy of Management Review **9**(2): 284-295.
- Davis, P. S., A. B. Desai and J. D. Francis (2000). "Mode of international entry: An isomorphism perspective." Journal of International Business Studies **31**(2): 239-258.
- Delios, A. and P. Beamish (1999). "Ownership strategy of Japanese firms: Transactional, institutional and experience influences." Strategic Management Journal **20**(10): 915-933.
- Dimitratosa, P., A. Petroub, E. Plakoyiannakic and J. E. Johnson (2011). "Strategic decision-making processes in internationalization: Does national culture of the focal firm matter? ." Journal of World Business **46**(2): 194-204.
- Dong, L. and K. W. Glaister (2009). A comparison of managers' perception of culture differences and measures of cross-country differences: Evidence from Chinese International Strategic Alliances. AIB, San Diego, California, USA.
- Dow, D. (2009). Factors influencing perceptions of psychic distance. AIB, San diego, California, USA.
- Dow, D. and A. Karunaratna (2006). "Developing a multidimensional instrument to measure psychic distance stimuli." Journal of International Business Studies **37**(5): 578-602.
- Eicher, T. and J. W. Kang (2005). "Trade, foreign direct investment or acquisition: Optimal entry modes for multinationals." Journal of Development Economics **77**(2): 207-228.
- Eriksson, K., Chetty, S. (2003). "The effect of experience and absorptive capacity on foreign market knowledge." International Business Review **12**(6): 673-695.
- Erramilli, M. K. (1991). "The experience factor in foreign market entry behaviour of service firm." Journal of International Business Studies **22**(3): 479-501.
- Hadley, R. D. and H. I. M. Wilson (2003). "The network model of internationalization and experiential knowledge." International Business Review **12**(6): 697-717.
- Hofstede, G. (1980). Culture consequences: International differences in work-related values Beverly Hills, Sage.
- Hohenthal, J., J. Johanson and M. Johanson (2003). "Market discovery and the international expansion of the firm." International Business Review **12**(6): 659-672.
- Hutzschenreuter, T., T. Pedersen and H. W. Volberda (2007). "The role of path dependency and managerial intentionality: A perspective on international business research." Journal of International Business Studies **38**(2): 1055-1068.
- Jansson, H., M. Hilmersson and S. Sandberg (2009). The perceived institutional distance in the internationalization process of firms: A proposed model for measuring managerial perception in emerging country markets. AIB, San Diego, California, USA.
- Jarzabkowski, P. (2008). "Shaping strategy as a structuration process." Academy of Management Journal **51**(4): 621-650.
- Johanson, J. and J. E. Vahlne (1977). "The internationalization process of the firm: A model of knowledge development and increasing foreign market commitment." Journal of International Business Studies **8**(1): 23-32.

- Kim, W. C. and P. Hwang (1992). "Global strategy and multinationals' entry mode choice." Journal of International Business Studies **23**(1): 29-53.
- Knight, G. A. and D. Kim (2009). "International business competence and the contemporary firm." Journal of International Business Studies **40**(2): 255-273.
- Li, P. Y. and K. Meyer (2008). "Contextualizing experience effects in international business: A study of ownership strategies " Journal of World Business **44**(4): 370-382.
- Madhavan, R. and A. Iriyama (2009). "Understanding global flows of venture capital: Human networks as the "carrier wave" of globalization." Journal of International Business Studies **40**(8): 1241-1259.
- Maitlis, S. (2005). "The social processes of organizational sensemaking." Academy of Management Journal **48**(1): 21-49.
- Oortwijn, G. J. M. (2011). Foreign entry commitment as a human choice: An empirical study of how firm and manager experience impact the entrance decision and the entry mode choice through the managerial assessment of host country conditions in China. Warwick Business School. Coventry, University of Warwick. **PhD**: 375.
- Oortwijn, M. (2010a). Empirical support for the Internationalization process theory in foreign entry Go/No-Go decisions. Nineteenth World Business Congress, Konya, Turkey, IMDA.
- Oortwijn, M. (2010b). Foreign entry commitment as a human choice: The managerial assessment of host country conditions as an additional level of analysis in International Business. Nineteenth World Business Congress, Konya, Turkey, IMDA.
- Oortwijn, M. (2010c). How a host country is evaluated differently within firms of different firm size: Comparing the assessment of China as a host country. EACES, Tartu, Estonia.
- Oortwijn, M. (2010d). Small firms more often develop strategies for opportunities instead of opportunities for strategies, which frequently leads to No-Go decisions: A comparative case study on foreign entry into China. High Technology Small Firms Conference, Enschede (Netherlands).
- Pan, Y. and D. K. Tse (2000). "The hierarchical model of market entry modes." Journal of International Business Studies **31**(4): 535-554.
- Penrose, E. T. (1959). The theory of the growth of the firm. Oxford, Basil Blackwell.
- Petersen, B., Pedersen, T., Lyles, M.A. (2008). "Closing knowledge gaps in foreign markets." Journal of International Business Studies **39**(7): 1097-1113.
- Rugman, A. and S. Collinson (2005). "Multinational enterprises in the new Europe: Are they really global?" Organizational Dynamics **34**(3): 258-272.
- Schwens, C. and R. Kabst (2011). "Internationalization of young technology firms: A complementary perspective on antecedents of foreign market familiarity." International Business Review **20**(1): 60-74.
- Simon, H. (1991). "Bounded rationality and organizational learning." Organization Science **2**(1): 125-134.
- Sullivan, D. (1994). "Measuring the degree of internationalization of a firm." Journal of International Business Studies **25**(2): 325-342.
- Thompson, J. D. (1967). Organizations in action: Social Science bases of administrative theory. New York, McGraw-Hill.

Weick, K. E. and K. H. Roberts (1993). "Collective mind in organizations: Heedful interrelating on flight decks." Administrative Science Quarterly **38**(3): 357-383.

Yiu, D. and S. Makino (2002). "The choice between joint venture and wholly owned subsidiary: An institutional perspective." Organization Science **13**(6): 667-683.

# **WEB SITES AND THE CHOICE OF TOURISTIC DESTINATIONS HEALTH TOURISM IN TUNISIA**

**Dhouka Oueldoubey and Imed Zaiem**  
**FSEGT, Tunisia**

## **ABSTRACT**

*Nowadays, a new solution for choosing a tourism destination is to use Internet. The purpose of this communication is to identify the characteristics of the website and personal variables of the E-client influencing the choice of a tourist destination via the net. The application concerned a sector of the health tourism in Tunisia. Through a questionnaire survey among a sample of 216 tourists, we were able to demonstrate that the criteria that are linked to the site, readability and design have a positive effect on the choice of a tourism destination as well as tourism personal variables: age, gender, civil status , number of children and life style. This has enabled us to draw a number of managerial implications.*

## **INTRODUCTION**

The service sector was considered as a source of wealth and benefits for most of the economies in the world, during the last two decades. Occupying a rather important place, the sector of tourism does not cease to evolve and achieve impressive booms. From here springs our research scheme, which is to provide an academic input that would enhance online tourism. Internet, today, takes the toll over all sectors, and the consumer is now able to satisfy his/her need with a simple click. Therefore, even the sector of tourism has come to take advantage of this technology and has lately been implementing electronic catalogues for the range of its products and services. Thanks to their variety, typology and objectives, websites are certainly inexhaustible sources of information and services. At such an advancing stage, hotels, travel agencies and airline companies present their e-services for international customers. We are, therefore, under the duty to examine the characteristics of the e-customer, who accepts, momentarily, these new access ways to intangible services, until the arrival at the touristic destination.

Additionally, we have come close to a new dimension, that has not been much exploited, yet modeled by internal services (Sociodemographic, life style, and profile variables), the internaut is as well guided by the variables discovered during the navigation and that are related to the website, with which he/she interacts and starts the selection process. We are, then, to study the input of readability, design and navigability of the site. Thus, our main query will be: « What are the characteristics, related to the website and to the E-customer, which affect the online selection of a touristic destination? »

It will be then interesting to examine the effect of the relationship between the personal variables and the website's characteristics on the choice of a health tourism destination. Such an orientation springs from the important emergence of the sector of health tourism in Tunisia and its development at an international level, demonstrated by a continuing rise in investment affecting this rapidly changing sector. We shall, first of all, define the relationship between tourism and Internet; we will then present the website as a strategic tool to promote a destination. Finally, we shall examine the personal variables that affect the online selection of a touristic destination.

## **The relationship between tourism and the Net.**

The World Tourism Office defines tourism with reference to its functional and organic features linking development, production, distribution and marketing of products and services designed to meet the travel needs and pleasures, an initiative that can come out of either private bodies, or public ones. According to Universalis encyclopedia, tourism is about spending leisure time outside one's principal residence place, having allocated an extra budget to cover expenses for that specific time. For Tissot (2007), the traveler uses the touristic fund to satisfy leisure needs and to take the maximum advantage of the touristic experience. The principal variables of tourism are transport, accommodation and attraction. Tourism is characterized by its limited duration, intangibility, the multiplicity of its components and by a well determined geographical area.. Internet has taken the toll on tourism as a business; and, according to Hudson (2002), many classic touristic companies make their own websites; whereas, others prefer referencing via other companies. Hence, the most active businesses of this sector, like airline companies, car rental agencies and international hotel chains, rapidly adhered to this strategy, cancelling all intermediaries and favorizing direct contact with the customer. In this context, statistics of online transactions have shown that most online purchasing is related to travel and transportation services, according to Hudson (2002). Internet and new information technologies were able to reflect their benefits on the sector of tourism by offering the ability to answer massive growing demands of the sector by maximizing the capacity, flexibility and connectivity. E-tourism is, thus, a sort of conquest to this new network. Internet provides benefits for all its users in the tourism business.

## THE WEBSITE: A STRATEGIC TOOL TO PROMOTE A DESTINATION

According to the electronic encyclopedia « WIKIPEDIA », a website is “a collection of related web pages that are addressed relative to a common URL address”. Galan notes that «the website has become a place of service and encounter». The website is then defined as the technical interface that maintains the encounter and service between a company and its customers... The online selection of a touristic destination is characterized as well by the absence of some variables that exist in traditional tourism: by this, we mean the absence of intermediaries. The photos, the images of the most admired places in addition to visitors' comments are factors that help a tourist make a final choice. In fact, using this technology, in the hope of making a successful destination choice, is credited to the fact that Internet has no constraints of distance, time and place, and that it allows easy exchange of information, according to Russel.W.(2007). The first motive behind a tourist's choice of a short holiday, according to Pike.s, (2007), is the need to relax, to re-energize, to take a step back from one's busy life, and to build new relations and live, for a while, by their standards.

The elements of a « service package», offered by a retail website, are multiple and linked to logistics and selected services... (as per the chart below). Thus, according to the specialists, the distinction between websites is done, essentially, on the basis of whether or not the website provides an online retail service.

### Readability

Readability is one of the main characteristics of a website. By this, we mean the ability of the internaut to understand the content of a website and satisfy his/her need with the minimum numbers of clicks possible. According to Gonzalez (2005), readability is the degree of ease with which the website guides the consumer and helps him eventually through his/her search. The same source cited above states that the perceived readability springs actually from the consumer's ability to explore the content of the website and to finally take decisions (know where he/she is, know where to go next, and know how to) (Lynch, 1974, O'Neill, 1991). But the perceived readability springs also from the customer's ease in making decisions (knowing how to look for the desired information, knowing how to go back to the starting point). This explanation will be demonstrated in our case in point, in which the tourist consults the website for the selection of his/her touristic destination. This leads us to our third point of study.

***H1: Readability affects positively/negatively the online selection of a touristic destination.***

Some surveys have demonstrated that airline companies can realize an increase in sales of at least 33% by refining their web ergonomics.

Let's examine the importance of this feature in the following paragraph.

## Website ergonomics

In a real outlet store, the general atmosphere plays an important part in promoting the goods and attracting customers. According to Lemoine (2005), the salesmen aim at increasing their sales significantly by animating the outlet store, by diversifying the music, the scents and the deco. Similarly, the website has its own unique atmosphere, namely, its Design. Here we approach one of the most important variables of our survey, the specificities of the website are fundamental in enhancing the acceptability of the navigation by a possible customer: the ergonomics. According to Ladwin (2001), « It is at this point that ergonomics of the selling website take a considerable importance». Therefore, the satisfaction of the internaut, his/her decision to purchase and even his/her loyalty are considered potential results. The comfort felt from using a selling website is the variable that explains the satisfaction of online buyers, according to Szymanski(2000). Before we state our research hypothesis, it is necessary to note that ergonomics can be divided in three parts related to design features. Our hypothesis is then constructed as follows:

***H2.1: the design that aims at facilitating the transaction affects positively/negatively the online selection of a touristic destination.***

The tourist tends to consult websites that he/she knows are simple and in which he/she can easily and rapidly find his/her quest. The work of researchers, who were interested in website ergonomics, has differently treated this concept. According to Ladwin views (2001), the main points were summarized as follows:

- Web pages ergonomics
- Their content, from a formal point of view
- Ergonomics of the sites' structures

According to MAT, the easy usage plays an important role in determining the perceived usefulness of the site.

Besides, According to Gorn(2004), who studies one of the most interesting components, which is the background color of the site and the role this plays in attracting and providing comfortable usage for the internaut. Additionally, research done by Henderson (2004), suggests that even the used script type can have an impact on the internaut and on his/her online connection in a given website. According to Katerattenakul(2002), the design of a website relies essentially on the fact that it should facilitate the transaction, the pleasure or the search for information. We can then understand that the characteristics of a website take many aspects and dimensions: cognitive, social, ludic and technical. Each dimension is sub-developed in order to further add characteristics to a website such as the informational feature, popularity, entertainment, vivacity, interactivity and of course easy navigation. We can now conceive our second sub-hypothesis:

***H2.2: The design that aims at entertainment affects positively/negatively the online selection of a touristic destination.***

In fact, the tourist that uses Internet to look for information about the place to be visited will equally look for a virtual online experience of the prospected holiday. Other views, like those of Danaher (2006), assert that variables such as intangibility, graphics and commercial content have a direct impact on the duration of the visit.

This explains the internauts' preference of one web site over others, the fact that will gain their confidence and loyalty at a later stage; therefore, according to Chouk(2004), « the confidence at this stage is an indicator of future behavior towards the site. ». In fact, the web site has the duty to revive the world of the advertised brand and therefore meet the characteristics of easy navigation, quality of the content and level of the service. In the case of tourism, the internaut who uses websites to have an idea about his/her next touristic destination is actually looking for a virtual experience and a first taste of the desired holiday. The characteristics of the website will be able to offer this thanks to audio visual features, photos and sufficient information. Our third sub-hypothesis is then taking shape as follows:

***H2.3: The design aiming at an easy search affects positively/negatively the online selection of a touristic destination.***

The requested information are not of the read-only type nor are they to fill a gap in the user's mind, the tourist is looking for more online assistance, an advice or even looking to terminate the decision making process

by booking. In this case, and according to Yakov (2005), the future tourist expects that the transaction be secure and perfectly discrete of his/her personal data. Generally, the internaut systematically admits online references according to the visible characteristics of the site (ergonomics and navigability). But, Ladwin (2001) also indicates that this choice is linked to internal variables of the internaut him/herself such as the expertise, capacity of storing information and the operational command of the website.

## THE PERSONAL VARIABLES

Are also called individual characteristics, they refer to a person's proper variables. According to Miltgen et Al (2005), in a digital context, these characteristics are made of socio-demographic data, life style, as well as of the internaut's profile. We shall examine hereafter these three concepts.

### Socio-demographic data

It is a very broad context that is largely used in marketing thanks to its ability to provide very important data about the target in a very easy way. This consists of sex, age, civil status, occupation, housing ... The examination of this type of information during the processing of data about tourists helps us have a preliminary idea about the characteristics of this sample of consumers. In addition to that, the availability of these data about the e-tourist helps trace an idea, always in connection with this sample, but also closely related to these consumers' familiarity with Internet and its use in tourism. The e-tourist uses Internet only to have information about his/her destination and consequently make a decision. This point allows us to present our hypothesis.

**H3: socio-demographic data have an impact either positively/negatively on the online selection of a touristic destination.**

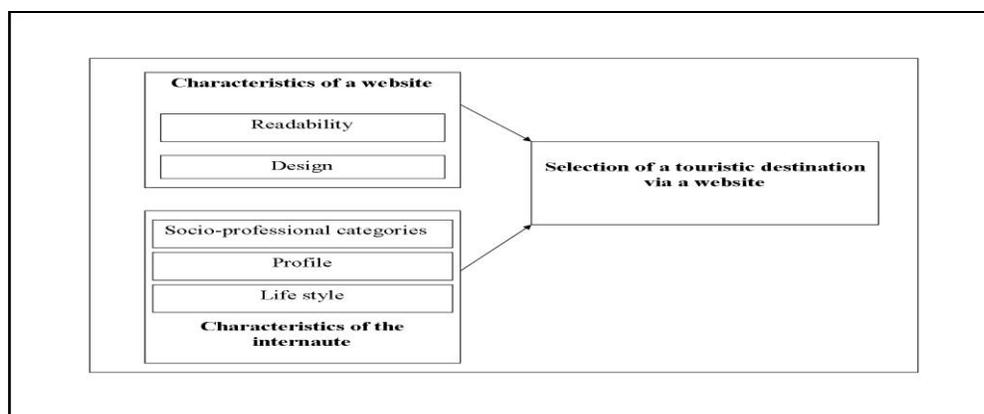
### Life styles

This concept was used in marketing after having been largely used in other social study fields. In psychology, Life style is a « tool of affirmation and differentiation of social statuses ». From a social perspective, to adopt a life style indicates « the belonging to a group and the will of a person to be differentiated from those who do not belong to his/her group ». The most comprehensive definition was provided by Wind and Green (1974) who attributed to the life style 3 distinctive characteristics: 1) Activities, interest and attitude; 2) Values and personal characteristics; 3) Consumer behaviour.

Therefore, in tourism, the life style plays a major part in the determination of the individuals who are interested in the sector's activities, and who have rather particular life style characteristics. Hence our next hypothesis:

**H4: Life style influences positively/negatively the online selection of a touristic destination.**

As a summary of this part, we can schematize our theoretical framework as follows (see scheme below)



## **METHODOLOGY OF THE RESEARCH**

The data that have served as a testing basis for our work hypothesis and as answers to the aim of the research have been collected through the means of a survey-questionnaire. This type of questionnaire was applied on an appropriate sample of 216 tourists, who came to Tunisia to benefit from health-tourism. Nevertheless, and in the hope of ensuring a better internal validity of the study, we have distributed our questionnaires to: 3 famous hotels in Tunisia (with seaside and thalasso-therapy resorts), and to 3 clinics (specialized in plastic surgery). The choice of the application sector to be health tourism was justified by its important rise in Tunisia. The last figures show that more than 40 000 Lybian and Algerian patients come to Tunisia every year for medical treatment; this was thanks to the implementation of a high-level medical infrastructure with renowned medical and paramedical competences. This sector attracts Western tourists as well, again thanks to our distinguished competences and « well-priced » services. We will first of all present our measurement scales for the characteristics examined by our study, and will also present an optimization of our built-in theories.

### **ANALYSIS OF DATA: SIMPLE CORRELATION**

For the data analysis, we used version 11.0 of the software SPSS (Statistical Package for the Social Sciences). With the help of this software, we managed to do a factor analysis of principal components using the appropriate scales to measure variables of our model. We also worked on an analysis of reliability by calculating the Cronbach alpha for each factor. We used the method of simple correlation in order to test the resulted hypotheses in relation to the choice of a touristic destination, readability and design of a website on one hand, and to socio-demographic characteristics, profile and the internaut's life style on the other. In order to be able to verify the relations between the different characteristics one by one, we used Pearson correlation test method. Our aim is to examine whether 2 variables, measured on the basis of the same observation pattern, do vary in an analogical way or not. Its sign will be the direction of the relation: the positive values corresponding to variations of the same direction, and the negative values to those of the reverse direction. It is important to note that the correlation index characterizes a linear constraint between two variables. If the index is near or equal to the unit, this indicates a total dependence between the two variables, if, on the contrary, its value is null, there will be interdependence between them. If its value is between 0 and 1, this shows a partial dependence between the two variables.

## **RESULTS OF THE STUDY**

### **Purification of measurement scales**

In this first step, we will test the reliability of internal coherence of the measurement scales of readability, design, profile and life style with the help of Cronbach Alpha. In fact, from a practical point of view, the works of Evrard et Al (1993) and Vernet (1991) have stated that, for an explorative study, the alpha is acceptable if it is between 0,6 and 0,8, and that for a confirmation study, a value that is superior to 0,8 is recommended. Thus, for each measurement scale, the items which are of low quality representation (<0,4) will be eliminated, as well as those which have a contribution superior to 0,3 on several factors at a time (even after rotation) in addition to all items having no contribution superior or equal to 0,5 over one of the principal components identified.

### **Purification of the readability scale**

The readability scale comprises 2 items. It was taken from research done by Yakov B. et Al (2005) in a context of electronic commerce. The observed value 0,87 of Cronbach  $\alpha$  lead us to consider that the reliability of this scale is satisfactory. The ACP applied on the 2 items measuring readability of the site shows only one principal component explaining 42 % of the total inertia. The analysis of KMO index (0,5) shows that the quality of the ACP is globally good.

## **Purification of the design scale**

The works of Katerattanakul .P (2002) have demonstrated that the design is a variable that measures navigability of an internet site and that could be sub-divided into 3 sub-variables which are :The design aiming at facilitating the transaction ,The design targeting pleasure, The design aiming at facilitating the search for information. The analysis of principal components has allowed us to keep 5 axes explaining 67.48% of the totality of information with a KMO equal to 0.674 very near of 0.7, and an index of Bartelette test =  $0 < 0.05$ ; it is therefore a pertinent and significant result of the ACP. The first ACP has shown that several items have important loadings on many factors, which explains that these latter were at risk of not being independent from each other. In this perspective, we have done diagonal rotations (using the PROMAX method of SPSS) that permit inter-correlations between the factors. Following these rotations, we could eliminate the ill-represented items (from a malformation probability). A second ACP was then built with three kept axes and the number of items reconsidered .Therefore, if we try to label our axes, we will call the first « **AXIS OF THE DESIGN AIMING AT FACILITATING THE TRANSACTION** » . The second axis will be considered as the axis relative to the «**DESIGN AIMING AT FACILITATING THE SEARCH FOR INFORMATION**». As for the third axis, the items that appeared could not point at the design that targets the pleasure of the internaut. The works of Yakov(2005) and Nantel (2005) have demonstrated a strong connection between navigability of the site and the sensation of pleasure that the internaut feels during a successful connection to a website. A reading of the items contained in the third axis allows us to characterize this latter as the axis of « **navigability** » rather than axis of pleasure. In fact, according to Novak and Hoffman (1997), the rapidity with which a task can be accomplished on a website is an efficient indicator of its navigability. In addition to that, Hoffman and Novak (1996) provide us with the classic definition of navigability as being the process of spatial orientation of the internaut.

## **Purification of the profile scale**

Literature written in this respect provides us with 3 profiles for the internauts: utilitarians, the web pros and the scepticals. Our scale was taken from works of Cases et Al (2003). In our case, the analysis of principal components resulted in 4 axes of 12 items, which explained 72.29% of the totality of initial information with a KMO equal to 0.683 near to 0.7, in addition to one index of significance equal to 0. Therefore, the matrix is pertinent. The post-rotation matrix results eliminated the misrepresented axes and gave a better coherence between the items. The descriptive analysis of each axis allowed us to specify and label all axes following the information that they contained. In fact, the items contained in the first axis indicate the characteristics of the first type of the internaut's profile, the web pros.The third axis characterized the profile of the internauts who are less familiar with Internet, the scepticals. The first axis will be that of the utilitarians. Regarding the second axis, we could detect the presence of items used both by utilitarians and scepticals. This is a mutant profile between these 2 major classes characterizing people recently « converted » to Internet but for utilitarian use only. They are known for their short connection time (specificity of the scepticals) and for their attachment to Internet for its rapidity and good bargains (characteristics of the utilitarians). We called this axis, the axis of the « **sceptarists** ».

## **Purification of the lifestyle scale**

This scale is taken from the works of Florence P.V (1999).The analysis of principal components has produced two axes of 7 items explaining 56.1 % of the totality of the initial information. If we try to describe the two axes, we can notice that the first axis is about the people who are most attracted to « **package tours** » when selecting their touristic destination, “they like to revisit places where they have already been but also dream to go somewhere new”. They give a lot of importance to cultural diversity, to their security and high quality accommodation. The second axis refers to tourists who « **give a major importance to travelling with family and hope to escape from the work stress**».

# **PRESENTATION OF THE RESULTS**

Our study has shown the correlation between the variables that are susceptible to shape the online selection of a touristic destination.

### **Verification of the impact of readability and design on the selection of a touristic destination:**

The readability factor acts positively on the navigability of the website and consequently, on the online accomplishment of a task. As for the navigability factor, significativity/relative importance was equal to 0.27, a high number is consequently not a good factor to keep for the selection of a touristic destination. Let us move to study the factor of the search for information easy transactions, we could distinguish a significativity/relative importance equal to 0.00 they are then good factors through which the internaut judges an Internet site and makes his choice of the touristic destination (see appendices)

### **Verification of the impact of socio-demographic data on the selection of a touristic destination:**

- **Age/choice of a touristic destination :** According to the results, the specific type of tourism studied (medical tourism) attracted principally an age-group between 35-45 years: the adult age-groups: the « mi-seniors ».
- **The gender/choice of a touristic destination :** The khi two test showed a significativity equal to 0.598 which undermines this hypothesis stating that the online selection of a touristic destination is not influenced by gender.
- **The Socio Professional Category/the choice of a touristic destination :**60.4% of the respondents who were executive officers declared that they made their choice of touristic destination via the net.
- **The educational level/the choice of a touristic destination :**The selection of a touristic destination is negatively affected by the educational level.
- **The civil status/choice of a touristic destination :**73.4% of the respondents who did their choice of touristic destination via the net were couples.
- **Number of children/choice of a touristic destination :**Pearson's khi two equal to 0.27 lead us to a confirmation of this hypothesis.The tourist, who chooses his /her touristic destination via the net, as explained previously, thinks about the number of persons to accompany him/her and consequently his/her children.

### **Verification of the impact of the life style on the online selection of a touristic destination:**

Tourism remains for some linked to a life style of a specific group of consumers. We tried, throughout this research, to verify the impact that this variable had in the selection of a touristic destination via the net. It turned out that this was not a verified hypothesis and that this choice is not influenced by life styles.

The following chart summarizes all the results and validations of hypotheses:

<b>HYPOTHESES</b>	<b>RESULTS</b>
H1: Readability of a website would affect the online selection of a touristic destination.	Confirmed
H2: Design of a website would affect the online selection of a touristic destination.	Confirmed
H2.1: The design aiming at facilitating transaction would affect the online selection of a touristic destination.	Rejected
H2.2 : The design targeting pleasure would affect the online selection of a touristic destination.	Confirmed
H2.3: The design aiming at facilitating the search would affect the online selection of a touristic destination.	Confirmed
H3: Socio-demographic data affect the online selection of a touristic destination.	Confirmed
H3.1: Age influences the online selection of a touristic destination.	Confirmed
H3.2: Gender influences the online selection of a touristic destination.	Rejected
H3.3: socio-professional category influences the online selection of a touristic destination.	Rejected
H3.4: Educational level influences the online selection of a touristic destination.	Rejected
H3.5: Civil status influences the online selection of a touristic destination.	Confirmed
H3.6: Number of children influences the online selection of a touristic destination.	Confirmed
H4: Life style influences the online selection of a touristic destination.	Rejected

## **Executive Implications**

At this stage, our survey's main objectives were to determine the effective causes behind the tourist's selection of a touristic destination via the net.

We picked two different variables and studied their impact on this choice:

- Variables linked to the website: readability and design.
- Variables linked to the internautes: socio-demographic variables, profiles and life styles.

This has led us to conclude, by confirming research hypotheses that the selection of a touristic destination via the net is principally linked to readability and design (targeting pleasure and facilitating the search) in addition to socio-demographic variables (age, sex, SPC, civil status). These results can be greatly used for other surveys, especially in the Tunisian market still expanding in this field. This segmentation/typology will enable the managers and decision makers either in health facilities or hotels to trace the line under this age-group, to try to further satisfy them and study the constraints of attracting other groups of tourists as well. This will also help them improve their services and better target their customers, and will also help webmasters and people in charge of designing web sites to better focus their work on the previously studied affecting the internaut.

## CONCLUSION

Throughout this research, we were interested in a specific type of tourism that has lately been exploited and that is in the way of expansion in Tunisia. Even though we focused only on individuals who made their selection of the touristic destination online, a sampling complement would have been equally interesting had we considered all tourist types whatever their way of collecting information or taking the decision. Besides, our study was focused on international customers, who use the net as a tool for their search for information, and from this point we noticed that the Tunisian tourist is still reluctant in using this service. We tried to prove that the websites of the Tunisian tourism facilities can create a busy business and attract interesting customers. The results are generally similar; there is only a difference at the level of the hypothesis regarding security of transaction via a web site, we found a difference between the application and the Tunisian and European context. Our aim was to distinguish the link between the online selection of a touristic destination, the variables affecting this choice and the input of the personal variables in the selection process. We managed to build a model profile for the health tourist in Tunisia, who chooses the country as a holiday resort via Internet where health tourism services are available. **The model profile outcome of our research is then as follows:** woman aged between 45 and 55 years old, of academic training, an executive officer, living in a couple and having 2 children, a utilitarian user of Internet in search of bargains and research material. What attracts her in a website is readability and navigability in addition to the easy process of finding information.

## REFERENCES

- Cases “l’achat en ligne : utilité et/ou plaisir, le cas LYCOS France”, *Decision Marketing* ,(Décembre 2003).
- Chouk , I., “les facteurs affectant la confiance du consommateur lors d’un achat sur un site marchand”, *Decision Marketing*, (2006).
- Cova.V, “le design des services”, *Décision Marketing* ,No34,29(Avril-juin 2004).
- Danaher, J., “Factors affecting web site visit duration, a cross-domain analysis ”, *journal of marketing research*, Vol.43,No.2(Mai 2006):182-194.
- Gonzalez,C., “Satisfaction du consommateur suite à la visite du catalogue électronique : Impact de la lisibilité perçue et de la stimulation perçue”, *Revue française de marketing* ,2005.
- Henderson., “Impression Management using Typeface Design”, *Journal of Marketing* (Octobre 2004) ,p60.
- Hudson,S. et Norma,L. “A destination case study of marketing tourism on line: Bnaff, Canada”,*Journal of vacation marketing*, mars 2002,p155.
- Ladewin.R, “L’impact de la conception des sites d’E- commerce sur le confort d’utilisation : une proposition de modèle”, *acte du 17è congrès de l’AFM*, Mai 2001.

Lemoine.JF, “L’atmosphère du point de vente comme variable stratégique commerciale”, *Décision Marketing*, Vol No39, , p79, (2005).

Nantel.J et Mekki,B.A, “L’efficacité et la navigabilité d’un site web : Rien ne sert de courir, il faut aller dans la bonne direction”, *Gestion*, Vol29, No4, (Hiver 2005).

Novak et Hoffman (1997) : Cité par nantel.J,(2005) : “ L’efficacité et la navigabilité d’un site web: rien ne sert de courir, il faut aller dans la bonne direction”, *Gestion* , (Hiver 2005).

Pierre Valette.F, “Les styles de vie : Bilan critiques et perspectives”, 1997,édition NATHAN.

Pike.S,“ Destination decision sets: a longitudinal comparison of stated destination preferences and actual travel” ,*Journal of vacation marketing*,(2006).

Russel.w, “ Online accessibility and information needs of disabled tourists”, *Journal of electronic commerce research*, 2007.

Szymanski. D, “ Customer satisfaction: a meta analysis of the empirical evidence”, *Academy of the marketing Science joyrnal*, Vol29,No1,16,(2001).

Tissot .L, cité dans *Le tourisme* : “de l’utopie réalisée au cauchemar généralisé, Entreprise et histoire. ”,(2007).

Yakov. “Are the drivers and role of online trust trust the same for all web sites and customers? A large scale exploratory empirical study”, *Journal of marketing*, Vol69,No4,133,152,(2005)

Miltgen,C. “ L’efficacité d’un E-mail à vocation commerciale:étude de l’influence des caractéristiques sociodémographiques des internautes sur le processus de réponse”, *Revue française de marketing*,2005.

# USING ANALYTICAL NETWORK PROCESS TO QUANTIFY FACTORS AFFECTING FARMER DECISION MAKING

Supachai Pathumnakul, Phalakorn Prakhamthong and Kullapapruk Piewthongngam, Khon Kaen University, Thailand

## ABSTRACT

*Thailand, one of the top ranked world agricultural commodities exporters, is now facing land scarce and high competition among the alternative crops. To secure raw material supply, a processor needs to learn farmer's attitudes. In this study, Analytical Network Process (ANP) is utilized. Four crops were studied and compared. The results showed that top ranked five elements are crop revenue, other farmers' attitude toward the crops, Opinion leaders' attitude toward the crops, production cost, and complicity of field management. And mill's services are among the lowest ranked of the matrix. These results indicate direction of millers' strategy. The services currently offered by the mill might not be effective. The priority score of the farmers are low. Hence, millers should be more innovative in term of services giving to farmers.*

## INTRODUCTION

Thailand is among top ranked world agricultural commodities exporters. Recently, land abundant has become scarce. Farmer tends to switch from one crop to others. This switching in turn causing instability of raw material supplied to processors, hence, affects capacity planning and marketing plan of the processors. Fiercely competition forces processors to learn more about their suppliers. They need to learn farmer's attitudes in order to launch effective strategies to secure their raw material supply.

The past studied suggested factors affecting farmer behaviors; they are such as farm size (Henneberry et al., 1991), farmers' risk attitudes (BarShira et al., 1997), distance between fields (Bizimana et al., 2004), ownership of operations, labor, credit markets, and markets conditions (Rao, 1989), social-economic, environmental conditions of farm (Nkonya et al., 1997), support policy (Vavra and Colman, 2003). Or it may depend on farmers' objectives which are multi-objectives (Sangwan, 1983). The two common objectives are risk minimization and profit maximization. If farmers aim to maximize their profit, they will concern about price, yield, and cost of growing crop. On the other hand, if farmers aim to minimize risk, they will pay attentions to probability of disease outbreak; price and yield variations; and probability of rainfall during critical periods. The two methods; non-parametric method based on mathematical programming (i.e., Chavas and Cox, 1995) and econometric method (i.e., Bizimana et al., 2004) are often used to investigate farmers' behaviors. Both are not proper for this study because, firstly, the micro-level data are not available so that econometric model cannot be utilized. Secondly, optimization model is usually used to mimic decisions of a decision maker under certain behaviors, hence, millers will not learn farmers' preference. Therefore, in this study, we suggest the use of Analytical Network Process (ANP) as a tool to the task. It helps managers to structure the problem of integrating growers' attitude into selection decision and make more effective decisions by structuring and evaluating the relative attractiveness of competing options or alternatives.

## METHODOLOGY

As stated Lee et al. (2010) ANP, a multiple criteria decision making method, allows a modeler to form and quantify interdependency among decision attributes. The step of ANP forming comprises of model construction, pairwise comparisons and local priority vectors, supermatrix formation and transformation, and final priorities. First step, the problem is decomposed into a network of clusters (Lee et al., 2010). And in this

study, there are 7 clusters: crop choice, mill's services, government policy, personal factors, complicity of crop production, economic factors, personal factors, and physical factors). Clusters contain elements that share common attributes. For example the "Economic factors" cluster contains the features (i.e., production cost, crop price, crop revenue, time to market that are taken into account when farmer make a decision to grow crops. While connections represent the interdependency of two nodes, the arrow direction shows the influence flows. When two clusters are connected, at least one element in the first cluster influences or is influenced by one or more elements in the second cluster (Zammori, 2010). As for farmer's decision, the looped arc of economic cluster indicates inner dependency. for this study are shown in Fig.1 and Table 1.

(1) Crop choices

The four main competing crops, sugar cane, cassava, rainfed rice, and irrigated rice are elements in this cluster.

(2) Mill's services

Five common services offered by mills are elements in this cluster. The common services relating to crop production are loan, input factors, and technical services. And the last two services relating to marketing system of the crops are buying system and location of loading station.

(3) Government policy

Two common interventions of the Thai government are price support and input subsidy. While as, after decentralized policy, support from local government officers (i.e, technical training, some field services, seminar) are coming into play.

(4) Personal factors

Farmers are likely to follow others' opinion such as big crowd or opinion leader can influence crop choice. Also, they consider availability of labor, the range of land lease, and farm size to make the decision

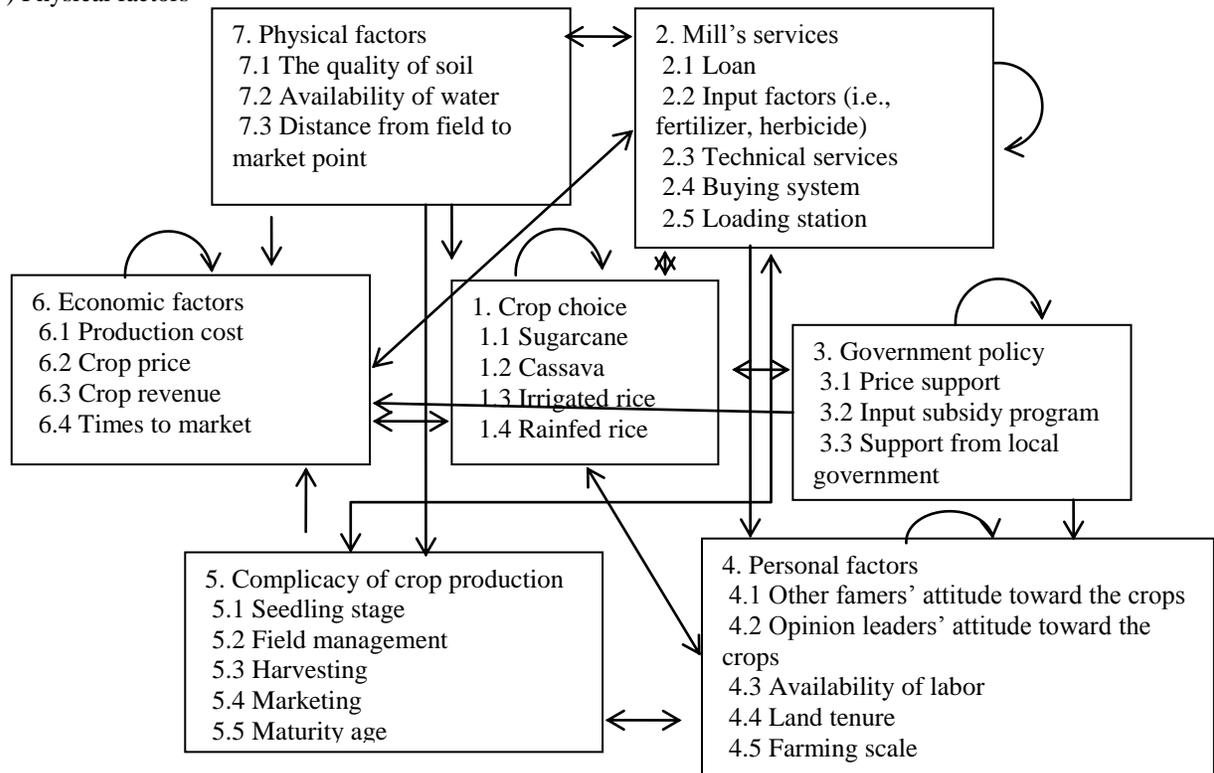
(5) Complicity of crop production

Some crops require more intensive care than others. Experience of farmers can also influence on their perception toward the crop.

(6) Economic factors

The attribute relating to economic factors are production cost, crop price, crop revenue, and time to market. These factor affect revenue of the farmers.

(7) Physical factors



**Fig 1: The relationships among obtained factors**

Physical factors can affect the farmers' crop choice. The sugar cane needs more intensive care more than cassava. Cassava is more drought tolerance than cane. Only irrigated rice can be grown in irrigation area. Second step, the elements of each luster are compared pairwise on a scale 1-9 basis. A score of 1 indicates equal importance between the two comparing elements and 9 represents the highest importance of one element compared with the other one. A reciprocal value is assigned to the inverse comparison (Lee et al., 2010). For example, if element j score 6 compared with i, inversely, element i would score 1/6 compare to j. After pairwise comparison, the eigenvector method is used to retrieve the local priority vectors for each pairwise comparison matrix (Lee et al., 2010).

Third step, a supermatrix is formed from pairwise comparison matrices. Each pairwise comparison is entered into appropriate columns and rows or a segment of the super matrix such that each segment represents a relationship between two clusters. A zero matrix segment indicates no relationship between the two clusters. Then, the supermatrix is transformed to weighted matrix, and then, the limit supermatrix to capture the limit priorities of the direct and indirect influences of each element for all elements (Lee et al., 2010). The supermatrix for this study are shown in Table 2.

The last step, the limit supermatrix is converted to final priorities. In this study, priorities from limiting priorities and priorities normalized by cluster is shown in Table 3 and 4.

## RESULTS

Table 3 can be interpreted form managerial application as follows. According to priorities from limiting supermatrix, the top five ranked important elements are rainfed rice, crop revenue, sugar cane, other farmers' attitude toward the crops, and cassava. That is because rice tides closely with the Thai culture. Expressing sugar as number one priority is along with expectation. And if cluster one is not considered, the top ranked five elements are crop revenue, other farmers' attitude toward the crops, Opinion leaders' attitude toward the crops, production cost, and complicity of field management. And mill's services are among the lowest ranked of the matrix. These results indicate direction of millers' strategy. The services currently offered by the mill might not be effective. The priority score of the farmers are low. Hence, millers should be more innovative in term of services giving to farmers. Cheap loan and input factors might not be as important as in the part. This does not suggest that miller should give up present services but to either use marketing campaign to emphasize on the value of their services or to be more innovative and responsive to farmers' needs. And because farmers prioritize crop revenue as their most top ranked, millers should focus on technical advices that raise farmers' revenue. Miller might send a message regarding crop's revenue to farmers in order to persuade farmer to allocate their land to grow a crop. Words of mouth seem to pay very important role in crop choice. Hence, miller can make a success story as one of the marketing campaign.

Table 4 indicates that according to farmers' attitudes market share for the five crops should be 45%, 25%, 16% and 11% for rainfed, sugarcane, cassava, irrigated rice. For mill's services, farmers prioritized loan and technical services. For government policy, farmers consider price support and support from local government. For personal factors, opinion of other farmers and leaders are quite influential. Then, millers may try to locate opinion leaders in each area and work with the opinion leader closely to make him successful in adopting the crop. Also, miller might try to work with a group of farmers instead of an individual. And if those groups are successful, they will spread the news about the benefit of the crops. For the complicity of crop production, except for maturity age, other attributes are quite equally important. For the crops have complicate production process, millers might try to reduce some processes that obstruct farmers in adopting the crop. And millers may try to change perception regarding the complicity of the crop. For economic factors, farmers pay attention to revenue the most. While price and cost is equally important, time to market is quite low in priority. Lastly, for physical factors, farmers consider distance when decide for crop to grow. Hence, millers might try to establish closer buying facilities to farmers' fields. These results imply strategic direction for company that farmers are no longer need only extension program. They are more like suppliers to the mill. If the mill can work on supplier development programs and coordinates closely with farmers, it will lead mill to secure more of the raw material supply. In this light, mill and farmers need to communicate closely and learn each other constraints so that both parties gain mutual benefit from the partnership.

**Table 1: Boolean table indicate relationship among elements**

	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5	6.1	6.2	6.3	6.4	7.1	7.2	7.3
1.1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	
1.2	1	-	1	1	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0
1.3	1	1	-	1	0	0	0	0	0	1	0	1	1	1	0	1	0	1	1	1	1	1	0	0	0	1	0	0	0
1.4	1	1	1	-	0	0	0	0	0	1	0	1	1	1	0	1	0	1	1	1	1	1	0	0	0	1	0	0	0
2.1	0	0	0	0	-	0	1	0	0	0	0	0	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0
2.2	0	0	0	0	0	-	1	0	0	0	0	0	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0
2.3	0	0	0	0	0	0	-	0	0	0	0	0	1	1	0	0	0	1	1	1	1	0	0	1	0	1	0	0	0
2.4	0	0	0	0	0	0	0	-	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
2.5	0	0	0	0	0	0	0	1	-	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	1
3.1	0	0	0	0	0	0	0	0	0	-	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
3.2	0	0	0	0	0	0	0	0	0	0	-	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
3.3	0	0	0	0	0	0	0	0	0	0	0	1	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.1	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.2	0	0	0	0	0	0	0	0	0	0	0	0	1	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	1	0	1	0	0	0	0
4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	1	0	1	0	0	0	0
5.1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	-	0	0	0	0	1	0	1	0	0	0	0
5.2	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	-	0	0	0	1	0	1	0	0	0	0
5.3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	-	0	0	1	0	1	0	0	0	0
5.4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0
5.5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0
6.1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	-	0	1	0	0	0	0
6.2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-	1	0	0	0	0
6.3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
6.4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0

**Table 2: Unweighted supermatrix**

	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5	6.1	6.2	6.3	6.4	7.1	7.2	7.3
1.1	0.00	0.528	0.470	0.470	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111
1.2	0.337	0.000	0.301	0.288	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111
1.3	0.346	0.155	0.000	0.242	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111	0.125	0.111
1.4	0.317	0.317	0.228	0.000	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667	0.625	0.667
2.1	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.2	0.281	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.3	0.264	0.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4	0.216	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.5	0.117	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.1	0.639	0.000	0.643	0.623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.2	0.195	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.3	0.166	1.000	0.357	0.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.1	0.344	0.486	0.461	0.313	0.191	0.159	0.887	1.000	0.768	0.741	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.712	0.725	0.698	0.711	0.696	0.729	0.703	0.711	0.739	0.735	0.783
4.2	0.123	0.236	0.388	0.252	0.228	0.229	0.413	0.000	0.000	0.232	0.259	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.288	0.275	0.302	0.289	0.304	0.271	0.297	0.289	0.261	0.266	0.217
4.3	0.533	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.4	0.000	0.278	0.152	0.435	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.5	0.000	0.000	0.000	0.000	0.580	0.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.1	0.197	0.149	0.269	0.161	0.308	0.552	0.302	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.329	0.733
5.2	0.156	0.220	0.193	0.286	0.537	0.267	0.561	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.671	0.257
5.3	0.094	0.250	0.264	0.318	0.155	0.181	0.137	0.191	0.651	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.4	0.466	0.077	0.274	0.235	0.000	0.000	0.000	0.810	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.5	0.087	0.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6.1	0.295	0.213	0.000	0.000	0.000	0.000	0.413	0.000	0.372	0.000	0.000	0.000	0.000																

Priorities from Limiting supermatrix			Priorities from Limiting supermatrix		
Cluster	Element		Cluster	Element	
1	1.4	0.1943	3	3.1	0.0152
6	6.3	0.1284	2	2.3	0.0126
1	1.1	0.1098	4	4.4	0.0117
4	4.1	0.1018	3	3.3	0.0105
1	1.2	0.0692	5	5.5	0.0070
1	1.3	0.0500	3	3.2	0.0052
4	4.2	0.0452	4	4.3	0.0042
6	6.1	0.0363	2	2.2	0.0037
5	5.2	0.0354	2	2.4	0.0027
6	6.2	0.0328	2	2.5	0.0017
5	5.1	0.0313	4	4.5	0.0016
5	5.3	0.0306	6	6.4	0
2	2.1	0.0294	7	7.1	0
5	5.4	0.0289	7	7.2	0

**Table 4: Priorities normalized by cluster**

Priorities normalized by cluster			Priorities normalized by cluster		
Cluster	Element		Cluster	Element	
1	1.1	0.2594	5	4.4	0.0714
	1.2	0.1635		4.5	0.0097
	1.3	0.1181		5.1	0.235
	1.4	0.459		5.2	0.2658
2	2.1	0.5872	6	5.3	0.2295
	2.2	0.0739		5.4	0.2172
	2.3	0.2508		5.5	0.0526
	2.4	0.0547		6.1	0.1838
	2.5	0.0335		6.2	0.1661
3	3.1	0.4914	7	6.3	0.6501
	3.2	0.1681		6.4	0.0000
	3.3	0.3404		7.1	0.0000
4	4.1	0.6186	7.2	0.0000	
	4.2	0.2745	7.3	1	
	4.3	0.0258			

## CONCLUSION

This research aims to learn farmer's attitudes in crop selection using Analytical Network Process (ANP) is utilized. Four crops were studied and compared. The results showed that top ranked five elements are crop revenue, other farmers' attitude toward the crops, Opinion leaders' attitude toward the crops, production cost, and complicity of field management. Though the mill tries to use service strategy to attract farmers, it seems

that the mill services currently offered are not effective strategy. Hence, more of innovative programs and new marketing strategies should be conducted in order for mill to gain more trust by farmers.

## REFERENCES

- BarShira, Z., Just, R.E., Zilberman, D. "Estimation of farmers' risk attitude: an econometric approach." *Agricultural Economics*, Vol. 17, No. 2–3 (1997): 211–222.
- Bizimana, C., Nieuwoudt, W.L., Ferrer, S.R.D. "Farm size, land fragmentation and economic efficiency in southern Rwanda." *Agrekon*, Vol.43, No. 2 (June 2004): 244-262.
- Francesco, Z. "The analytic hierarchy and network processes: Applications to the US presidential election and to the market share of ski equipment in Italy." *Applied Soft Computing*, Vol.10 (2010): 1001–1012.
- Henneberry, S.R., Tweeten, L., Nainggolan, K. "An analysis of US aggregate output response by farm size." *Agricultural Economics*, Vol.5(1991): 1–19.
- Lee, H., Kim, C., Park, Y. "Evaluation and management of new service concepts: An ANP-based portfolio approach." *Computer & Industrial engineering*, Vol.58, Iss.4(May 2010): 535-543.
- Nkonya, E., Schroeder, T., Norman, D. "Factors affecting adoption of improved maize seed and fertiliser in northern Tanzania." *Journal of Agricultural Economics*, Vol.48, No.1(1997): 1–12.
- Pavel V., David C. "The analysis of UK crop allocation at the farm level: implications for supply response analysis." *Agricultural Systems*, Vol.76 (2003): 697-713.
- Rao, J.M., "Agricultural supply response: a survey." *Agricultural Economics*, Vol.3, No.1 (1989): 1–22.
- Sangwan, S.S. "Dynamic of cropping pattern in Haryana: a supply response analysis." *The Developing Economics*, XXIII-2, June 1985.
- Sanjay, J., Ravi, S., "Selection of logistics service provider: An analytic network process (ANP) approach." *Omega*, Vol. 35 (2007): 274 – 289.
- Sriroth, K., Santisopasri, V., Petchalanuwat, C., Kurotjanawong, K., Piyachomkwan, K., Oatase, C. G. "Cassava starch granule structure–function properties: influence of time and conditions at harvest on four cultivars of cassava starch." *Carbohydrate Polymers*, Vol.38, No.2 (1999):161-170.
- Suleiman, A., Oliver, M., Tony, R. "Aggregate agricultural supply response in ethiopia: a farm-level analysis." *Journal of International Development*, Vol.16 (2004): 605–620.
- Younghwa, L., Kenneth, A. K. "Investigating the effect of website quality on e-business success: An analytic hierarchy process (AHP) approach." *Decision Support Systems*, Vol.42 (2006): 1383–1401.

## ACKNOWLEDGEMENTS

This research was made possible by by Mitr Phol Group. The authors are thankful for the company data and generous support.

# **APPLICATION OF CONJOINT ANALYSIS IN STUDYING HOW CANE GROWERS DECIDE FOR THEIR MARKET CHANNEL**

**Kullapapruk Piewthonggam and Phumsit Mahasuweerachai  
Khon Kaen University, Thailand  
Arunwadee Kannula, Mitr Phol Sugarcane Research Center, Thailand**

## **ABSTRACT**

*Thai sugar mills now are facing fiercely completion among another. Due to recent competition, some mills raise their cane price above regulated level, locate their loading facility closer to the growers, purchase cane supply without contractual agreement, and use proprietary handlers as their market channel. In this paper, we tested the growers' responsive to tentative mill programs. Growers were divided into three zones: inner, middle, and outer zones. The conjoint analysis and logit model is utilized to determine behavior of the grower in the three zones. The results showed that the growers of the three zones react similarly to the price changes. And reducing distance from fields and waiting times at the loading stations are likely gain higher probability of being chosen by growers. Likewise, mill should be creative in giving services to inner zone and focus on increasing the number of growers having access to services for middle and outer zone. Last, new creative social programs should be created to strengthening relationship between mill and growers' community.*

## **INTRODUCTION**

Thai sugar mills now are facing fiercely completion among another. Due to the government policy to encourage competitive environment, more mills are granted operation permits. In the past, mills used loan and input (i.e., herbicide, fertilizer) service strategies to attract cane growers. And cane growers supply cane to mill through contractual arrangement under regulated price. However, the recent competition ticker some mills switch to price strategy. They raise their cane price above regulated level and locate their loading facility closer to the growers and purchase cane supply without contractual agreement. Though, it is not morally right to conduct this strategy, some mills utilize proprietary handlers as their market channel. Growers, though, may benefit from higher price, they are risking their guarantee market. Moreover, miller feels that growers that locate further away from mill behave differently than the ones that locate closer to the mill. And because distance from field to mill plays crucial role in growers having access to mill's services, millers are also eager to know if they need to use different strategies for different group of growers located in different location. In this paper, we identify factors that may influence northeastern Thai cane grower to choose their millers. Growers were divided into three zones: inner, middle, and outer zones. The conjoint analysis and logit model is utilized to determine impact of these factors on cane farmer's choices for cane selling channels for each zone.

Conjoint choice techniques have been introduced to the marketing field since the early 1970s (Kjaer, 2005). Later, economists utilized this technique explain random utility theory (Ben-Akiwa and Lerman, 1985). The conjoint choice techniques are an analytical tool to elicit consumer's preference from hypothetical data. It explains and predicts changes of consumer's preferences due to changes of products or situation beyond the current set of experiences. Respondents are asked to compare two or more choices, which vary along several characteristics of interest, and they are asked to choose one of them. This allows the researcher to break down the preferences of respondents by each attribute instead of just entire products or situations (Habb and McConnell, 2002).

## METHODOLOGY

Due to the nature of study that bases on assumption of combination of several factors maximizing a farmer's utility, a qualitative choice model is applied. The model in this study is based on a random utility model (RUM) developed by McFadden (1974), and details of the model are represented below.

Each cane grower faces a set of  $K$  discrete alternatives. Each alternative provides utility,  $U_k$ , to each grower. A cane grower will choose an alternative  $k$  that maximizes his/her utility among the  $K$  alternatives.

$$(1) \quad U_k = u(\mathbf{X}), k = 1, \dots, K$$

where  $U_k$  is the maximum utility received from choosing alternative  $k$ ; and  $\mathbf{X}$  is the vector of the attributes associated with alternative  $k$ .

In the decision-making process, when asked to choose among alternative, the sugar cane grower will compare and choose an alternative that gives his/her the highest utility comparing to other alternatives (a measure of welfare or happiness). This condition is represented by

$$(2) \quad U_j > U_k$$

A grower will choose alternative  $j$  over  $k$  only if (2) holds for all  $j \neq k$ , (i.e., the chosen option always gives him or her the highest satisfaction). However, the real utility of the respondent is unobservable; we can only observe choices made by growers. So, let  $Y$  be the observed variable that is ordinal in nature. In this study, there are only two choices of marketing channels, which are the traditional mill and proprietary handler. Thus, the values of  $Y$  are

$Y=1$  if the sugar cane farmer was to sell his/her sugar cane to the traditional mill and

$Y=0$  if the sugar cane farmer was to sell his/her sugar cane to proprietary handlers

Since we do not know the real utility of the respondent, we can observe the indirect utility function of the respondents denoted as  $V$  through their choices

$$(3) \quad U = V + \varepsilon$$

where  $\varepsilon$  is unobservable part of the utility that is unknown. The indirect utility function can be observed by using the answers to the conjoint choice questions in which the attributes are arguments, and since the dependent variable is discrete in nature with two values, the logit model is applied. Therefore,  $V$  can be expressed as a function of the attributes accompanying each alternative, and the utility can be expressed as

$$U_j = V_j + \varepsilon_j = \mathbf{X}\beta_j + \varepsilon_j$$

$$U_k = V_k + \varepsilon_k = \mathbf{X}\beta_k + \varepsilon_k$$

$$(4) \quad \text{Prob}(Y = 1 \mid \mathbf{X}) = \text{Prob}(U_j > U_k) = \text{Prob}((\beta_j - \beta_k) \mathbf{X} + \varepsilon_j - \varepsilon_k > 0)$$

where  $\beta$  is a vector of unknown coefficients. For simplicity,  $V$  is assumed to be linear in  $\mathbf{X}$ , so

$$(5) \quad V = \beta_1 (Ph) + \beta_2 (Pl) + \beta_3 (Dl) + \beta_4 (Wl) + \beta_5 (Wh) + \beta_6 (Sh) + \beta_7 (Sl) + \beta_8 (Rh) + \beta_9 (Rl)$$

where  $Ph$  and  $Pl$  are the price of the mill (preliminary cane price) higher than price offered by proprietary handlers 200 baht/ ton and lower than of proprietary handlers 200 baht/ ton.  $Dl$  is the distance from sugarcane field to loading facility no more than 7 kilometers. If fields are located less than or equal to 7 km from the mill then  $Dl = 1$ ; 0 otherwise.  $Wl$  and  $Wh$  are the waiting time at the loading facility no more than 8 hours and more than 12 hours. If waiting time for loading sugar cane at the mill longer than 12 hours then  $Wh = 1$ ; 0 otherwise. If waiting time for loading sugar cane at the mill less than 8 hours then  $Wl = 1$ ; 0 otherwise.  $Sh$  and  $Sl$  are the high and low support levels from the mill. And  $Rh$  and  $Rl$  represent high and low social relationship between the mill and communities. To avoid singularity, we dropped dummy  $Wm$  which represented waiting time for loading sugar cane at the mill between 8-12 hours;  $Dh$  that represented loading facility that located further than 7 km from the field;  $Ps$  which represented preliminary price that equal to that of proprietary handlers;  $Rm$  is the support level of the mill at medium level;  $Rm$  which represented the social relationship at medium level.  $\beta$ 's are parameter estimates.

## EMPIRICAL RESULTS

The estimation results are shown in Table 1, 2, and 3. The percent correctly classified, which measures goodness-of-fit based on the estimated probability compared to the real choices of respondents suggested that the three models correctly predict growers' decision around 73.7-76.40 percent. The coefficient and significant columns presents the magnitude of coefficient estimates and significant level of its correspond variable. The coefficient estimates of the logit model do not explain the changes of probability due to the changes of independent variables. Instead, the marginal effects or probability derivatives, the probability changes of growers' decision due to change of a particular independent variable while holding all other variables at their sample means, are used to explain the probability change due to changes of independent variable. For the test of different among parameters, Wald test is applied and the results of the test are shown in Table 4.

**Table 1: Logit estimation results for cane growers classified as inner group**

Variable	Coefficient	Significant	Marginal Effect
<i>Distance from fields</i>			
<i>DI</i>	0.849	0.011	0.180
<i>Waiting times</i>			
<i>WI</i>	1.382	0.001	0.266
<i>Wh</i>	0.714	0.068	0.146
<i>Relative prices</i>			
<i>PI</i>	-2.426	0.000	-0.536
<i>Ph</i>	-1.156	0.006	-0.255
<i>Services levels</i>			
<i>SI</i>	-0.851	0.033	-0.191
<i>Sh</i>	-0.139	0.731	-0.030
<i>Relationship</i>			
<i>RI</i>	-1.147	0.007	-0.254
<i>Rh</i>	-0.541	0.215	-0.119
Number of observations		224	
Log-likelihood		-76.969	
Pseudo R <sup>2</sup>		0.22	
Percent correctly classified		75.45	

**Table 2: Logit estimation results for cane growers classified as middle group**

Variable	Coefficient	Significant	Marginal Effect
<i>Distance from fields</i>			
<i>DI</i>	0.514	0.209	0.088
<i>Waiting times</i>			
<i>WI</i>	0.537	0.281	0.087
<i>Wh</i>	-0.197	0.688	-0.034
<i>Relative prices</i>			
<i>PI</i>	-2.522	0.000	-0.493
<i>Ph</i>	-1.605	0.001	-0.306

<i>Services levels</i>			
<i>Sl</i>	-0.721	0.115	-0.130
<i>Sh</i>	0.706	0.199	0.110
<i>Relationship</i>			
<i>Rl</i>	-0.520	0.288	-0.093
<i>Rh</i>	0.312	0.527	0.052
Number of observations		161	
Log-likelihood		-76.97	
Pseudo R <sup>2</sup>		0.201	
Percent correctly classified		76.40	

**Table 3: Logit estimation results for cane growers classified as outer group**

Variable	Coefficient	Significant	Marginal Effect
<i>Distance from fields</i>			
<i>DI</i>	1.072	0.000	0.262
<i>Waiting times</i>			
<i>WI</i>	1.077	0.000	0.260
<i>Wh</i>	-0.150	0.587	-0.038
<i>Relative prices</i>			
<i>Pl</i>	-2.563	0.000	-0.552
<i>Ph</i>	-1.326	0.000	-0.318
<i>Services levels</i>			
<i>Sl</i>	-1.044	0.000	-0.254
<i>Sh</i>	0.641	0.022	0.158
<i>Relationship</i>			
<i>Rl</i>	-0.465	0.096	-0.116
<i>Rh</i>	0.277	0.322	0.069
Number of observations		441	
Log-likelihood		-231.50	
Pseudo R <sup>2</sup>		0.242	
Percent correctly classified		73.70	

In case of relative price, growers tend to sell cane to proprietary handlers although the price of mill is higher than that of proprietary handlers. However, when the preliminary cane price is higher than proprietary handlers 200 baht/ton, the growers probability of selling cane to mill increase. The coefficients of the three models are all significant with the same direction. The Wald test also indicated that the three parameter estimates from the three models are not significantly different. Distance from field to the loading station is significant in inner and outer zone but not for middle zone. Though marginal effects show that the three groups would sell their cane to mills of loading station is closer to growers' field. And the outer zone tends to be more responsive to the distance of the loading station. The distance from field of the outer seems to be the only parameter that statistically different from other zones. In this cane, parameter estimates for distance from field of outer zone is

statistically different from that of the middle zone. For waiting time, the inner zone seems to be more tolerable for longer waiting time than the other. Shortening waiting time seems to work with inner and outer zone. However, middle zone seems to be unresponsive to waiting time both longer and shorter. As for services level, inner zone seems to value services level more than middle and outer zone, though not so statistically strong. For the social relationship, again, inner zone seems not to want more social relationship with mill while the probability of selling cane to mill would be higher if mill increase social relationship in middle and outer zone

**Table 4: The result of Wald's test between inner, middle and outer group**

Zone	Variable	Inner								Middle								Outer										
	Variable	0.849	1.382	0.714	-2.426	-1.156	-0.851	-0.140	-1.148	-0.541	0.514	0.537	-0.197	-2.522	-1.605	-0.721	0.707	-0.52	0.312	1.072	1.077	-0.15	-2.56	-1.326	-1.044	0.641	-0.465	0.277
Inner	DI									0.310								0.507										
	WI									0.044								0.456										
	Wh									0.200								0.027										
	PI									0.837								0.769										
	Ph									0.292								0.733										
	SI									0.742								0.636										
	Sh									0.036								0.055										
	RI									0.137								0.103										
	Rh									0.051								0.061										
Middle	DI	0.426																0.175										
	WI	0.091																0.285										
	Wh	0.064																0.924										
	PI	0.868																0.952										
	Ph	0.468																0.627										
	SI	0.779																0.487										
	Sh	0.124																0.904										
	RI	0.199																0.902										
	Rh	0.084																0.943										
Outer	DI	0.325								0.017																		
	WI	0.290								0.061																		
	Wh	0.002								0.866																		
	PI	0.647								0.891																		
	Ph	0.535								0.334																		
	SI	0.495								0.255																		
	Sh	0.005								0.804																		
	RI	0.014								0.844																		
	Rh	0.004								0.907																		

## PRACTITIONER'S SUMMARY

Price is evidently the most influencing factors as indicated by the regression coefficient and their level of significance as it directly reflects the incomes perceived by cane growers. It indicates that mills are now in a highly competitive environment. Because mills, unlike proprietary handlers, are constrained by the regulated price. Mill seems to have disadvantages when growers in the three zones stated their interests in price. Also, the three groups react similarly to the price changes. Hence, there is not particular target group to defend growers from competitor's pricing strategy. For waiting time and distance from field, the combination of these two strategies can effectively attract the growers from those three zones. The mill should facilitate growers more by locating loading station closer to the field and to improve the queuing system to shorten waiting time. Actually, waiting time relates directly to growers' income. That is because cane will lose weight if cut-to-crush delay time is prolonged. Also, growers are losing opportunities cost when they spend long waiting time at the loading station. For services, mills need to be more innovative in giving services to growers especially for inner zone. It seems that the current services do not gain mill any growers' satisfaction from inner zone. However, the middle and outer zone still respond well with the current services strategy. Hence, mill may focus on increasing the number of growers having access to current services and expedite the time of serving growers. For the social relationship, with the current program to create social relationship between mills and growers, it seems to be an ineffective strategy for all zones. This is not to suggest that mill should give up all social relationship programs but the program should induce more grower engagement in order to increase strategy effectiveness.

## CONCLUSIONS

Thai cane growers now have more than one choice of their cane buyer; sugar mill and proprietary handlers. In this study, a conjoint choice survey of cane growers was conducted to elicit the grower's decision mechanism for selecting their market channel. Five major factors, related to income maximization, satisfaction maximization, and risk minimization, influenced the farmer's decision were studied. These factors are distance from sugarcane fields to loading station, waiting time at loading facility, the relative prices of sugar cane

between mill price and those offered by proprietary handlers, the services levels of the mill, and the social relationship between the mill and the grower's communities. A logit model was applied to determine the degree to which a set of attributes influenced the grower's decision to sell their sugar cane for inner, middle, and out zone located around the mill.

The results showed that the growers of the three zones react similarly to the price changes. And reducing distance from fields and waiting times at the loading stations are likely to be most effective strategy. Likewise, mill should be creative in giving services to inner zone and focus on increasing the number of growers having access to services for middle and outer zone. Last, new creative projects to increase bond between mill and growers' community should be created.

## REFERENCES

Azevedo, C.D.,Herriges, J.A., Kling, C.L.“Combining Revealed and Stated Preferences: Consistency Tests and Their Interpretations.” *American Journal of Agricultural Economics*, Vol.85, No.3(2003): 525-537.

Ben-Akiva, M., Lerman, S.R. “Discrete Choice Analysis: Theory and Application to Travel Demand” Cambridge: MIT Press, 1985.

Boger, S. “Quality and Contractual Choice: A Transaction Cost Approach to the Polish Hog Market.” *European Review of Agricultural Economics*, Vol.28, No.3(2001): 241-261.

Chetthamrongchai, P., Auansakul, A., Supawan, D. “Assessing the transportation problems of the sugar cane industry in Thailand.” *Transport and Communications Bulletin for Asia and the Pacific* , No.70(2001).

Chiadamrong, N., Kawtummachai, R. “A methodology to support decision-making on sugar distribution for export channel: A case study of Thai sugar industry.” *Computers and Electronics in Agriculture*, Vol.64, No.2 (2008): 248-261.

CommodityOnline Severe drought to hit Thailand sugar output Published on: April 06, 2010  
<http://www.commodityonline.com/news/Severe-drought-to-hit-Thailand-sugar-output-27158-3-1.html>

Haab, T. C., McConnell, K. E. “Valuing Environmental and Natural Resources, Cheltenham.” UK: Edward Elgar, 2002.

Hobbs, J. E. “Transaction Costs and Slaughter Cattle Procurement: Processors' Selection of Supply Channels.” *Agribusiness*, Vol.12, No.6 (1996): 509-523.

Kjaer, T. “A Review of the Discrete Choice Experiment with Emphasis on its Application in Health Care.” *Health Economics Papers* 2005:1, University of Southern Denmark. Available: <http://www.sdu.dk/~media/52E4A6B76FF340C3900EB41CAB67D9EA.ashx>. (January 2009).

Lusk, J. L., Norwood, F. B. “Effect of Experimental Design on Choice-Based Conjoint Valuation Estimates.” *American Journal of Agricultural Economics*, Vol.87, Iss. 3(August 2005): 771-785.

McFadden, D. “Conditional Logit Analysis of Qualitative Choice Behavior.” in P. Zarembka, ed., *Frontiers in Econometrics*, New York: Academic Press, 1974: 105-142.

Mirsa, S. K., Carley, Fletcher, D. H., S. M. “Factors Influencing Southern Dairy Farmers' Choice of Milk Handlers.” *Journal of Agricultural and Applied Economics*, Vol.25: 197-207.

Reuters FACTBOX-Thailand's regulated sugar industry, July 2, 2010 <http://in.reuters.com/article/idINSGE65T00W20100702>.

## **ACKNOWLEDGEMENTS**

This research was funded by Mitr Phol Sugarcane Research Center. The authors are thankful for the company general support financially and morally.

# CONTRIBUTORY COMPETENCIES TO THE SUCCESSFUL GLOBAL EXECUTIVE

**David Pitcher**  
**Indiana Institute of Technology, USA**

## ABSTRACT

*The global leader must first possess superior baseline credentials. Excellence in the appropriate discipline is seminal; an introduction which may precede further exploration. Drivers behind interdependent partnerships which produce successful outcomes include communication, collaboration, connectivity, and empowerment. To address these factors, and beyond educational and professional experience and credentials, the contemporary leader should demonstrate competency in emotional intelligence and social intelligence. Mayer and Salovey described emotional intelligence (EI) as “a type of social intelligence that involves the ability to monitor one’s own and others’ emotions, to discriminate among them, and to use this information to guide one’s thinking and actions” (p. 433). A working knowledge of oneself is foundational to this process. Limitations should be subverted, targeted, and improvement sought at every dimension (Bar-On, Maree, & Elias, 2007). According to Goleman (2006), social intelligence (SI) connotes “...being intelligent not just about our relationships but also in them” (p. 11). It is, in effect, the ability to act wisely in human relationships (Goleman, 2006). Separately and together, the aspiring global leader should view competency in EI and SI as crucial to his/her success*

## THE STRATEGIC DEVELOPMENT OF THE GLOBAL LEADER

The requirements for today’s global leaders have risen dramatically as international connectivity has facilitated the emergence of a new prototype of executives. Perhaps paradoxically, today’s leader has already morphed into the global leader of tomorrow. Individual markets have already become fused into a global arena. Globalization is embedded at all levels of the economy and society in general, and successful global leadership requires leaders to no longer think as individuals, but rather to think of leadership as a team process (Hess & Bandyopadhyay, 2010). Few entities operate outside of some international activities, and this activity is becoming increasingly vociferous. Hannay (2009) discussed the cross-cultural applications of servant leadership within Hofstede’s (1993) five national cultural dimensions in the context of multicultural workforce and economic globalization, with a focus on theoretical review. Hence, a global leader may work in an international context, or may be employed for a domestic firm which has global stakeholders which could include employees, suppliers, customers, or markets.

Throughout the coming decade, leaders will emerge who adopt a cross-cultural mentality, seek out blue ocean opportunities and exploit them, and learn and apply techniques, concepts, and principles from others without regard cultural origin. These strategic elements will assist leaders as globalization continues to accentuate commonalities and diminish differences.

The recruitment criteria, retention, and performance of leaders of the second decade of the twentieth century will be judged in new ways that have evolved in recent years. The emotional intelligence (EI) of today’s global leader is crucial to his/her success, particularly in the arena of the individual’s self-awareness. The adage of knowing oneself has never been more appropriate.

While emotional intelligence focuses on the introspective, social intelligence (SI) examines the expansion into what transpires when individuals connect (Goleman, 2006). It impacts relationships and influences conflict, rapport, and synchronization between individuals (Goleman, 2006). SI is the ubiquitous determinant of authenticity. Likewise, the global leader who possesses cultural intelligence has the capability to function effectively in situations characterized by cultural diversity (Ang & Van Dyne, 2008).

## **EMOTIONAL INTELLIGENCE – THE ESSENTIAL FOUNDATION**

Emotional intelligence (EI) connotes the capacity to understand, motivate, and develop ourselves and others resulting in improved work performance and enhanced organizational effectiveness (Goleman, 1998; Goleman, Boyatzis & McKee, 2002). Personal competence in EI is demonstrated in self-awareness, self-regulation (or self-management), and motivation. Emotionally intelligent social competence can be seen in empathy or one's social awareness, and in social skills which involve managing relationships (Goleman, 1998). Boyatzis and McKee (2005) observed that "EI accounts for 85% to 90% of the difference between outstanding leaders and their more average peers" (p. 28).

Mayer and Salovey defined emotional intelligence (EI) as "a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's thinking and actions" (p. 433). The emotionally intelligent individual knows her/himself and manages or regulates personal soft skills in a quality-enhancing fashion (Dubrin, 2010; Goleman, 1998). Some have found Emotional Intelligence (EI) to be critical to the performance of organizational leaders and it is determined by various metrics aimed at the evaluation of effectiveness (Dubrin, 2010; Goleman, 1998; Goleman, Boyatzis & McKee, 2002; Nadler, 2007). The organizational leader should demonstrate a high level of EI in order to achieve a high quality of influence and to produce extraordinary outcomes in an organization; outcomes for which substitutes for leadership are not possible and are dependent upon superior leadership (Bar-On, 2007).

Baseline hard-skill credentials and social-political affiliations have provided the traditional paths to organizational leadership (Manning, 2003). But if that is the key that unlocks the door to leadership positions, what provides further entry into the rooms only occupied by the upper echelon of leaders? Goleman (1998) argued that a triangulated impact hinges upon the attainment and practice of these skills, because "a leader's strengths or weaknesses in emotional competence can be measured in the gain or loss to the organization of the fullest talents of those they manage" (p. 32). Potential effects can be experienced by the leader, the organization, and the individual followers. Further tertiary results may also be influenced, positively or negatively.

The ultimate wages remunerated to leaders who do not value individual contributions and who encourage a Tayloristic approach exclusive of EI considerations are meager when juxtaposed beside the self-aware, self-regulating, motivational leader (Adler, 2008). Feedback is an important component of continuous improvement (Caluwe & Vermaak, 2003). In a description of this concept, Blanchard (1999) explained that "none of us is as smart as all of us" (p. 14). A "bottom up" or collegial style is preferable for the encouragement of meaningful input which can positively affect change (Bennis & Nanus, 1988).

The reflexivity principle involves an examination of what is known and how it is known (Guillemin & Gillam, 2004). EI begins with introspection:

Leaders high in emotional self-awareness are attuned to their inner signals, recognizing how their feelings affect them and their job performance. They are attuned to their guiding values and can often intuit the best course of action, seeing the big picture in a complex situation. (Goleman, 2002, p. 253).

These are not exclusively innate traits possessed by a select few who are highly recognizable as successful leaders and upon whom were bestowed emotional gifts (Northouse, 2007). Contrarily, EI self-awareness competencies are developed over time by individuals committed to mastery of soft skills with a view toward superlative performance (Caldwell & Gravett, 2009).

The emotionally intelligent leader recognizes personal strengths and limits (Goleman, 1998). The self-examination or self-awareness phase is the initial and foundational element of EI. No psychological examination or diagnosis is necessitated (Slater, 2001). This step yields the fruit of identification of that which can be built upon, and that which must be corrected. Strengths remain qualities upon which the leader recognizes as assets and grows with all humility (Dubrin, 2010).

Employing a quantitative study, Wang and Huang (2009) explored relationships between group cohesiveness, transformational leadership, and emotional intelligence (EI). The purpose of the research was to examine the triangulating relationship between transformational leadership, group cohesiveness, and the antecedent effect of EI on transformational leadership. As teamwork has increased in popularity in industrial settings, group cohesiveness has been identified as central to team performance, which positively impacts numerous functions (Wang & Huang, 2009). The leadership of the group has been identified as positively correlating with group cohesiveness. The premise is that cohesiveness or commitment and motivation of the group members to remain collectively together and achieve for the good of the whole is foundational to team success.

EI was measured by an instrument of self-report developed by Wong and Law (2002). Transformational Leadership was measured by the 20-question Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio (1997). Group cohesiveness was measured by 8 items developed by Dobbins and Zaccaro (1986).

In the study of emotional intelligence (EI), it is foundational to know that there exists a difference between EI and standard personality traits. Caruso, Mayer, & Salovey (2002) set out to determine the value of EI and its functional usefulness through a quantitative study which compared and contrasted EI and its relation to personality trait variables to "...determine where constructs overlap" (p. 309).

The Multifactor Emotional Intelligence Scale (MEIS) was developed and became the instrument for this study. Caruso et al (2002) reported that "in this study, EI was separable from several standard personality traits...and the MEIS is not measuring constructs that are assessed by standard personality tests" (p. 318). It was positively correlated that EI may make a contribution toward career choice.

Data supported a positive correlation between transformational leadership and group cohesiveness. Secondly, the results also supported a positive correlation between EI and transformational leadership. Finally, Wang and Huang's (2009) data supported "...that the impact of emotional intelligence on group cohesiveness was mediated by transformational leadership" (p. 388).

Landy (2005) expressed a disbelief in the contribution EI as a factor in workplace effectiveness. He described doubt in the scientific validity of EI studies, and a disdain for the proprietary secrecy of the databases which hide key elements of foundational studies and hinder a more thorough examination of the predictability of occupational success relative to EI.

Landy (2005) credited E. L. Thorndike's reference to social intelligence in 1920 as the first mention of a precursor of EI. It was Landy's opinion that Thorndike merely coined phrases rather than initiated development of a construct. Landy (2005) asserted claims that EI research is flawed relative to scientific parsimony, design, and conceptual, definitional, and psychometric stability. Landy's (2005) arguments were based upon an unscientific and undocumentable approach, historical misperceptions and inaccuracies, and the desire of the masses to seek attribution and potential improvement in areas which he feels are unable to be gained through such effects. His ultimate concluding appeal to an unscientific explanation for the persistence of EI summarizes the failure of his discourse. In the end, he was unable to convince by anything scientific, so he resorted to the very method of appeal which he has criticized. The access to data notwithstanding, his arguments simply did not succeed by invalidating the existing body of research in support of the EI construct and its usefulness in occupational effectiveness.

Even if EI were not a new concept, or not a separate construct, its worth remains imperative Bolman & Deal, 2008). Bar-On (1985) initially identified the emotional quotient (EQ). Salovey and Mayer (1990) have been credited with naming the construct, and Goleman (1995) popularized the concept. Nadler (2011) posited that "EI can be defined in terms of understanding yourself, managing yourself, understanding others, and

managing others. People who possess high EI are the ones who truly succeed ... “(p. 9). The method of discerning how important emotional and social skills are juxtaposed against raw intelligence presents a meaningful and necessary evaluation.

Summarily, Wang and Huang (2009) found that “leaders’ emotional intelligence was related to group cohesiveness through transformational leadership behavior” (p. 389). Wang and Huang (2009) offered a well-documented account whose triangulated effort made a strong statement for EI. They argued that team effectiveness is impacted by the group’s cohesiveness. They further documented a positive relationship between group cohesiveness and transformational leadership. Finally, emotional intelligence was positively correlated with transformational leadership. This pointed to a relationship in this study between emotional intelligence and team performance or effectiveness via transformational leadership and group cohesiveness.

## **SOCIAL INTELLIGENCE – ACTION AND INTERACTION PRODUCED BY CONNECTIVITY**

The emergence of the digital age has brought with it challenges to communication as it has delivered technological means of connectivity. As people email, text, conference call, participate in chat rooms, and interact through means of social media such as Face book and Twitter, a decline in social capital and an increase in social corruption has occurred (Goleman, 2006). Whereas EI focuses on the individual within, social intelligence (SI) expands to what transpires when individuals connect (Goleman, 2006).

Thorndike (1920) is credited as the originator of the term social intelligence. According to Goleman (2006), SI connotes “...being intelligent not just *about* our relationships but also *in* them” (p. 11). It is, in effect, the ability to act wisely in human relationships (Goleman, 2006). Exceeding the selfishness of manipulation, social intelligence enables communication of emotion and the transmission of honesty and trustworthiness. Is the individual genuine in the expression of love, power, and empathy?

Social intelligence is the ubiquitous determinant of that authenticity. SI impacts relationships and influences conflict, rapport, and synchronization between individuals (Goleman, 2006). One’s degree of SI has bearing on the effectiveness and ability to cope, adapt, and contribute. It is closely related to EI through the social competency component. Whereas EI looks internally, SI delivers that internal comprehension to the occupants of the environment in which the individual has influence. Furthermore, while it may be difficult to demonstrate complete competency in EI without being competent in SI, the same may be true of SI’s relationship to cultural intelligence (CQ). (Pitcher, 2010).

The interplay between EI and SI, which can be illustrated in a two-dimensional model (see Figure 1). The individual low in emotional intelligence and social intelligence is typified in quadrant one of Figure 1. This individual may be high in baseline credentials, providing a more traditional candidate for leadership. However, deficiencies in self-awareness, self-regulation, and social intelligence would diminish the opportunity for outstanding leadership in a global context. Quadrant two is exemplary of the individual high in EI, but low in SI. An introverted individual who possessed intuitive self-awareness and practiced self-management, but lacked in social intelligence would be assessed to be in this domain. The meta-argument against this individual would be that sufficient knowledge and self-control could not supersede interpersonal relationship inadequacies.

The result of high EI and high SI is depicted in Figure 1. This model assumes that baseline credentials are met or exceeded. Therefore, this individual has demonstrated competency in self-awareness, self-regulation, social awareness, and relationship management. This provides strong implications for the global leader. International and global activities conducted with the leader exhibiting high EI and SI portends an orientation toward interdependence and the reduction of miscommunication. A presentation of the rare combination of high social intelligence competencies but low EI can be viewed in quadrant four of Figure 1.

Rapport is a crucial element for the global executive. According to Goleman (2006), “Rapport exists only between people; we recognize it whenever a connection feels pleasant, engaged, and smooth. But rapport matters far beyond those fleeting pleasant moments. When people are in rapport, they can be more creative together and more efficient in making decisions...” (p. 29). Tickle-Degnan and Rosenthal (1990) found that the

three elements of mutual attention, shared positive feeling, and a well-coordinated nonverbal duet, when arising in tandem, catalyze rapport.

Newcombe and Ashkanasy (2002) conducted research on negative feedback with positive expression. They studied unflattering feedback that was given by managers while at the same time displaying warm feelings toward the subordinates by their voices and expressions. The recipients felt positively about the overall interaction, although they received criticism specific to their performance. The wide array of stakeholders must be considered in every situation (Bennis, 2009). Social intelligence is vital in affirming individuals while sometimes delivering a differing opinion.

## **THE THOROUGHLY PREPARED GLOBAL EXECUTIVE**

The successful global leader of the second decade of the twenty-first century will understand the importance of people. Whether studying the cultural nuances of those with whom the leader will interact, locating and implementing strategies that look beyond the struggle with competitors to identify new niches and procure noncustomers, in addition to embracing ideas which originated from a distant land. A key to this success will be to seek out and exploit commonalities rather than differences.

Current leaders must foundationally know who they are and not only be receptive to change, but welcome and embrace it. The organization they lead must be reflexive and responsive to change, rather than operating in a Tayloristic, machine-like, bureaucratic fashion (Morgan, 2006). Such an atmosphere can only be envisioned, inspired, and driven by the leader who exemplifies a persistent sense of urgency (Kotter, 1996). Transformational leadership will be requisite to instill exponential change in the leadership and followers of the organizations. Succession plans will require recruitment, training, and retention of mentees in order to sustain such efforts (Pitcher, 2010)

Contemporary success will be driven by collaboration, communication, and connectivity. Relationships built upon interdependency and partnerships will be the hallmarks of successful countries, organizations, and individual leaders. The synergy that elucidates from that connectivity is dynamic and cannot be achieved by anyone with a selfish agenda.

The global leader must possess superior baseline credentials. Excellence in the appropriate discipline is a given, and serves as an introductory criteria for further exploration. The leader should demonstrate competency in emotional intelligence. A working knowledge of oneself should be foundational to this process. Limitations should be subverted, targeted, and improvement sought at every dimension (Bar-On, Maree, & Elias, 2007). Self-regulation must be achieved, and social awareness and relationship management mastered. Beyond that, social intelligence is requisite. To demonstrate EI in an internal fashion, replete from the social interaction success so necessary in cross-cultural situations, would be a travesty (Pitcher, 2010). The composite of these “non-cognitive” attributes can enable the individual to be positioned for leadership – globally – now and in the future.

In addition to superior baseline credentials, emotional intelligence and social intelligence are required of the global executive. The lifelong learning process in each of these arenas should continually be present and reflected in these growing and emerging competencies (See Figure 1) (Pitcher, 2010).

## **REFERENCES**

- Adler, N. (2008). *International dimensions of organizational behavior* (5<sup>th</sup> edition). Mason, Ohio: South-Western Cengage.
- Ang, S. & Van Dyne, L. (2008). *Handbook of cultural intelligence: Theory, measurement, and applications*. New York: M. E. Sharpe.
- Bar-On, R. Maree, J. & Elias, M. (2007). *Educating people to be emotionally intelligent*. Westport, CT: Praeger Publishers.

- Bennis, W. (2009). *On becoming a leader*. Philadelphia: Basic Books.
- Bennis, W. & Nanus, B. (1988). *Leaders: The strategies for taking charge*. New York: Harper & Row.
- Blanchard, K. (1999). *The heart of a leader*. Tulsa, OK: Honor Books.
- Bolman, L. & Deal, T. (2008). *Reframing organizations: Artistry, choice, and leadership* (4<sup>th</sup> edition). San Francisco: Jossey-Bass.
- Boyatzis, R. & McKee, A. (2005). *Resonant leadership: Renewing yourself and connecting with others through mindfulness, hope, and compassion*. Boston: Harvard Business School Press.
- Caldwell, S. & Gravett, L. (2009). *Using your emotional intelligence to develop others*. New York: Palgrave McMillan.
- Caluwe, L. & Vermaak, H. (2003). *Learning to change: A guide for organization change agents*. Thousand Oaks: Sage Publications.
- Caruso, D., Mayer, J. & Salovey, P. (2002). Relation of an ability measure of emotional intelligence to personality. *Journal of Personality Assessment*, 79(2), 306-320.
- Cateora, P., Gilly, M., Graham, J. (2009). *International marketing* (14th edition). New York: McGraw-Hill Irwin.
- Dubrin, A. (2010). *Leadership research findings, practice, and skills* (6<sup>th</sup> edition). Boston: Houghton Mifflin Company.
- Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam.
- Goleman, D. (2006). *Social intelligence: The new science of human relationships*. New York: Bantam Books.
- Goleman, D., Boyatzis, R., McKee, A. (2002). *Primal leadership: Learning to lead with emotional intelligence*. Boston: Harvard Business Press.
- Guillemin, M., & Gillam, L. (2004). Ethics, reflexivity, and "ethically important moments" in research. *Qualitative Inquiry*, 10 (2), 261-280.
- Hannay, M. (2009). The cross-cultural leader: The application of servant leadership theory in the international context. *Journal of International Business and Cultural Studies*, 1, 1-12.
- Hersey, P. (1984). *The situational leader*. Escondido, CA: The Center for Leadership Studies.
- Herzberg, F. (1966). *Work and the nature of man*. New York: Thomas Y. Crowell.
- Hess, K., & Bandyopadhyay, J. (2010). Future global leadership and gender issues: An exploration. *Competiton Forum*, 8(2), 183-190.
- Hill, C. (2011). *International business: Competing in the global marketplace* (6<sup>th</sup> edition) New York: McGraw-Hill Irwin.
- Katz, D. & Kahn, R. (1978). *The social psychology of organizations* (2<sup>nd</sup> edition). New York: John Wiley & Sons.
- Kouzes, J. & Posner, B. (2010). *The truth about leadership*. San Francisco: Jossey-Bass.

Kouzes, J. & Posner, B. (2003). Encouraging the heart: A leader's guide to rewarding and recognizing others. San Francisco: Jossey-Bass.

Landy, F. (2005). Some historical and scientific issues related to research on emotional intelligence. *Journal of Organizational Behavior*, 26, 411-424.

Liang, F., & Nicholas, S. (2007). Exploring subsidiary strategic roles in a transitional economy: Evidence from China. *Journal of Global Business Issues*, 1, (2), 101-115.

Manning, T. (2003). Leadership across cultures: Attachment style influences. *Journal of Leadership and Organizational Studies* 9(3), 20-30.

Morgan, G. (2006). Images of organization (updated edition of the international bestseller). Thousand Oaks: CA. Sage.

Nadler, R. (2007). Leaders' playbook: How to apply emotional intelligence-keys to great leadership. Santa Barbara, CA: Psycpress Press.

Nadler, R. (2011). Leading with emotional intelligence. New York: McGraw-Hill.

Newcombe, M. & Ashkanasy, N. (2002). The code of affect and affective congruence in perceptions of leaders: An experimental study. *Leadership Quarterly* 13, 601-04.

Northouse, P. (2007). Leadership: Theory and practice. Thousand Oaks, CA: Sage.

Rauch, K. & Schumacher, L. (2009). (Content Editors). Global Strategic Leadership. Indiana Tech LDS 7007 Course Pack. Columbia, MO: MBA Direct.

Salovey, P., & Mayer, J. (1990). Emotional intelligence, imagination, cognition, and personality. 9(3). 185-211.

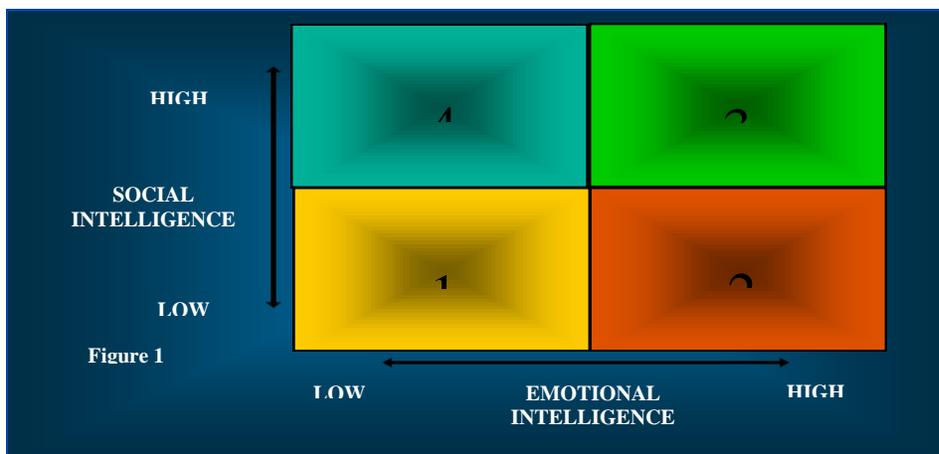
Tickle-Dengan, L. & Rosenthal, R. (1990). The nature of rapport and its nonverbal correlates. *Psychological Inquiry* 1, no. 4, 285-293.

Wang, Y., & Huang, T. (2009). The relationship of transformational leadership with group cohesiveness and emotional intelligence. *Social Behavior and Personality*, 37(3), 379 - 392.

Yukl, G. (2010). Leadership in organizations (7th edition). Upper Saddle River: Pearson Education, Inc.

## APPENDIX

Figure 1



# **AN EXPLORATORY STUDY ON PERCEIVED SERVICE QUALITY IN INFORMAL CONVENIENCE STORES IN SOUTH AFRICA**

**Thérèse du Plooy and Johan de Jager**  
**Tshwane University of Technology, South Africa**  
**and**  
**Dion van Zyl, University of South Africa, South Africa**

## **ABSTRACT**

*A review of the literature reveals that the measuring of service quality in businesses operating in the formal sector has attracted far more attention than businesses operating in the informal sector. To focus on the factors that influence service quality in informal businesses is just as important. For this study, survey data were obtained from 371 shoppers at informal shopping outlets located in South Africa. The findings revealed that 'empathy', 'tangibility', 'reliability' and 'assurance' were considered to be the main drivers of perceived levels of service quality amongst shoppers at informal retail outlets in South Africa. Practical implications for informal retailers, limitations and suggestions for future studies were articulated.*

## **INTRODUCTION**

Various studies have indicated that the vast majority of consumers in developing nations, including South Africa, are poor. Although most of these people could be classified as poor, their aggregate buying power or contribution to a country's GDP cannot be underestimated. Therefore, investigating the role that businesses are playing in the upliftment of this sector of the community is valuable. One of the many challenges for these countries is to determine how to upgrade these communities in terms of a variety of service-delivery efforts (Rogerson, Bendixen & Abratt, 2007). However, a considerable volume of academic study has been devoted to customers' assessment of the service delivery by formal retail stores (Gremler & Gwinner, 2008; Ha, 2009; Maxham, Netemeyer & Lichtenstein, 2008; Wong & Sohal, 2003). Most studies have examined retail service quality in developed countries, but the focus has only recently expanded to include encounters in the diverse retail environment in developing countries, such as India (Darshan, 2005) and the Philippines (Munoz, Raven & Welsh, 2005). Clearly, less attention has been paid to the informal sector and to satisfying their needs, and to uplifting communities in developing markets; and there seems to be very little published recently on the customer service in the informal food retail environment in South Africa. The following section will consider retail service quality from a developing perspective.

## **RETAIL SERVICE QUALITY FROM A DEVELOPING PERSPECTIVE**

Several recent studies have explored the cultural differences between service orientations in different countries. Some follow a customer perspective, while others explore it from the view of service suppliers. Seock and Lin (2011) examined the cultural influences on consumers' loyalty and evaluations of the relative importance of apparel retail store attributes in Taiwan and the USA. The findings showed that culture has a significant influence on the relative importance of retail stores' attributed dimensions. Brady and Robertson (2001)

surveyed fast food customers in the US and Ecuador; and they found that the effect of service quality on behavioural intentions (repurchase intentions, loyalty, and word-of-mouth) is mediated by the consumers' level of satisfaction. However, they found that this relationship is consistent across cultures. Carraher, Parnell and Spillan (2009) interviewed almost 1342 small business owners from Austria, the Czech Republic, Hungary, Latvia, Slovakia, and Slovenia – to determine the importance of personality attributes to explain service-oriented performance, such as helpfulness, thoughtfulness, consideration, and co-operation.

Wong and Sohal (2003:292) undertook a study in Melbourne, Australia to determine the influence of store staff on customers' loyalty towards retail stores. They compared the retail service quality provided by stores in a country retail district with those provided by stores in a city's retail district. Klemz, Boshoff, and Mazibuko, (2006:590) compared the service delivery of staff in urban retail stores with that in non-urban areas in South Africa. Although the drivers of service quality found in these studies were different, both imply significant differences – when comparing service quality in stores in county or rural areas with that in urban areas. Some of these studies seem to suggest that the influence of national and regional cultural differences on customer perceptions of service encounters in the retail environment gives the best explanation for these differences (Darshan, 2005; Munoz, *et al*, 2005).

Malhotra, Ulgado, Agarwal and Baalbaki (1994) investigated the differences in perceived service quality between customers in developed and that in developing countries. They suggested that this is mainly due to environmental, economic, and socio-cultural factors that impact on their perceptions and expectations with regard to service quality. The findings of these studies are clearly supported by Malhotra, Ulgado, Agarwal, Shainesh and Wu (2005:256) who strongly oppose the application of Western approaches and measures of service quality employed by service companies that operate in a developing environment, and in diverse cultures. They warn that this would result in unsatisfactory and inappropriate marketing strategies. It is clear that there is still a need for research on service-quality perceptions in developing countries, because the research focus has primarily been on developed countries. The empirical section of this study will now be described.

## **RESEARCH OBJECTIVES**

The study set out to measure, from a selection of customers, the level of satisfaction with the overall service quality provided by small informal retail stores in South Africa. Two of the most prevalent types of informal retail operation has investigated in this study: Spaza shops and small general dealers in townships. In addition, the study aims to identify the service quality dimensions that best explain the perceived level of service quality, as well as customers' future intentions of shopping at the retail store.

More particularly, the study was guided by the following specific research objectives, which are:

- To confirm the dimensionality and internal reliability of service-quality dimensions developed on an a-priori basis from the existing literature;
- To measure the level of satisfaction with the overall service quality provided by small informal retail stores in South Africa;
- To obtain a ranking of the service-quality dimensions based on the average composite ratings of respondents;
- To identify the significant predictors of overall service quality and intention to shop in the future; and to identify statistically significant differences in the average ratings of demographic groups.

## **RESEARCH DESIGN AND METHODOLOGY**

### **Data collection and sampling**

The survey was conducted at five selected areas, with informal grocery stores, in the largest province of South Africa. A total of 400 questionnaires were administered by trained interviewers fluent in English, as well as the prominent African languages spoken in the selected areas. Every third respondent who passed the data-collection point was screened and invited to participate in the study. This resulted in a convenience sample of 390 shoppers at ten informal shopping outlets in the selected areas.

In developing the survey instrument, an extensive literature review was conducted, including a review of several empirical studies on measuring service quality in a particular shopping environment. From this, forty-seven statements (or items) measuring six different service quality dimensions were selected. Statements for this quantitative study were structured so that each could be rated using a 5-point rating scale, where 1 = strongly disagree; to 5 = strongly agree. In order to obtain a measurement for a dimension, a composite was calculated based on the ratings of the subscales.

In addition to the inclusion of service-quality items, the questionnaire also included questions for recording the demographic characteristics of the respondents, such as gender, age, highest educational qualification, household income and population group. Lastly, the questionnaire sought additional information relating to the shop, including location, type of structure and the type of services offered.

To address the dimensionality and the convergent and discriminant validity issues, a number of inter-item correlation matrices were constructed – using the individual items, as well as the composite service quality dimensions. Inspection of the matrices revealed that correlations among items measuring the same construct were uniformly high, compared with the correlations between composite dimensions (table 1).

**Table 1: Inter-item correlation matrix**

		Tangibility	Service scape	Reliability	Responsiveness	Assurance	Empathy
Tangibility	Pearson Correlation	1					
	n	371					
Service scape	Pearson Correlation	0.76	1				
	Sig. (2-tailed)	0.000					
	n	371	371				
Reliability	Pearson Correlation	0.51	0.49	1			
	Sig. (2-tailed)	0.000	0.000				
	n	371	371	371			
Responsiveness	Pearson Correlation	0.42	0.44	0.65	1		
	Sig. (2-tailed)	0.000	0.000	0.000			
	n	371	371	371	371		
Assurance	Pearson Correlation	0.56	0.60	0.57	0.61	1	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		
	n	371	371	371	371	371	
Empathy	Pearson Correlation	0.45	0.44	0.57	0.66	0.60	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	n	371	371	371	371	371	371

□ In addition, the internal reliability of composite dimensions was confirmed by means of Cronbach’s alpha. The main findings regarding the internal reliability of composite dimensions may be summarised as follows:

- *Tangibility*: This was initially measured by 14 items, of which 12 were retained for further analysis. The coefficient alpha value for this subscale was 0.874.
- *Servicescapes*: This was measured by 10 items, of which all were retained for further analysis. The coefficient alpha value for this subscale was 0.826.
- *Reliability*: This was measured by five items, all of which were retained for further analysis. The coefficient alpha value for this subscale was 0.726.
- *Responsiveness*: This was measured by seven items, of which four were retained for further analysis. The coefficient alpha value for this subscale was 0.803.
- *Assurance*: This was measured by six items, all of which were retained for further analysis. The coefficient alpha value for this subscale was 0.692.
- *Empathy*: This was measured by five items, of which three were retained for further analysis. The coefficient alpha value for this subscale was 0.785.
- *Overall satisfaction with service quality and future intention to shop*: The statements read: ‘I am satisfied with the overall service quality’; and ‘I intend to shop at this store/shop in the future’.

□

□ The service quality dimensions and the items within each are listed in the appendix. The standardised item alpha for the scale was calculated as 0.935, exceeding the suggested level of 0.7, as recommended by Nunnally (1978).

## DATA ANALYSIS AND RESULTS

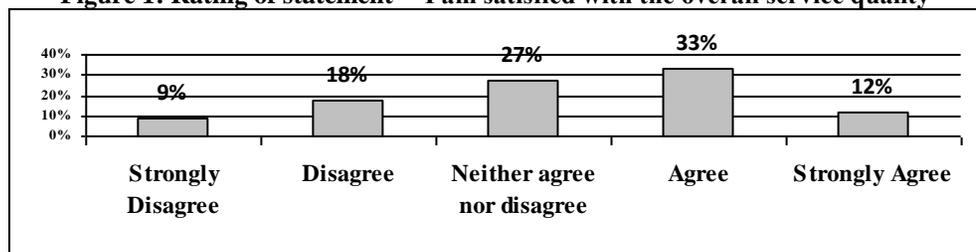
### Sample characteristics

The demographic profile of the respondents interviewed will now be reviewed. The majority of the shoppers interviewed (93%) were black Africans, since it is mostly this population group buying from small informal food stores. Females made up 54% of the sample, while 78% of the respondents were younger than 35 years. About two-thirds reported an average household income of less than R5 000 per month. Respondents also reside predominantly in informal settlements (63%). With regard to the way respondents were served, half of the sample were served over the counter, 35% through a window, and 15% through self-help.

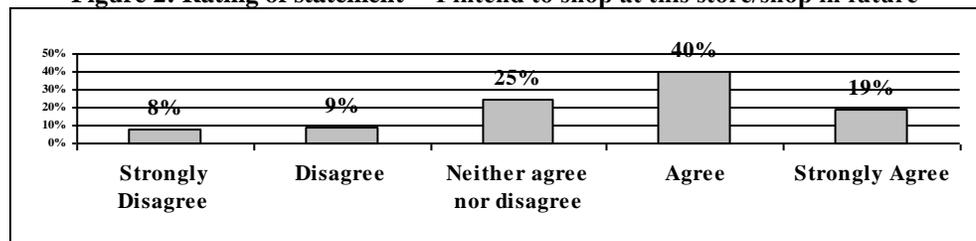
### Overall rating of service quality and intention to shop

As many as 45% of the respondents agreed or strongly agreed with the statement: 'I am satisfied with the overall service quality'. In contrast, 28% disagreed or strongly disagreed. The remaining 27% neither agreed nor disagreed (See figure 1). With regard to the statement: 'I intend to shop at this store/shop in future', the majority of the respondents (59%) agreed or strongly agreed.

**Figure 1: Rating of statement - 'I am satisfied with the overall service quality'**



**Figure 2: Rating of statement - 'I intend to shop at this store/shop in future'**



In contrast, 16% disagreed or strongly disagreed. The remaining 25% neither agreed nor disagreed. A significant positive correlation of 0.66 ( $p = 0.000$ ) was found between the two statements, confirming a positive relationship between the level of service quality and the future intention to shop (See figure 2).

### Average ratings of service quality dimensions

Table 2 shows the average ratings for the six service dimensions. Results showed that 'reliability' obtained the highest average rating (3.35) of the six dimensions, followed by 'responsiveness' (3.32) and 'empathy' (3.31). 'Servicescape' (3.25) obtained the lowest average rating. A Friedman test confirmed significant differences between average ratings ( $p = 0.036$ ), in particular the top- and bottom-rated dimensions.

**Table 2: Average ratings of the service quality dimensions**

Dimensions	Mean	SD	Rank
Reliability	3.35	0.72	1
Responsiveness	3.32	0.83	2
Empathy	3.32	0.82	3
Tangibility	3.27	0.76	4
Assurance	3.26	0.65	5
Service scape	3.25	0.72	6
<i>Friedman test (sig=0.036*)</i>			

## Identifying the drivers of service quality and intention to shop

In order to identify those dimensions that best predict overall service quality and the intention to shop in future, a stepwise multiple regression analysis was performed, as shown in Table 3. The stepwise regression model ( $F = 1355.51$ ;  $p < 0.000$ ; adjusted R square = 0.936) identified ‘empathy’, ‘tangibility’, ‘reliability’ and ‘assurance’ as the best predictors of overall service quality. These dimensions explained around 94% of the overall variation in the ratings of overall service quality. Inspection of the standardised Beta coefficients reveals that ‘empathy’ contributes most in predicting overall service quality, relative to the other service quality dimensions.

With regard to the intention to shop, the stepwise regression model ( $F = 1786.06$ ;  $p < 0.000$ ; adjusted R square = 0.935) identified the following variables as the best predictors: ‘assurance’, ‘reliability’ and ‘empathy’. Of interest to the researchers was the exclusion of ‘tangibility’ from the model. In addition, where ‘empathy’ contributed most in explaining the variation in overall service quality relative to the other predictors, ‘assurance’ contributed most in explaining the variation in intention to buy at the shop in future.

## Differences in the ratings of demographic groups

Various statistical tests (independent t-tests and ANOVA) were performed to identify significant differences in the average ratings of demographic groups. The following main results are of relevance.

- Older respondents were significantly more satisfied with service quality aspects, such as the ‘service-scape’, ‘reliability’, ‘responsiveness’ and ‘overall service quality’, than were the younger respondents.
- Respondents with a higher educational profile were significantly more satisfied with service quality aspects such as ‘tangibles’, ‘servicescape’ and ‘assurance’ than were other educational groups.
- Higher income groups showed more satisfaction with service quality aspects, such as ‘assurance’, ‘overall service quality’ and ‘intention to shop in future’ than did lower income groups.
- There were no significant differences in the average ratings of gender and race groups.

Similar statistical tests were performed to identify whether a variation in the study variables could further be explained by aspects, such as shop location, structure and type of service provided. The following results were obtained.

- Respondents interviewed at shops located in formal settlements showed higher levels of satisfaction with aspects relating to ‘tangibles’.
- Respondents interviewed at shops that were located in a brick building or inside a main house showed higher levels of satisfaction than did those respondents who were interviewed at shops that were located in a shack or room/garage attached to a house. Differences in mean ratings were evident across all the study variables.
- Lastly, respondents that were able to serve themselves when shopping showed consistently higher levels of satisfaction when compared with other means of service. Respondents being served through a window were the least satisfied.

**Table 3: Regression analysis**

Factors	Unstandardised Coefficients		Standardised Coefficients	T	Sig
	B	SE	Beta		
Empathy	0.36	0.07	0.36	4.92	0.000*
Tangibility	0.23	0.07	0.23	3.20	0.002*

Reliability	0.21	0.08	0.21	2.61	0.009*
Assurance	0.18	0.09	0.18	1.98	0.049*
<b>Dependent variable: Satisfaction with overall service quality</b>					
<i>R = 0.968 Rsq = 0.937 Adj Rsq = 0.936 F = 1355.51 p=0.000*</i>					
	<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>		
<b>Factors</b>	<b>B</b>	<b>SE</b>	<b>Beta</b>	<b>T</b>	<b>Sig</b>
Assurance	0.44	0.09	0.39	4.807	0.000*
Reliability	0.35	0.08	0.32	4.138	0.000*
Empathy	0.28	0.08	0.26	3.572	0.000*
<b>Dependent variable: Intention to shop here again in future</b>					
<i>R = 0.967 Rsq = 0.936 Adj Rsq = 0.935 F = 1786.06 p=0.000*</i>					

## RECOMMENDATIONS AND IMPLICATIONS

A review of the literature revealed that service quality in businesses operating in the formal sector had received more attention than businesses operating in the informal sector. Yet, when considering the latter's customers, the aggregated buying power or contribution they make to South Africa's GDP should not be underestimated. In fact, Ligthelm (2003) highlighted the rapid growth of the informal economy in South Africa. In a very competitive and demanding economic climate, the focus on the factors that influence service quality in informal businesses is thus considered valuable to all shop owners. In addition, the findings could also be of interest to government and other groups that provide support and guidance to informal retailers.

The results showed that in general customers are satisfied with the overall service quality provided by informal retail shops. However, the results also showed that about one in four respondents interviewed was not satisfied. For some shops, the level of service quality should be a matter of concern. Small informal retail outlets cannot compete with larger and more formal outlets on aspects such as available resources, marketing research and economies of scale. In order to survive and grow, these informal retailers need to ensure that a quality service is delivered.

This study also found a significant positive correlation between perceived service quality and the intention to shop in future at the store. This is in line with the findings from studies by Brown, Brown, and Ostrom (2002) and Dabholkar, Thorpe and Rentz (1996). These researchers identified a strong positive relationship between service quality and the intention to repurchase. They also found a strong relationship between service quality and the probability of recommendation. With services that are mostly intangible, and are usually produced after purchasing (Reimer & Kuehn, 2005), prospective customers face a high degree of uncertainty and need to be persuaded or encouraged to shop at a particular outlet, because of positive word-of-mouth communication with other shoppers.

The delivery of service quality should therefore form an integral part of any retailer's strategy. In addition, retailers benefit from customers satisfaction, since satisfied customers can be retained more successfully, and the market share can be expanded further – ultimately improving their overall financial performance (Kim & Jin, 2002:224). What can also work in the favour of the smaller retail outlets is the fact that they can deliver a customised service delivery, as they are more flexible and responsive to their customers' unique requirements (Gottfridsson, 2010). These strategies are more readily attainable by small businesses, as they are in closer contact with their customers.

Areas that were identified as best predictors of satisfaction with service quality included 'empathy', 'tangibility', 'reliability' and 'assurance'. In fact, of the four predictors, 'empathy' was found to be the most dominant. With regard to intention to shop, the best predictors were identified as 'assurance', 'reliability' and 'empathy'. Where 'empathy' was most dominant in predicting overall service quality, 'assurance' was identified as being the most dominant in predicting future shopping intention. These underlying aspects should be focal points when developing service quality strategies for informal retail shops. With limited resources, retailers need to consider carefully a balanced service mix that meets the expectations of their customers, as well as being consistent with the attributes most highly valued by those most likely to buy at their stores.

Other challenge areas that emerged from the study were the differences in service quality perceptions measured between the various demographic and geographical groups. The results revealed that demographics, such as age, educational level and income, explained some variation in the respondents' satisfaction ratings. With regard to location, differences in perceived satisfaction levels were evident amongst groups that shopped in formal settlements versus those who shopped in informal settlements. The structure of the shop and the means of service delivery also played some part in explaining these variations.

## LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

As with any empirical study, this study also has some limitations. These shortcomings could provide other promising avenues for further research. The study's focus on informal grocery stores in one province may limit the extent to which the findings can be generalized to the rest of South Africa – or to other informal sectors. The current study could therefore be extended to other provinces in South Africa, and to other developing countries. Another question that has emerged from this study is: How different is the overall level of perceived service quality measured amongst informal retail shoppers when compared with those that shop at formal outlets? A comparative study could therefore be of value to gain understanding of the service quality challenges faced by informal retail stores when competing against the formal outlets.

## REFERENCES

- Brady, M.K. & Robertson, C.J. "Searching for a consensus on the antecedent role of service quality and satisfaction: an exploratory cross-national study." *Journal of Business Research* Vol. 51 (2001): 53-60.
- Brown, S.W, Brown, S. & Ostrom, A. "A Meta analysis of service quality research." Paper Presented at the QUIS 8: Quality in Service: Crossing Boundaries Conference, Victoria, Canada, June 11–14, 2002.
- Carraher, S.; Parnell, J.A.; Spillan, J.E. "Customer service-orientation of small retail business owners in Austria, The Czech Republic, Hungary, Latvia, Slovakia, and Slovenia", *Baltic Journal of Management*, Vol. 4, Iss. 3, (2009): 251 – 268.
- Dabholkar, P.A.; Thorpe, D.I. & Rentz, J.O. A measure of service quality for retail stores: scale development and validation. *Journal of the Academy of Marketing Science*, Vol. 24, No.1, (1996): 3-16.
- Darshan, P. "Measuring retail service quality: an empirical study in a developing country." *South Asian Journal of Management*, Apr-Jun (2005).
- Gottfridsson, P. "Development of personalised services in small businesses: an iterative learning process." *Managing Service Quality*, Vol. 20, Iss. 4, (2010): 388 – 400.
- Gremler, D.D. & Gwinner, K.P. "Rapport-Building Behaviours used by Retail Employees". *Journal of Retailing*, Vol. 84, Iss. 3, (2008) 308–324
- Ha, H.Y. "Effects of Two Types of Service Quality on Brand Equity in China: The Moderating Roles of Satisfaction, Brand Associations, and Brand Loyalty". *Seoul Journal of Business*, Vol. 15, No. 2 (Dec 2009): 59~83.
- Kim, S. & Jin, B. "Validating the retail service quality scale for US and Korean customers of discount stores, an exploratory study." *Journal of services marketing*, Vol. 16, Iss. 2/3, (2002): 223-237.
- Klemz, B.R.; Boshoff, C. & Mazibuko, N. "Emerging markets in black South African townships: Small local independently owned versus large national retailers. *European Journal of Marketing*"; Vol. 40, Iss. 5/6, (2006): 590 – 610.

- Ligthelm, A.A. & Masuku, T. 2003. "Size, structure and profile of the informal retail sector in South Africa". Research report no. 323. Pretoria: Unisa, Bureau of Market Research.
- Malhotra, N.K.; Ulgado, F.M.; Agarwal, J. & Baalbaki, I.B. "A comparative evaluation of the dimensions of service quality between developed and developing countries". *International Marketing Review*, Vol. 11, Iss. 2, (1994): 5-15.
- Malhotra, N.K.; Ulgado, F.M.; Agarwal, J.; Shainesh, G. & Wu, L. "Dimensions of service quality in developed and developing countries: multi-country cross-cultural comparisons." *International Marketing Review*, Vol. 22, Iss.3, (2005): 256-78.
- Maxham, J.; Netemeyer, R.G. & Lichtenstein, D.R. "The Retail Value Chain: Linking Employee Perceptions to Employee Performance, Customer Evaluations, and Store Performance". *Marketing Science*. Vol. 27, No. 2, March–April (2008): 147–167.
- Munoz, J.M.; Raven, P.W. & Welsh, D.H.B. 2005. "An exploratory study of retail service management in the Philippines". *Proceedings of the US association for small business and entrepreneurship*, Jan, (2005).
- Nunnally J.C. 1978. *Psychometric Theory*. 2nd ed. New York, NY: McGraw-Hill.
- Reimer, A. & Kuehn, R. "The impact of servicescape on quality perception", *European Journal of Marketing*, Vol. 39, Iss. 7/8 (2005): 785-808.
- Seock, Y.K. & Lin, C. "Cultural influence on loyalty tendency and evaluation of retail store attributes: An analysis of Taiwanese and American consumers", *International Journal of Retail & Distribution Management*, Vol. 39, Iss: 2, (2011): 94 – 113.
- Wong, A. & Sohal, A. "Assessing customer-salesperson interactions in a retail chain: differences between city and country retail districts". *Marketing Intelligence & Planning*, Vol. 21, Iss.5. (2003): 292 – 304.

# **EXPLORING THE EFFECTIVENESS OF MINIBUS TAXIS AS AN ADVERTISING MEDIUM IN AN EMERGING MARKET**

**Thérèse du Plooy, Tshwane University of Technology, South Africa  
Giselle du Plessis, University of Pretoria, South Africa**

## **ABSTRACT**

*This study explored the effectiveness of minibus taxi advertising in South Africa by interviewing regular minibus taxi commuters about their attitudes, perceptions and attention of minibus taxi advertising. Data was collected from 360 commuters in Tshwane, one of the largest metropolitan areas in South Africa. A stratified sample was applied by intercepting minibus taxi commuters at the eighteen formal and semi-formal taxi facilities. A structured questionnaire, with 5-point Likert scales, was used in order to measure the different constructs. The results showed that the captive audience had strong positive feelings towards advertising in general and enjoyed looking at advertisements and found it entertaining. A strong positive attitude towards taxi advertising is evident. Perceptions towards taxi advertising are overall positive and taxi advertising attracted attention. An integrated approach should be followed utilising traditional advertising mediums combined with out of home media and specifically taxi advertising to reach the emerging market.*

## **INTRODUCTION**

Until recently OHM (Out-of-home media) has been one of the last options to be considered for advertising campaigns, but it has become more attractive to advertisers lately. The expenditure on traditional media such as television, radio and newspapers has experienced dramatic decline during the recent economic recession. The fragmentation of mass media worldwide resulted in a decrease in the popularity of traditional media such as newspapers and television, with increasingly more being spent on new media such as the internet and mobile phones. Lately there has also been a positive shift toward OHM which is evident from the growth experienced in several international market. Fortenberry and McGoldrick (2010) reported that a total of approximately \$6.99 billion was spend on outdoor advertising in the USA in 2007 with billboard advertising accounting for 66% of this expenditure. The growth is significant, with expenditures doubling over the previous decade, yielding an average growth rate of 6.1%. Globally outdoor advertising has also increased significantly, comprising around 14% of the advertising spend in China and Japan and more than 10% in France and Greece. The drastic increase of the popularity of OHM in Russia after their inclusion in the free market system is also remarkable. In particular large billboards, are encouraged because there as it is regarded as an indication of prosperity in Russia. It can be expected that the international growth trend of OHM should also be the case in South Africa, however the contrary seems to be the case. Specifically transit advertising is currently an under-utilised OHM, despite that it might the one medium that can offer the solution to the increasingly cluttered outdoor advertising space (Du Preez, 2007). Despite the international growth and increasing attractiveness of OHM it also received relatively little attention in the marketing literature (Wilson & Till, 2008; Veloutsou & O'Donnell, 2005). There still seems to be a lack of published research on the South African commuter market and how to use transit advertising effectively. This is clearly an area that needs to be explored more in depth and is therefore the focus of this study.

## **MINIBUS TAXI ADVERTING AS TRANSIT MEDIA**

According to Du Plessis (2010) outdoor advertising falls under support media. Outdoor advertising which includes billboards, posters and in-transit advertising forms part of support media. Transit advertising is aimed at commuters making use of transportation services on a daily basis, including buses, taxis, commuter trains and aeroplanes. Three types of transit advertising can be identified: Posters found inside buses, taxis and trains, outside posters that are placed on the sides, backs and/or roofs of buses, taxis and trains and floor displays, island showcases and electronic signs that can also be found in airports, train stations and taxi ranks. Veloutsou & O'Donnell (2005) explains that transit advertising is mostly used as a secondary advertising medium that works best in conjunction with other mediums. It is believed to be very effective in reinforcing existing brand or brand messages and less so to create awareness for new brands.

Transit advertising can also be considered one of the most cost effective means of reaching a bigger audience according to Mudeliar (2008). Gray (2008) also suggests that transit advertising allows for extended coverage and detailed, repetitive messaging. Vehicle branding is specifically designed to engage commuters while queuing in large volumes at taxi ranks and bus depots. In addition to reaching thousands commuters every day transit advertising provides detailed information about specific products. Transit media has the potential to bring the advertisers message straight to the consumer in new, creative and attention-grabbing formats that differ tremendously from the tedious, worn-out traditional outdoor mediums. Transit advertisements cannot be ignored as easily as other mediums, because it cannot be switched off as one would with a television or radio, and it grabs attention whether standing still or in motion (Mudeliar, 2008). Advertisers increasingly also integrate OHM types with other media in their advertising campaigns to increase the effectiveness significantly. Transit advertising can be combined with radio advertising (Gray, 2008) or mobile phones can be used to generate feedback that allows advertisers to examine who is viewing and interacting with the messages (Wayne, 2010).

It should be noted that public transit and taxis in emerging markets such as South Africa are rather different when compared to developed countries. The emerging market in South Africa makes use of a combination of transport i.e. bus, minibus taxi's, metered taxi's, trains and motor vehicles. More than one mode of transport would often be used to reach work or home on a daily basis. The South African taxi industry has minibus taxi's transporting up to 16 passengers as well as smaller taxi's transporting fewer passengers. The emerging market mostly makes use of the sixteen-seater minibus taxis. The minibus taxi industry is carrying 65% of South Africa's public transport passengers which consist mainly of the emerging market. The role of taxis will be mainly to provide feeder services to larger carriers of people such as the Bus Rapid Transit and Gautrain (Van Zyl, 2009). Commuters are seen as a captive audience in a controlled environment, considering that minibus taxi commuters in South Africa spend on average about 29 minutes on a taxi trip being exposed to media (OHMSA<sup>2</sup>, 2010).

Two recent studies on transit media include taxi advertising (Veloutsou & O'Donnell, 2005) and airport advertising (Till, 2008). Veloutsou and O'Donnell (2005) conducted exploratory research in three areas in Scotland, on the overall attitudes and feelings towards advertising, outdoor advertising and taxi advertising from the perspective of the targeted audience. This study confirmed the high reach of outdoor advertising and found that effectiveness of taxi advertising was dependant on the level of exposure, area of habit (work, live and travel) and the amount of information that outdoor advertising conveyed. It was suggested that taxi advertising should be used as a secondary medium in an IMC campaign to reinforce a message, to support an already established brand or to inform on developments related to the advertised brand. Wilson and Till (2008) look at the effectiveness of airport advertising by observing how air travelers interact with this type of transit media and surveys to measure the recall and recognition. The location, format and size of the advertisements in the airport terminals were assessed based on their level of exposure to passersby. This findings revealed how the size and shapes of the advertising format, as well the number of words in the copy influence recall and recognition. The major findings confirmed the importance of influences such as location or placement of the advertisements as well repetition on brand recognition. These findings of this study are evidently also applicable to other transit media such as taxi, bus and train advertising. However, very little has been published on transit media, more specifically mini-taxi bus advertising in South Africa.

## **RESEARCH OBJECTIVES**

The following objectives guided the study:

- To explore the general view of regular minibus taxi commuters towards advertising in general.
- To explore the view of regular minibus taxi commuters towards taxi advertising.
- To investigate the perception towards taxi advertising by regular minibus taxi commuters.
- To investigate the attention paid towards taxi advertising by regular minibus taxi commuters.

## **RESEARCH DESIGN AND METHODOLOGY**

### **Data collection and sampling**

Data for this study was collected by 360 personal interviews with regular minibus taxi commuters in Tshwane, one of the largest metropolitan areas in South Africa. These commuters form part of the large emerging market in South Africa. Trained interviewers under close supervision conducted the fieldwork. A stratified sample was applied by intercepting minibus taxi commuters at eighteen formal and semi-formal minibus taxi facilities in the selected area. Respondents who passed the data collection point at or close to the selected taxi ranks were screened to ensure they were regular minibus taxi commuters and invited to participate in the study.

### **Measuring instrument**

Veloutsou and O'Donnell's (2005) structured questionnaire was used as basis for this study, but had to be adapted for the South African market. The adaptation was done based on the input of media experts at one of the largest Transit media companies in South Africa. The questionnaire was then pre-tested with a convenience sample of 30 students who make use of minibus taxis as their major form of transport. The students' demographic profile matched the target profile and could therefore be used to pre-test the questionnaire. A 5-point Likert scale was used to measure respondent's attitudes, perceptions and attention towards minibus taxi advertising. The following major aspects were included in the questionnaire: Commuting profile, general attitudes towards advertising and taxi advertising, perceptions of taxi advertising, attention towards taxi advertising as well as preferred advertising media. The main findings of the study will now be described.

## **DATA ANALYSIS AND RESULTS**

### **Profile of the Sample**

The profile of the sample is shown in table 1. The demographic profile of the sample is as follows: 46.7% males and 53.3% females made use of minibus taxi transportation. The majority (71%) of respondents were between 19 and 40 years old. It is also clear that majority of the minibus taxi commuters are employed, earning a disposable income or were students. The household income of the majority of respondents (54%) are below R7 999 per month, while almost 20% has an household income between of R9000 and R16 999 per month. Ninety-three per cent (93%) of commuters interviewed were black Africans.

It can be seen that the type of transport usually used by a large majority of the respondents was minibus taxi's (90%), followed by bus transport (28%) and trains (16%). Many commuters make use of a combination of modes of transport. The results reflect the considerable amount of time commuters spend on public transportation either waiting for minibus taxis or commuting. The most common aspects commuters thought about in the taxi were their money, their budget, getting a job. After that they thought about family/children/friends. Their work/task for the day was also on their mind. The activities commuters kept themselves busy with most while in the taxi mostly were looking out of the window followed by listening to the radio, talking to other passengers and chatting on their cell phone. This was followed by reading a magazine and the newspaper. This indicates the important role the integrated marketing communication mix plays in reaching commuters in different ways.

**Table 1 Profile of the regular commuters**

<b>Gender</b>	Male	168	46.7%
	Female	192	53.3%
<b>Age group</b>	19 – 30	156	43.3%
	31 – 40	100	27.8%
	41 – 50	58	16.1%
	50 +	46	12.8%
<b>Working status</b>	Work full-time	170	47.20%
	Work part-time	52	14.40%
	Housewife	7	1.90%
	Student	77	21.40%
	Retired	9	2.50%
	Self-employed	20	5.60%
	Unemployed	25	6.90%
<b>Monthly household income</b>	R0-R7 999	194	53.90%
	R8 000-R16 999	69	19.20%
	R17 000-R24 999	11	3.10%
	R25 000 +	9	2.50%
<b>Race group</b>	African	336	93
	White	8	2
	Coloured	16	4
	Asian	0	0
<b>Type of public transport usually used</b>	Taxi	323	89.70%
	Bus	102	28.30%
	Train	59	16.40%
<b>Time spent commuting per day</b>	0 - 30 minutes	28	7.80%
	31 - 45 minutes	100	27.80%
	46 - 60 minutes	219	60.80%
	More than 1 hour	13	3.60%
<b>Thinking about when in the taxi</b>	My money, my budget, getting a job	207	58.00%
	My family /children/friends	195	54.60%
	My work/task for the day	168	47.10%
	My ambitions, my dreams, my holiday	126	35.30%
	What I am having for my next meal	125	35.00%
	What I am doing after work	124	34.70%
	What I need to make for dinner	98	27.50%
	What shopping I need to do in the week	91	25.50%
	My safety	13	3.60%
	My destination	5	1.40%
<b>Activity while in the taxi</b>	Looking out the window	220	62.30%
	Listening to the radio	204	57.80%
	Talking to the other passengers	161	45.60%
	Chatting on my cell phone	146	41.40%
	Reading a magazine	116	32.90%
	Reading the newspaper	100	28.3%
	Watching TV in the taxi	26	7.40%

## Regular minibus taxi commuters' view on advertising and taxi advertising

The view of the respondents on advertising and taxi advertising will be describe in the following section. When considering their general feeling towards advertising, it is interesting to note that the commuters felt strongly about advertising being a valuable source of information and that advertising keeps them up to date with new product feature developments. The commuters had a strong positive feeling towards advertising and enjoyed looking at advertisements. Only a small percentage (16%) of commuters felt advertisements were

irritating but nearly a third of the commuters felt that advertising is misleading. Just more than half felt that advertisements were entertaining.

**Table 2: General feeling of regular commuters towards advertising**

	Mean	SD	Frequencies %		
			Strongly Disagree/ Disagree	Neutral	Strongly agree/ Agree
Overall I feel positive towards advertising	3.93	0.91	7%	18%	75%
Advertising is a valuable source of information	4.39	0.75	3%	5%	92%
Advertisements are irritating	2.51	1.09	51%	33%	16%
I like to look at advertisements	3.74	0.92	10%	20%	70%
Advertisements are entertaining	3.59	0.96	11%	32%	57%
Advertising keeps me up to date with new product feature developments	4.11	0.94	6%	11%	83%
To me advertising is often misleading	2.87	1.14	36%	37%	27%
To me there are too many advertising	3.56	1.20	21%	20%	59%

The strong positive attitude towards taxi advertising is evident when looking at commuters attitudes specially towards taxi advertising (table 3). Two thirds of commuters' perceptions towards taxi advertising were very positive. The findings of the study are far more positive than one would anticipate. It is unexpected to find contemporary consumers expressing positive views towards the use of any advertising medium, as it is well established that the people often makes every effort to avoid the increasing number of advertising messages attempting to catch their attention. More than two thirds of the respondents indicated that they are familiar with the brand names advertised on taxis, supporting the view that taxi advertising is very effective to reinforce an existing message or to maintain high levels of awareness for leading brands.

**Table 3: General attitudes of regular commuters towards taxi advertising**

	Mean	SD	Frequencies %		
			Strongly Disagree/ Disagree	Neutral	Strongly agree/ Agree
Overall I feel positive towards taxi advertising	3.6	0.93	12%	28%	60%
I like to look at taxis covered in advertisements.	3.47	1.01	17%	28%	55%
I like to look at advertisements inside the taxi	3.38	1.09	21%	26%	54%
I like to listen to radio advertisements inside the taxi	3.67	0.97	13%	21%	66%
The concept of taxi advertising is a 'creative' one.	3.72	1.01	11%	26%	63%
I have spoken to other people about the branded taxis/taxi advertisements I have seen.	2.74	1.18	51%	17%	32%
I am familiar with the brand names advertised on taxis.	3.64	1.07	19%	14%	67%
Taxis with advertisement are usually cleaner	2.9	1.08	35%	35%	30%
Taxis with advertisement are usually safer	2.61	1.07	47%	34%	19%
Taxis with advertisement are usually more comfortable	2.72	1.1	42%	35%	23%

Two thirds of the commuters perceive taxi advertising to be creative and novel, implying that it can also be used to attract the attention of this target market to launch new brands. Listening to radio advertisements is highly associated with commuting in a taxi, clearly supporting the integration of radio advertising with transit media to increase the effectiveness of a campaign aimed at this market. Only one third of commuters discuss advertisements on taxis with other consumers. There was not a strong positive feeling that taxis with advertisement are usually cleaner, safer or more comfortable.

Perceptions towards taxi advertising are overall positive (table 4). Most of the respondents interviewed enjoyed taxi advertising and almost 60% perceive it as an important source of information when making purchase decisions. Interesting to note is that the majority of commuters do not perceive taxi advertising to be

clutter (52%) or as visual pollution (58%). Thirty two percent of respondents agreed that reckless driving might influence their attitudes towards the advertised brand.

**Table 4: Perception towards taxi advertising by regular commuters**

	Mean	SD	Frequencies %		
			Strongly Disagree/ Disagree	Neutral	Strongly agree/ Agree
I like advertisements on taxis.	3.4	0.99	19%	28%	53%
Taxi advertising is a valuable source of information to me.	3.53	0.96	15%	26%	58%
Taxi advertising makes the environment look unattractive	2.40	1.01	58%	27%	15%
There are too many taxi advertising.	2.59	1.02	52%	29%	19%
Reckless driving by taxis drivers influence my perception towards the advertised brand negatively.	2.8	1.28	45%	24%	32%

When considering commuters' attention paid towards taxi advertising (table 5) it can be seen that 71% of the commuters reported that they have noticed advertisements on passing taxis. Advertisers should therefore capitalise on the fact that taxi advertising has the ability to attract attention,. A total of 69% of respondents indicated that they read advertisements on passing taxis, and 64% inside taxis.

**Table 5: Attention paid towards taxi advertising by regular commuters**

	Mean	SD	Frequencies %		
			Strongly Disagree/ Disagree	Neutral	Strongly agree/ Agree
I often notice brands/advertisements on passing taxis.	3.67	0.98	15%	14%	71%
I often read brands/advertisements on taxis.	3.64	1.03	19%	12%	69%
I often read brands/advertisements inside taxis.	3.54	0.99	18%	19%	64%
I pay attention to the new branded taxis/taxi advertisements.	3.35	1.04	23%	29%	48%
I remember branded taxis/taxi advertisements more than advertisements in other media	2.61	1.09	52%	25%	23%

Table 6 reflects the reliability of the data in the different dimensions of the research instrument. Dimensions 1, 2, and 4 of the research instrument tested reliable. Dimension 3 did not test reliable with a score of 0.49. Reliability scores should be  $\geq 0.70$  to show that the items are a good measure of the construct.

**Table 6: Reliability**

	<i>Cronbach's Alpha</i>
Dimension 1: General feeling of regular commuters towards advertising	0.75
Dimension 2: General attitudes of regular commuters towards taxi advertising	0.78
Dimension 3: Perception towards taxi advertising by regular commuters	0.49
Dimension 4: Attention paid towards taxi advertising by regular commuters	0.75

## RECOMMENDATIONS AND IMPLICATIONS

The following conclusions and recommendations can be drawn from the main findings. Taxi advertising has a lot of potential and is still seen as novel and it has not yet been overused Products and services targeting the emerging markets can successfully reach them through taxi advertising. This captive audience can be reached through extensive exposure and increased frequency to transit media due to commuter's daily routines. As finance is important to this group it is an ideal opportunity for banking services advertisements and job opportunities to be advertised in the taxi.

Advertisers who target this market should capitalise on the positive feelings towards advertising and supply the target market with the information they enjoy about new products and new product development. Product applications and usage will also attract this market's attention. Transit media has the potential to bring the advertisers message straight to the consumer in new, creative and attention-seeking formats that differ tremendously from the tedious, worn-out traditional outdoor mediums. Transit advertisements cannot be ignored as easily as other mediums, because it cannot be switched off as one would with a television or radio, and it grabs attention.

A concern for advertisers might be the potential negative effect of dangerous driving by taxi drivers on perceptions towards the advertise brand. This needs to be kept in mind by advertisers and it is advisable to only use reputable suppliers of transit media.

The items in the dimensions of perceptions of taxi advertising of the research instrument should be reviewed to ensure future reliability of this dimension. Each variable in the dimension can be considered individually or exploratory factor analysis can be applied to all variables to discover the dimensionality.

The challenge is to increase recall of advertisements placed in and on taxis. The fact that traditional media still is the most successful in communicating advertising messages in the emerging market, transit advertising and promotions/samples/demonstrations should be integrated with the traditional television advertising, radio advertising, billboard advertisements and print advertising in newspapers or magazines. There is a big opportunity for advertisers to grow the importance of digital and social media through integration with the traditional media as well as with transit media and especially promotions, samples and demonstrations.

An integrated approach should be followed to use traditional advertising mediums and combine it with OHM and specifically taxi advertising. The taxi advertising should be used to remind commuters of products advertised in other media and to reinforce those messages. Radio advertisements can be supported by outdoor advertising, transit advertising and advertising in magazines and newspapers. Taxi advertising will not be as effective if used on its own. Advantages for advertisers using taxi media include flexibility and mobility by accessing areas where other types advertising is not possible, restricted or just too expensive. This media can target minibus taxi commuters by placing a message inside taxis or at the taxi ranks. Driver in cars can also be targeted by branding the outside of taxis.

International and national companies who aim to target the emerging market should use an integrated communication approach by using traditional mediums and combining it with taxi advertising.

Limitations of the study are that although the attitudes, perceptions and attention of taxi commuters were measured it is not clear how the advertising affects buying behaviour. The respondents may have positive attitudes, perceptions and attention about the advertisements, but do they actually buy the products? Future research is necessary to examine this. The fact that the research was undertaken only in Tshwane, Gauteng could be a limiting factor. Future research should be extended to other areas in South Africa. The high incidence of respondents using minibus taxis as transport medium is due to the fact that the respondents were intercepted for questioning at taxi ranks. It would be interesting to test commuters at bus and train stations and compare the results with this study.

## REFERENCES

Altstiel, T. & Grow, J. 2006. *Advertising Strategy*. California: Sage Publications.

Bernstein, D. 2005. *Advertising outdoors: watch this space*. Phaidon Press.

Du Plessis, L. 2010. Media management. In Du Plessis, F., Van Heerden, N. & Cook, G. (eds.) *Integrated marketing communication*. 3<sup>rd</sup> ed. Pretoria: Van Schaik Publishers.

Du Preez, J. 2007. Tapping into Transit Media Market. Marketingweb. [Online]: <http://www.marketingweb.co.za/marketingweb/view/marketingweb/en/page72308?oid=81264&sn=Marketingweb+detail> [Accessed 2011-03-09].

Fortenberry, J.L. Jr & McGoldrick, P.J. 2010. Receptiveness of Black Americans to outdoor advertising. *Journal of Business Research*, Doi:10.1016/j.jbusres.2010.06.010 [Accessed: 2011-03-09].

Gray, J. 2008. How to move into moving media. *Journal of Marketing*, 11(5):40-41.

OHMSA<sup>1</sup>. 2010. Digital Platforms in South Africa. 05 Aug 2010 [Online]: <http://www.ohmsa.co.za/index.cfm?x=newsviewer&rowid=54> [Accessed 2011-03-15].

Pauwels, L. 2005. Posters, billboards and grassroots media relating to TB and AIDS in the Free State and Lesotho *Acta Academica*, 1: 337-353.

OHMSA<sup>2</sup>, 2010. Barbara Cooke to drive Out Of Home media (OOH) research. 31Aug 2010. [Online]: <http://www.ohmsa.co.za/index.cfm?x=newsviewer&rowid=56> [Accessed 2011-03-15].

Mudeliar, T. 2008. Pollutant or purposeful? Mobile outdoor media investigated. *Journal of Marketing*. December / January, 2008: 38-39

Van Zyl, J.E. 2009. Minibus Taxis as part of a sustainable public transport system in South Africa. Proceedings of the 28th Southern African Transport Conference (SATC 2009).

Veloutsou, C. & O'Donnell, C. 2005. Exploring the effectiveness of taxis as an advertising medium. *International Journal of Advertising*, 24(2):217-239.

Wayne A. 2010. Text Message Marketing on Outdoor Advertising. [Online]: <http://www.articlesbase.com/marketing-tips-articles/text-message-marketing-on-outdoor-advertising-billboards-get-your-wheels-and-sells-roll-3557456.html> [Accessed 2011-03-20].

Wells, W., Moriarty, S. & Burnett, J. 2006. *Advertising Principles and Practice*. Edinburgh Gate, England: Pearsons.

Wilson, R.T. & Till, B.D. 2008. Airport advertising effectiveness an exploratory field study. *Journal of Advertising*, 37(1) Spring:59-72.

# **DECISION TO GROW SUGAR CANES VERSUS COMPETITIVE CROPS: A CASE STUDY OF THAILAND**

**Kawpong Polyorat, Khonkaen University, Thailand  
Upsorn Pliansinchai, Mitr Phol Sugar Cane Research Center Co., Ltd.,  
Thailand**

## **ABSTRACT**

*Thailand, one of the leading sugar producers, has tried to increase its level of sugar production by persuading farmers of competitive crops to grow sugar canes. Therefore, this research seeks to examine sugar cane farmer's decision to grow sugar canes vs. competitive crops (cassava, rubber, and eucalyptus) by examining four independent factors: cane price, competitive crop price, sugar mill support, and community support. Conjoint analysis with data from Thai farmers indicates that the first three factors significantly influence the farmer's choice of crops to grow (sugar canes vs. competitive crop).*

## **INTRODUCTION**

Thailand's economy relies heavily on agriculture and agro-industries. At a global level, Thailand is one of the major exporters of agricultural products (Falvey 2001). Rice, rubber, tapioca, sugar, black tiger prawn, and chicken are among the foremost income generators for the country. A high percentage of its population is connected in one way or another with the production of these agricultural commodities.

Sugar has been recognized as one of the world's most traded commodities. In addition, the sugar exports accounts for more than one quarter of the world's production (Mahadevan 2009). For this internationally important economic sector, Thailand is one of the leading sugar producers and exporters (Piewthongngam, Suksawat, and Tenglolai 2007). It has attempted to catch up with more advanced sugar producing countries such as Brazil, South Africa and Australia (Higgins 2006) by trying to increase its level of production.

One approach to increase sugar output is to increase the productivity or the yield of the sugar cane farm without expanding the land for cane growing. A number of innovative techniques (e.g., dual-row cane farming, Polyorat and Tenglolai 2009) have been implemented for this purpose. An option to increase yield per hectare is to expand the land of growing sugar cane. As most of the arable land in Thailand is already used for crop growing, trying to increase the cane-growing land inevitably means persuading growers of other crops (eg., rubber, cassava, and eucalyptus) to switch to growing canes. For example, rice field may be used for growing canes, instead (Polyorat and Pangrit 2010).

Sugar and sugar cane industries in Thailand are composed of several related members in the value chain including the growing, harvesting and transport, milling, and marketing sectors (Everingham et al. 2002). In order to enhance the quantity of sugar production through the increase of cane farmland, sugar mills have to collaborate with their major suppliers or cane farmers (Suksawat, Piewthongngam and Tenglolai 2008) because, in Thailand, sugar canes are the primary raw material in sugar refinery industry (Piewthongngam, Suksawat, and Tenglolai 2007). Moreover, most of sugar canes in Thailand are grown by independent farmers, not by the sugar mills as in some other countries. Therefore, sugar mills cannot any longer limit their effort to their mill

boundaries but, instead, must rely on their cane farmers' contribution (Suksawat, Piewthongngam and Tenglolai 2008).

However, the mills' attempt is challenged by the limited amount of sugar canes supplied to sugar mills from farmers. One reason for this is that many farmers choose to grow other competitive crops. An interview with industry experts indicates that cassava, rubber, and eucalyptus are major competitive crops that have received attentions from farmers in the region.

Therefore, to remedy the situation of insufficient cane supply, this research seeks to examine sugar cane farmer's decision to grow sugar canes vs. other competitive crops. Although there could be numerous factors influencing the farmer's decision, a preliminary discussion with a major sugar mill in Thailand suggests four primary influencing factors: cane price, competitive crop price, sugar mill support, and community support.

## **Cane price and competitive crop price**

Crop price reflects a farmer's income. From the perspective of this study, cane price, therefore, represents the income a farmer will earn from growing canes while competitive crop price implies the income forgone or opportunity lost from growing canes. Income is an important factor for cane farmers ((Mahasuweerachai, Polyorat, and Piewthongngam 2010). In fact, income maximization is said to be a primary motivation for cane farmers (Mahedevan 2009).

## **Sugar mill support**

A cane farmer who is a sugar mill's member is provided with guaranteed market, loan services, productivity improvement program, market information and long-term planning. The offer of important production inputs (e.g., low-interest loan, chemical fertilizer, herbicide, purchasing agreement, and long term planning) is expected to minimize the farmer's risk in growing canes (Mahasuweerachai, Polyorat, and Piewthongngam 2010). Although the farmers are likely to prefer the high (vs. low) support from the mill, it remains unclear how important this factor is in comparison with the crop prices. Therefore, the present study attempts to examine the relative importance of mill support versus crop prices so that a sugar mill can decide the extent to which they should allocate their resources for this support.

## **Community support**

An individual's behavior could be subject to interpersonal influence (Bearden, Netemeyer and Teel 1989). For example, a cane farmer is found to ask for opinions from other farmers in their neighborhood when making a decision to adopt the dual-row farming method (Polyorat and Tenglolai 2009). As the majority could influence the behavior of an individual (Ladwein 2003), the present study attempts to examine if the decision to grow cane versus competitive crops is affected by whether the majority of farmers in their community grow or do not grow canes. Furthermore, in order to better understand the role of opinion leader (Solomon 2007) or a person whose belief, attitudes, and behaviors could influence what other people think, feel, and do, this study also examines if a community leader's growing canes would impact on a farmer's decision to grow canes.

Based on the roles of crop prices, mill supports, and interpersonal influences as discussed thus far, the present research endeavors to examine the following four hypotheses which are visually displayed in figure 1. The results from this study will yield insight regarding how a sugar mill can implement a marketing plan to more effectively persuade farmers to grow canes (cf. Polyorat 2009).

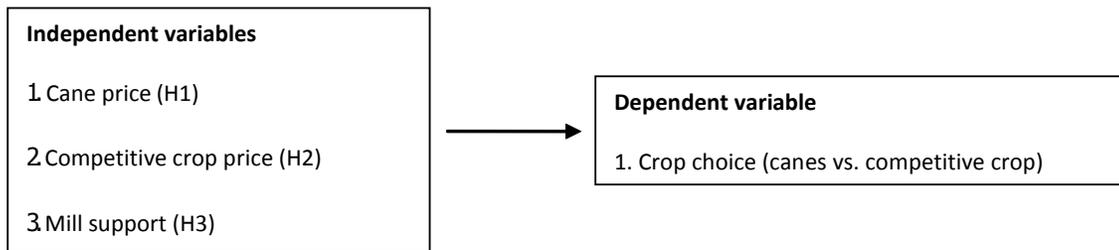
**H1:** Cane prices influence the decision to grow canes vs. competitive crop.

**H2:** Competitive crop prices influence the decision to grow canes vs. competitive crop.

**H3:** Mill supports influence the decision to grow canes vs. competitive crop.

**H4:** Community supports influences the decision to grow canes vs. competitive crop.

**Figure 1: Research Framework and Hypotheses**



## METHODOLOGY

A conjoint analysis, widely used in the marketing literature, is a form of an analysis of variance which allows the measurement of consumers’ preferences for different attributes of a product or service (Carricano and Poujol 2008). The objective is to identify, for instance, the most importance attribute consumers (i.e., “farmers” in the present study) use for decision making when consumers have to tradeoff the more preferred attributes with the less preferred ones in various levels of each attribute. In the present study, the four independent variables (cane price, competitive crop price, mill support, and community support) represent the four product attributes. Cane price, competitive crop price, and mill support have three levels (low, medium, and high). The fourth independent variable- community support- also has three levels but is categorized as “most people in the community do not grow canes,” “most people in the community grow canes,” and “the community leader grows canes.” In the current study, a conjoint analysis with fractional factorial design was used to avoid the respondents’ fatigue.

Face-to-face interviews were conducted with 47 farmers. The sample size was comparable to what identified in the agricultural marketing literature (cf., Polyorat et al. 2009).The sample based on purposive sampling was drawn from Kalasin and its neighboring provinces because this is one of the major areas for sugar cane production in Thailand. Research participants were first greeted and provided with a basic description of the study. Next, they were asked a series of questions regarding their decision to grow sugar canes vs. competitive crops given different combinations of cane price, competitive crop price, mill support, and community support. Finally, participants were thanked and debriefed. They received a small gift as a compensation for their participation.

## RESULTS

To test the four hypotheses, a logistic regression model was run where cane price (low, medium, high), competitive crop price (low, medium, high), mill support (low, medium, high), and community (most people in the community do not grow canes, most people in the community grow canes, the community leader grows canes) are independent variables. The last category of each independent variable is used as the reference point. Crop decision (canes vs. competitive crops) is the dependent variable. The results are displayed in Table 1.

**Table 1: Logistic regression results**

DV: Decision to grow canes vs. competitive crops

Model Chi-Square = 287.66, df=60,p <.001 , -2LL = 226.32, Nagelkerke’s R<sup>2</sup> = .28

		Competitive Crops								
		Cassava			Rubber			Eucalyptus		
		Sig	B	Exp(B)	Sig	B	Exp(B)	Sig	B	Exp(B)
<b>Cane price</b>	<b>Low</b>	0.00	1.89	6.59	0.00	1.87	6.50	0.00	1.94	6.95
<b>Cane price</b>	<b>Medium</b>	0.01	0.57	1.76	0.00	0.63	1.88	0.04	0.77	2.15

<b>Rsd</b>	<b>Ref.: High</b>									
<b>Cassava price</b>	<b>Low</b>	0.00	-1.54	0.22	■	■	■	■	■	■
<b>Cassava price</b>	<b>Medium</b>	0.00	-1.01	0.37	■	■	■	■	■	■
	<b>Ref.: High</b>									
<b>Rubber price</b>	<b>Low</b>	■	■	■	0.00	-1.24	0.29	■	■	■
<b>Rubber price</b>	<b>Medium</b>	■	■	■	0.00	-0.86	0.42	■	■	■
	<b>Ref.: High</b>									
<b>Eucalyptus price</b>	<b>Low</b>	■	■	■	■	■	■	0.00	-2.46	0.09
<b>Eucalyptus price</b>	<b>Medium</b>	■	■	■	■	■	■	0.00	-0.97	0.38
	<b>Ref.: High</b>									
<b>Mill service</b>	<b>Low</b>	0.00	0.83	2.29	0.01	0.63	1.88	0.03	0.74	2.10
<b>Mill service</b>	<b>Medium</b>	0.15	0.33	1.39	0.25	0.27	1.31	0.97	0.02	1.02
	<b>Ref.: High</b>									
<b>Most people</b>	<b>Do not grow canes.</b>	0.08	0.41	1.51	0.08	0.43	1.54	0.53	-0.22	0.80
<b>Most people</b>	<b>Grow canes.</b>	0.99	0.00	1.00	0.92	-0.03	0.98	0.35	-0.34	0.71
	<b>Ref.: Community leader grows canes.</b>									

The overall model is significant ( $\chi^2 = 287.66, p < .001$ ). The results for the decision to grow canes versus competitive crops are provided as follows.

## Cane versus cassava

Regarding the decision to grow sugar cane versus cassava, cane prices are found to influence the decision to grow canes (vs. cassava), as hypothesized in H1. Specifically, farmers tend to choose to grow cassava (vs. cane) when cane prices are either low ( $b_{\text{low cane price}} = 1.89, p < .001$ ) or medium ( $b_{\text{medium cane price}} = 0.57, p < .01$ ) in comparison with high cane prices.

As hypothesized in H2, cassava prices are found to influence the decision to grow canes (vs. cassava). Specifically, farmers tend to choose to grow canes (vs. cassava) when cassava prices are either low ( $b_{\text{low cassava price}} = -1.54, p < .001$ ) or medium ( $b_{\text{medium cassava price}} = -1.01, p < .001$ ) in comparison with high cassava prices.

As hypothesized in H3, mill supports are found to influence the decision to grow canes (vs. cassava). Specifically, farmers tend to choose to grow cassava (vs. cane) when mill supports are low ( $b_{\text{low mill support}} = 0.83, p < .001$ ) in comparison with high mill support. There is, however, no difference between medium and high mill supports ( $b_{\text{medium mill support}} = 0.33, p > .1$ ).

Contrary to H4, community support is not found to influence the decision to grow canes (vs. cassava). There is no difference between “most people in the community do not grow canes” ( $b_{\text{most people in the community do not}}$

$b_{\text{grow canes}} = 0.41, p > .05$ ) in comparison with “the community leader grows canes. Similarly, There is no difference between “most people in the community grow canes” ( $b_{\text{most people in the community grow canes}} = 0.00, p > .1$ ) in comparison with “the community leader grows canes.”

## Cane versus rubber

Regarding the decision to grow sugar cane versus rubber, cane prices are found to influence the decision to grow canes (vs. rubber), as hypothesized in H1. Specifically, farmers tend to choose to grow rubber (vs. cane) when cane prices are either low ( $b_{\text{low cane price}} = 1.87, p < .001$ ) or medium ( $b_{\text{medium cane price}} = 0.63, p < .001$ ) in comparison with high cane prices.

As hypothesized in H2, rubber prices are found to influence the decision to grow canes (vs. rubber). Specifically, farmers tend to choose to grow canes (vs. rubber) when rubber prices are either low ( $b_{\text{low rubber price}} = -1.24, p < .001$ ) or medium ( $b_{\text{medium rubber price}} = -0.86, p < .001$ ) in comparison with high rubber prices.

As hypothesized in H3, mill supports are found to influence the decision to grow canes (vs. rubber). Specifically, farmers tend to choose to grow rubber (vs. cane) when mill supports are low ( $b_{\text{low mill support}} = 0.63, p < .01$ ) in comparison with high mill support. There is, however, no difference between medium and high mill supports ( $b_{\text{medium mill support}} = 0.27, p > .1$ ).

Contrary to H4, community support is not found to influence the decision to grow canes (vs. rubber). There is no difference between “most people in the community do not grow canes” ( $b_{\text{most people in the community do not grow canes}} = 0.43, p > .05$ ) in comparison with “the community leader grows canes. Similarly, There is no difference between “most people in the community grow canes” ( $b_{\text{most people in the community grow canes}} = -0.03, p > .1$ ) in comparison with “the community leader grows canes.”

## Cane versus eucalyptus

Regarding the decision to grow sugar cane versus eucalyptus, cane prices are found to influence the decision to grow canes (vs. eucalyptus), as hypothesized in H1. Specifically, farmers tend to choose to grow eucalyptus (vs. cane) when cane prices are either low ( $b_{\text{low cane price}} = 1.94, p < .001$ ) or medium ( $b_{\text{medium cane price}} = 0.77, p < .05$ ) in comparison with high cane prices.

As hypothesized in H2, eucalyptus prices are found to influence the decision to grow canes (vs. eucalyptus). Specifically, farmers tend to choose to grow canes (vs. eucalyptus) when eucalyptus prices are either low ( $b_{\text{low eucalyptus price}} = -2.46, p < .001$ ) or medium ( $b_{\text{medium eucalyptus price}} = -0.97, p < .001$ ) in comparison with high eucalyptus prices.

As hypothesized in H3, mill supports are found to influence the decision to grow canes (vs. eucalyptus). Specifically, farmers tend to choose to grow eucalyptus (vs. cane) when mill supports are low ( $b_{\text{low mill support}} = 0.74, p < .05$ ) in comparison with high mill support. There is, however, no difference between medium and high mill supports ( $b_{\text{medium mill support}} = 0.02, p > .1$ ).

Contrary to H4, community support is not found to influence the decision to grow canes (vs. eucalyptus). There is no difference between “most people in the community do not grow canes” ( $b_{\text{most people in the community do not grow canes}} = -0.22, p > .1$ ) in comparison with “the community leader grows canes. Similarly, There is no difference between “most people in the community grow canes” ( $b_{\text{most people in the community grow canes}} = -0.34, p > .1$ ) in comparison with “the community leader grows canes.”

## Additional analysis

As there are some farmers who appear to stick to either canes or a particular competitive crop no matter what levels of cane price, competitive crop price, mill support, or community support are, the logistic regression model is rerun, but this time with these farmers removed from the analysis. The results closely mirror those in the first model where all data are included both in terms of direction and significance of influence, suggesting the robustness of the findings. The amount of variance explained or  $R^2$ , however, is higher in the second model

which appears reasonable. The first model is kept for generalizability sake as it includes higher number of farmers.

## DISCUSSIONS

### Summary

The study results reveal that cane price, rice price, and mill supports significantly influence the decision to grow canes (vs. competitive crops) while community supports do not. The higher cane price and the lower competitive crop price attract farmers to grow canes (as opposed to competitive crops). Similarly, the higher level of mill supports also encourages farmers to grow canes (as opposed to competitive crops). Contrary to expectation, however, community does not have a significant influence on this decision.

### Research Implications

Based on the beta coefficients, both cane prices and competitive crop prices have stronger impact than mill supports. Therefore, the crop prices are undoubtedly the most critical factors farmers take into consideration in their selection of crop choices. However, the crop prices are often not the factor under the control of sugar mills. In fact, sugar and sugar cane are closely influenced government regulation and intervention (Mahadevan 2009).

As a result, mills may need to turn to ‘support and service’ as strategic tools to encourage farmers to grow canes instead of other competitive crops. In fact, the results from the conjoint analysis implies the compensatory model of decision making (Carricano and Poujol 2008) where a drawback of one attribute can be compensated or offset by the good point of another attribute of the given product. If this is the case, as sugar mills lack control over market prices of sugar canes and competitive crops, sugar mills, therefore should resort to relationship marketing with farmers. That is, mills may focus on providing several services or supports to each farmer, interacting with each farmer on a regular basis, soliciting farmer’s participation, and working on long-term objectives (Michon 2006). However, as the study results indicate no significant impact between the medium vs. high level of relationships, a mill, therefore, may not have to devote all of their resources for this support, but rather make sure that at least some level of service is achieved.

### Limitations and Avenues for Future Research

The current study has a number of limitations which suggest directions for future research. The present study collects data from only one region of Thailand. Future research may replicate the present study in other parts of the country where major sugar cane production is conducted such as the central provinces including Supanburi and Kanjanaburi. This revalidation will enhance the understanding of farmer’s crop switching behaviors in more diverse geographical locations. In addition, as the results of this study were drawn from survey data alone, future research should employ additional research methods such as in-depth interviews and focused-group interviews in order to gain a better understanding of the relative influences of each independent variables (cf., Polyorat 2011).

## REFERENCES

- Bearden, W. O., Netemeyer, R. G. and Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, 15, 473-481.
- Carricano, M. and Poujol, F. (2008). *Analyse de Données avec SPSS*. Paris, France: Pearson Education.
- Everingham, Y.L., Muchow, R.C., Stone, R.C., Inman-Bamber, N.G., Singels, A., and Bezuidenhout, C.N. (2002). Enhanced risk management and decision-making capability across the sugarcane industry value chain based on seasonal climate forecasts. *Agricultural Systems*, 74, 459-477.

- Falvey, M. (2001). *Thai Agriculture: Golden Cradle of Millennia*. Bangkok, Thailand: White Lotus.
- Higgins, A. (2006). Scheduling of Road Vehicles in Sugarcane Transport: A case study at an Australian sugar mill. *European Journal of Operation Research*, 170, 987-1000.
- Ladwein, R. (2003). *Le Comportement du Consommateur et de l'Acheteur*. Paris, France : Economica.
- Mahadevan, R. (2009). The viability of Fiji's sugar industry. *Journal of Economic Studies*, 36 (4), 309-325.
- Mahasuweerachai, P., Polyorat, K. and, Piewthongngam, K. (2010). *Do Thai cane growers care only for price?* Working paper, Khonkaen University.
- Michon, C. (2006). *Le Marketing: Fondements et Nouveautés du Marketing*. Paris, France: Pearson Education.
- Piewthongngam, K., Setthanan, K. and Suksawat, J. (2007). An integrated sugarcane phenology and an optimization approach to set plant and harvest schedules within a mill region. *Managing Worldwide Operations & Communication with Information Technology*, New York: Information Resources Management Association, 241-244.
- Polyorat, K. (2009). Communicating with suppliers through IMC. *Agricultural Supply Chain, Book 1: Managing Suppliers*, Khonkaen, Thailand: Khonkaen University.
- Polyorat, Kawpong (2011), "The Influence of Brand Personality Dimensions on Brand Identification and Word-of-Mouth in Asia: The Case Study of a University Brand in Thailand," *Asian Journal of Business Research*. 1, 46-61.
- Polyorat, K. and Pangrit , A. (2010), Decision to Grow Sugar Canes in Rice Fields: Innovation Adoption, Social vs. Commercial Sources of Information, and Farmers' Size," in *Proceeding of the Asian Media Information and Communication (AMIC) Conference*.
- Polyorat, K., Prakhomthong, P., Piewthongngam, K., Pathummanakul, S. and Klomsa-ard, T. (2009). Farmer's decision to grow sugar canes versus tapioca: A conjoint analysis. *Proceeding of the Industrial Engineering Network Conference 2009*. 1624-1629.
- Polyorat, K. and Tenglolai, A. (2009). Sugar cane farmers' adoption of dual-row farming technology: The roles of family decision making, word-of-mouth, and farmers' size. *The Proceeding of the Global Business and Technology Association Eleventh Annual International Conference, 1011-1018*.
- Solomon, M. R.(2007).Consumer Behavior: Buying, having, and being. Upper Saddle River, NJ: Pearson Education.
- Suksawat, J., Piewthongngam, K. and Tenglolai, A. (2008). The use of multi-criteria approach to select cane growers for supplier development program. In *Proceeding of the Global Business and Technology Association's Tenth Annual International Conference*, The Global Business and Technology Association, 1232-1239.

## **ACKNOWLEDGMENT**

The authors thank Mitr Phol Sugar Group for financial support.

# THE RESIDENT CHINESE TOURISM MARKET IN SOUTH AFRICA CAN BE A SUSTAINABLE MARKET

Marius Potgieter and Fei Yang  
Tshwane University of Technology, South Africa

## ABSTRACT

*South Africa's tourism entrepreneurs should cogitate on the uniqueness and opportunities of the resident Chinese market. Empirical research was conducted to obtain a description and to determine which tourism related activities this market already experienced, and also to determine their likeliness of partaking in selected activities. A sample of 100 Chinese in Pretoria was invited to participate. Almost 50% of the respondents have been in South Africa for 6 years or longer and most already experienced sightseeing (91.8%) whilst visiting coastal destinations is their most likely future tourism activity (96.9%). Further research is needed so that entrepreneurs can customize their offerings for this emerging market.*

## INTRODUCTION

The Chinese nation is a supra-ethnic concept and Chinese, for the purpose of this paper, are regarded as those speaking the Chinese language. When reference is made to Chinese it is inclusive of all Chinese staying in South Africa for an extended period of time. The number of Chinese residing in South Africa is increasing after the establishment of diplomatic ties between South Africa and China. Chinese maintain their lifestyle and still practice many of their traditional customs. The Chinese market is unique; because they have their own traditions, customs, language, and beliefs.

Chinese in South Africa offers opportunities for tourism entrepreneurs and this market is an emerging market which can be sustainable – but: entering this market is conditional. Entrepreneurs ought to ensure that they are knowledgeable about this market because “The Chinese tourism industry will change the West’s traditional models for handling tourists” (Roy Graff quoted by Handle Chinese tourists with care, 2008). Added to this, Wang *et al.* (2010) stated that an “in-depth understanding of its culture and people” is needed. This call for a significant reconsideration of the business practices and tourism offerings presented to this market. Published material and electronic databases failed to yield research information on the resident Chinese tourism market in South Africa and it is undetermined whether South African entrepreneurs are cognizant about what this market entails. Research is needed to determine if it is necessary to develop the market, or maybe products should be development, or even business diversification should be considered, as well as being able to contrast associated costs and risks against the growth potential and attractiveness of this market.

Dealing with an emerging market calls not only for information but for knowledge. The Chinese market in South Africa is vast and cannot be covered with one single research study or paper and this paper sets out to obtain insight on the following:

- A description of the Chinese market in Pretoria (their gender, age, and duration of stay in South Africa).
- The tourism-related activities already experienced by the resident Chinese people in Pretoria.
- The likeliness that Chinese tourists will participate in various activities in future.

This paper consists of four sections. *Firstly*, a review of literature relevant to Chinese people and tourism; *secondly*, a presentation of the research methodology followed and the data analysis techniques used for the purpose of this paper. *Thirdly*, the findings are presented and the paper is brought to closure with *lastly*, a

conclusion which includes a discussion of the main inferences, the theoretical and managerial implications, and recommendations emanating from this study.

## LITERATURE REVIEW

The political changes in South Africa sparked international interest and the vision of the 1996 White Paper on the Development and Promotion of Tourism in South Africa was "...to develop the tourism sector as a national priority in a sustainable and acceptable manner" (DEAT, 2002:3). The South African Government realized the importance of developing tourism in a sustainable and responsible way and published the National Responsible Tourism Guidelines for South Africa in 2002. Tourism is an important contributor to the economy of South Africa and the National Department of Tourism "drafted a national tourism sector strategy to accelerate the responsible growth of the tourism industry from 2010 to 2015" (National tourism sector strategy announced, 2010:32).

The Republic of China was also subjected to major reformations. An open-door policy and economic reform was adopted by the Chinese government in 1987 and they obtained accession to the United Nations World Tourism Organization (UNWTO) in 2001 (Zhang *et al.*, 2002). South Africa obtained Authorized Destination Status (ADS) from the China National Tourism Administration (CNTA) in 2004 enabling South Africa to host Chinese tourists in groups on specified itineraries (Rogers, 2008). The arrival figures of Chinese in South Africa to increase by 12.4% from 2008 to 2009 (SAT, 2010a:10). The value of the Chinese tourism market in South Africa was ZAR763.5 million in 2008 and it is expected to grow substantially.

China incorporated tourism into their national plan for social and economic development in 1986 (Zang *et al.*, 2000). A total of 45.8 million Chinese travelled internationally during 2008 (Annual Report of China Outbound..., 2010) and the UNWTO predicts that 100 million outbound Chinese tourists will be achieved by 2020 (UNWTO, 2001:12). China became the world's second largest economy in 2008 and services (incorporating tourism) contributed 40.1% to their GDP (SAT, 2010b:8). China is South Africa's biggest export destination (R27,6 billion in 2008) and imports partner (R35,24 billion in 2008) (Pass the chopsticks: a look..., 2010:65) with a total trade worth R119,7 billion in 2009 (Pres Zuma talks trade in..., 2010). Tourism should "be seen and protected as perhaps one of the world's premier export products" because if tourism is properly cared for, then "it is a sustainable and renewable recourse" (Tourism is an export, 2010).

Chinese tourists are selective about their destinations and gender, occupation, education, age, and family structure influence their behavior patterns and attraction preferences (Huang *et al.*, 2000). Symbolic images are also extremely important to these tourists (Wang *et al.*, 2010). Furthermore, their customer satisfaction and loyalty are influenced by their cultural values (Hoare *et al.*, 2008). Added to this is an understanding of their travel motivation and quest for memorable experiences (Huang *et al.*, 2009).

Chinese tourists indicated that visiting friends and relatives, and dining as the most important activities whilst outdoor sport were perceived as the least important activities (Law *et al.*, (2004). The results of the Brand Tracking Survey of November 2006 conducted by South Africa Tourism (SAT) indicates that the number one reason why Chinese tourists chose South Africa was to experience a different culture (67%) and this is followed by to relax (61%). Another survey conducted confirmed that sightseeing remained the biggest purpose (Research and Markets: New report., 2007). The results of the Departure Survey statistics of SAT (SAT, 2010b:57) indicates that scenic beauty is ranked as the number one reason for satisfaction among Chinese visiting South Africa for the period 2004 – 2008.

Entrepreneurs are encouraged by Law *et al.* (2004) to fully understand their target market's tourism behavior because this will lead to effective resource management and marketing plans. However, sustainability is only possible if there is commitment from public and private sector organizations (Henderson, 2010). Therefore, sustainability can only be realized if it is a collective effort.

## RESEARCH METHODOLOGY

Empirical descriptive research was undertaken and a quantitative survey was conducted. The research population was Chinese residing in Pretoria, South Africa for an extended period of time and non-probability convenience sampling method was followed. A Chinese fieldworker residing in Pretoria had access to the sample members and the sample size decided upon was 100 Chinese people and the realized sample size was 97%. The survey instrument used was a self-completing structured questionnaire. The data collection process was administered by the fieldworker and completed questionnaires were coded into numerical representations.

The numerical representations were captured onto a datasheet and the information was validated and no data-capturing errors were detected. Descriptive statistics was obtained for every variable in order to understand the data and to be able to achieve the stated objectives. A cross analysis was also performed on linked and test variables to determine whether they compare. A uni-variate descriptive analysis was performed on all the original variables to obtain frequencies, percentages, cumulative frequencies, and also cumulative percentages. The following inferential statistics were used: Cross-tabulations and Chi-Square based measures of association (if in some cases there were expected values of less than 5 in the cell Exact p-values were then calculated).

Following is a presentation of the findings that emanated from the data-analysis.

## FINDINGS

The findings of this study will now be dealt with in the following order: a description of the respondents and this is followed by a presentation of the tourism-related activities the resident Chinese people have already participated in and also the likeliness of them partaking in various activities in future.

### Participant description

Three descriptors were used to obtain an impression of the Chinese people residing in Pretoria and these descriptors are: gender; age; and lastly, how long the respondents have been staying in South Africa at the time of the survey and the results obtained are illustrated in Figure 1. This information was also used for cross-comparison purposes.

**Figure 1: Participant description (in %)**

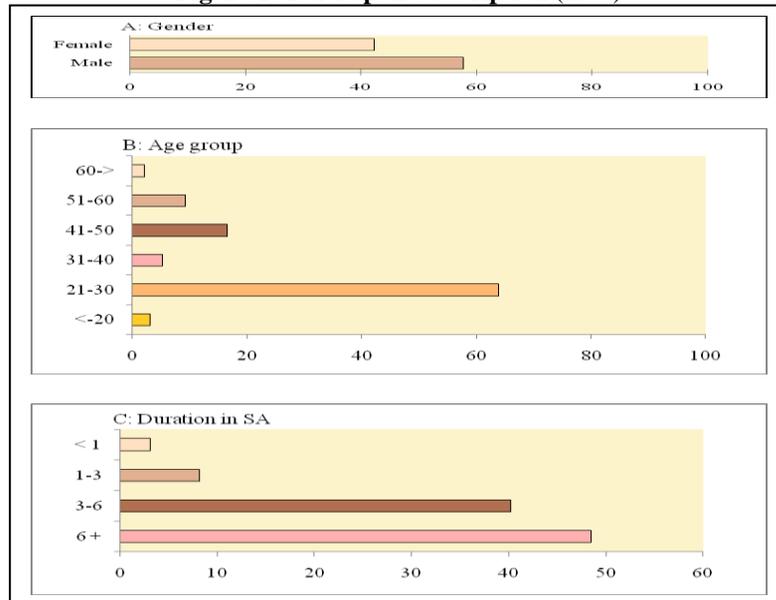


Figure 1A illustrates that more males (n=56) than females (n=41) participated in this survey and this does not imply that there are more Chinese males residing in Pretoria than females. Almost two thirds (63.9%) of the Chinese people residing in Pretoria are between 21 and 30 years of age (Figure 1B) and this is followed by

those who are between the ages of 41 to 50 (16.5%). Almost half of the resident Chinese people (48.5%) have been in South Africa for 6 years or longer (Figure 1C) and this is followed by those who have been in South Africa for 3 to 6 years (40.2%). A significant finding is that Chinese people tend to reside in South Africa for an extended period of time seeing that 88.7% (48.5+40.2) have been residing in South Africa for three years and longer. This study was conducted in Pretoria and the findings regarding the duration as presented does not imply that these Chinese people have been residing in Pretoria for the entire time of the durations as indicated. It could be that some of them located in or at other places in South Africa and relocated to Pretoria, but they were residents in Pretoria at the time of the survey.

Cross-comparisons between gender, age, and duration in South Africa revealed the following:

- *Gender*: most of the respondents in both cases (males – 71.4% and females – 53.7%) are between the ages of 21 and 30 years old. A large number of females have been in South Africa for 6 years and longer (65.9%) whilst males have been in South Africa for between 3 and 6 years (51.8%). Only 35.7% of the males indicated that they have been in South Africa for 6 years and longer.
- *Age*: the gender comparison has been dealt with and it is the 21 to 30 years age group who is dominating the duration of stay in South Africa (less than one year: 3.2%; 1–3 years: 9.7%; 3–6 years: 53.2%; more than 6 years: 33.9%).
- *Duration in South Africa*: the results obtained are the same as discussed under Gender and Age and this confirms that there were no data capturing errors. An assumption is made that the respondents up to 20 years old and those who are 41 years and older are permanent resident permit holders or South Africa citizens and that those who are between 21 and 30 years of age is students with a study permit residing in South Africa.

## Activities experienced

A list of nine tourism-related activities was provided and respondents were requested to indicate the activities they have already participated in. There was no restriction and respondents could mark as many as applicable. A total of 401 responses were received from the 97 respondents and these activities are listed in sequence from most to least participated in: Sightseeing (by 92.8% of the respondents); Ecotourism-related activities (88.7%); Heritage & Culture (86.6%); Visiting Friends and Relatives (83.5%); Wine Tourism (21.6%); Adventure Tourism (19.6%); Golfing and Gambling (8.2% in both cases); and the lowest scored activity was Other (by 4.1%).

## Likelihood of activity participation

Respondents were provided with six tourism-related activities and a Likert scale was used to establish their likelihood of partaking in these activities. The results obtained are indicated in Table 1.

**Table 1: Likelihood of participation (in %)**

Activity	Definitely	Likely	Unsure	Probably Not	Definitely Not
National Parks	<b>52.6%</b>	37.1%	7.2%	3.1%	
Botanical Gardens	8.2%	39.2%	<b>43.3%</b>	9.3%	
Coastal Regions	<b>90.7%</b>	6.2%	3.1%		
Museums	7.2%	25.8%	<b>37.1%</b>	27.8%	2.1%
City Activities	29.9%	<b>33.0%</b>	23.7%	7.2%	6.2%
Socializing	34.0%	<b>43.3%</b>	13.4%	9.3%	

The priority order of tourism-related activities that would appeal to resident Chinese tourists, as indicated in Table 1, are as following: firstly is Coastal Regions (Definitely: 90.7%); secondly is National Parks (52.6%); and this is followed by Socializing (Likely: 43.3%) and City Activities (33.0%) whilst the biggest uncertainty is visiting Museums (37.1%) and lastly Botanical Gardens (43.3%). What is interesting to note is that the priority order changes when the results of Definitely and Likely are combined, the order then is: Coastal

Regions (96.9%); National Parks (89.7%); Socializing (77.3%); City Activities (62.9%); Botanical Gardens (47.4%); and lastly is Museums (33.0%) – Museums and Botanical Gardens change places.

Cross-comparisons between gender, age, and duration in South Africa was performed and Chi-Square based measures of association (if in some cases there were expected values of less than 5 in the cell Exact p-values were then calculated). All p-values are  $>0.05$  and will not be presented unless otherwise indicated. The results are presented in the following order: gender, age, and lastly duration of residence in South Africa in terms of the six tourism-related activities indicated in Table 1.

- *Gender*: the results obtained indicate that for –
  - National Parks – both males (58.8%) and females (41.2%) indicated that they would Definitely (52.6% of the total) visit these parks and this is followed by Likely.
  - Botanical Gardens – more males (59.5%) are Unsure than females (40.5%) that they would visit these gardens whilst 43.9% of the females will Likely visit these gardens.
  - Coastal Areas – both males (56.8%) and females (43.2%) indicated that they would Definitely (90.7% of the total) visit the coastal areas.
  - Museums – both males (52.8%) and females (47.2%) are Unsure (37.1% of the total) as to whether they would visit museums.
  - City Activities – males are Likely (68.8%) to partake in these activities whilst females will Definitely (69.0%). The Chi-Square p-value is 0.005 and this is supported by the Fisher's Exact Test and this means that there is a statistically significant difference between males and females.
  - Socialising – both males (57.1%) and females (42.9%) are Likely (43.3% of the total) to partake in this activity.
  
- *Age*: the results obtained indicate that for –
  - National Parks – the age group of 21 to 30 indicated that they will Definitely (50.0%) and are also Likely (37.1%) to visit these parks whilst in South Africa. The results further indicate that older people are more inclined to visit the National Parks.
  - Botanical Gardens – the age group of 21 to 30 achieved the highest score for Unsure (69.0%) as to whether they will visit botanical gardens although those in the 41 to 60 age group are more likely to visit these gardens. The Chi Square p-value is 0.015 and this indicates that there is a statistically significant difference.
  - Coastal Areas – the age group 21 to 30 once again recorded the highest scores and will Definitely (93.5%) visit the coastal regions of South Africa. The Chi Square p-value is 0.00 and this is supported by the Fisher's Exact Test p-value=0.004 and this indicates that there is a statistically significant difference.
  - Museums – Unsure (37.1% of the total) and Probably Not (27.8% of the total) achieved the highest scores and in both cases it was within the age group of 21 to 30 (63.9% and 70.4% respectively).
  - City Activities – Likely (33.0% of the total) and Definitely (29.9% of the total) achieved the highest scores and in both cases it was within the 21 to 30 age group (71.9% and 82.8% respectively) and this is followed by Unsure (23.7% of the total).
  - Socializing – Likely (43.3% of the total) and Definitely (34.0% of the total) achieved the highest scores and in both cases it was within the 21 to 30 years age group (47.6% and 84.8% respectively) and this is followed by only 13.4% of the total who indicated Unsure.
  
- *Duration of residence*: the results obtained indicate that for –
  - National Parks – those who will Definitely (52.6% of the total) visit these parks are resident Chinese who have been in South Africa for 6 years and longer (52.9%) whilst those who have resided in South Africa for 3 to 6 years are Likely (46.2%) to visit these parks.
  - Botanical Gardens – Unsure (43.3% of the total) and Likely (39.2% of the total) achieved the highest scores and in both cases it was within the 6 years and longer duration group (54.8% and 44.7% respectively) and this group is in both cases followed by those in the 3 to 6 years duration group (Unsure: 40.5% and Likely: 34.2%).
  - Coastal Areas – all four groups of duration indicated that they will Definitely (90.7% of the total) visit the coastal regions and the highest Definitely score was obtained amongst those who have been in South Africa for 6 years and longer (46.6%) and this is closely followed by those in the 3 to 6 years (40.9%).

- Museums – the sample total who indicated Unsure is 37.1% and of these 47.2% are in the 6 years and longer group and the same applies to those who indicated Probably Not (55.6%). Those in the 3 to 6 years group scored Unsure at 41.0%.
- City Activities – those who would partake in this type of activity are those who have been in South Africa for 6 years and longer seeing that 34.0% indicated Definitely and 31.9% Likely and they are closely followed by the 3 to 6 years duration group (30.8% in both cases). Likely (33.0% of the total) is closely followed by Definitely (29.9% of the total) as likeliness that the respondents will partake in this activity.
- Socializing – the highest scoring occurred in the 6 years and longer group and 44.7% was equally indicated for Definitely (34.0% of the total) and Likely (43.3% of the total) and they are once again closely followed by those in the 3 to 6 years group. The Chi Square p-value=0.057, which is close to a statistically significant difference.

## CONCLUSION

The results obtained indicate that Chinese people residing in Pretoria are mostly young (between the ages of 21 to 30) and have been in South Africa for 6 years and longer. This could be ascribed to the large number of tertiary institutions in Pretoria. These residents prefer sightseeing, ecotourism, and heritage and cultural activities and this are in concurrence with the findings of previous research (Chinese tourism targets at sustainable..., 2001; Wang *et al.*, 2004; Research and Markets: New report..., 2007; Hoare *et al.*, 2008; McCartney, 2008). Furthermore, they are not keen on golfing, gambling and adventure activities and this is in concurrence with the findings of Law *et al.* (2004) and that of Sheng *et al.* (2008) and the inference is made that there was no change in Chinese people's tourism activity preferences between 2004 and 2010. The results obtained indicate that resident Chinese people would prefer tourism activities that include coastal areas, national parks, and socializing but that they are not likely to consider tourism offerings that include visits to museums and botanical gardens. These findings are in concurrence with the results of previous studies and this indicates that there has not been a change in Chinese people's preferences. Socializing and city activities also feature as potential preferences, especially amongst females, and this could concur with meeting people from other cultures, shopping, and also dining out to experience local cuisine. These findings are in concurrence with previous studies (Law *et al.*, 2004; Hoare *et al.*, 2008; Liu *et al.*, 2008; Huang *et al.*, 2009) and preferences have not changed since 2004. It is also evident from the results that the likeliness of visiting national parks decline as the duration of residence increases and this could be ascribed to the fact that newly arrived residents tend to visit these parks within the first three years of being in South Africa whilst those who have been residents for 6 years and longer tend to revisit national parks. The inference is also made that those who have been in South Africa for 6 years and longer are more inclined to visit the coastal areas of South Africa and it could be ascribed to the fact that they already visited attractions located closer to their point of residence and that they have overcome some of their impediments and fears of travelling in a foreign country.

The resident Chinese tourism market in South Africa is emerging and could be developed into a lucrative market for South African entrepreneurs if they are knowledgeable about this unique market. The research conducted for the purpose of this study was pioneering and should be supplemented with extended research that includes other economic centra as well as being expanded so that a complete impression of the resident Chinese market can be developed for the benefit of entrepreneurs in the tourism industry instead of betting on a trial-and-error experiment. For example, should botanical gardens and museums want to attract more resident Chinese people then these attractions should develop their offerings in accordance with the preferences of the market segment, such interactivity, branding, and image. The same applies to developing tourism offerings for this market – packages and offerings should include activities that coincide with the activities resident Chinese people indicated they likely would partake in.

The importance of knowledge, not just information, about the Chinese market cannot be accentuated enough and this supported by Wang *et al.* (2010) who stated: An in-depth understanding of its culture and people is imperative for Western companies to do business in China or aim at Chinese as its target market.”

## REFERENCES

- Annual Report of China Outbound Tourism Development 2009/2010*. 2010. China Outbound Tourism Research Institute [Online].
- Chinese tourism targets at sustainable growth. 2001. *China Business Information Network*, May 14:1.
- DEAT see South Africa, Department of Environmental Affairs and Tourism.
- Handle Chinese tourists with care. 2008. *Travel Weekly*, London, 1941, Mar 21:19.
- Henderson, J. C. 2010. New visitor attractions in Singapore and sustainable destination development. *Worldwide Hospitality and Tourism Themes*, 2(3):251-261.
- Hoare, R.J. & Butcher, K. 2008. Do Chinese cultural values affect customer satisfaction/loyalty? *International Journal of Contemporary Hospitality Management*, 20(2):156-171.
- Huang, S. & Hsu, C. 2009. Travel motivation: linking theory to practice. *International Journal of Culture, Tourism and Hospitality Research*, 3(4):287-295.
- Law, R., Chueng, C. & Lo, A. 2004. The relevance of profiling travel activities for improving destination marketing strategies. *International Journal of Contemporary Hospitality Management*, 16(6):355-362.
- Liu, S., Choi, T. & Lee, W.T. 2008. Tourists' satisfaction levels and shopping preferences under the solo travel policy in Hong Kong. *Journal of Fashion Marketing and Management*, 12(3):351-364.
- McCartney, G. 2008. Does one culture all think the same? An investigation of destination image perceptions from several origins. *Tourism Review*, 63(4):13-26.
- National tourism sector strategy announced. 2010. *Tourism Tattler*, Issue 2, August:32. ASATA: Randburg.
- Pass the chopsticks: a look at Sino-South African trade. 2010. *Capital Life: Pretoria's premier lifestyle magazine*, Issue 4. Chapel Lane Media: Pretoria.
- Pres Zuma talks trade in China next week. 2010. Business Day Online, 20100820 No 232, August 2010.
- Research and Markets: New report estimates that China's tourism receipts will reach US\$85 billion in 2011. 2007. M2 PressWire, M2 Communications Ltd., December, 18.
- Rogers, M. 2008. Towards a conceptualization of unethical marketing practices in tourism: a case study of Australia's inbound Chinese travel market. *Journal of Travel and Tourism Marketing*, 24(4), July 1:285-296.
- SAT see SOUTH AFRICA, South African Tourism.
- Sheng, C., Shen, M. & Chen, M. 2008. An exploratory study of types of special interest tour preferences and preference demographic variables analysis. *International Journal of Culture, Tourism and Hospitality Research* [Online], 2(3):271-284.
- SOUTH AFRICA. Department of Environmental Affairs and Tourism. 2002. *Guidelines for responsible tourism*. Pretoria: The Department.
- SOUTH AFRICA. South African Tourism. 2010a. *Highlights of tourism's performance in 2009*. SA Tourism: Johannesburg.

SOUTH AFRICA. South African Tourism. 2010b. *Marketing South Africa in China*. 3rd ed. SA Tourism: Johannesburg.

Tourism is an export. 2010. *Tourism Tattler*, Issue 2, August:28. ASATA: Randburg.

United Nations World Tourism Organisation. 2001. *Tourism 2020 Vision: Volume 3 – East Asia and Pacific* [Online].

UNWTO see United Nations World Tourism Organisation.

Wang, S. & Qu, H. 2004. A comparison study of Chinese domestic tourism: China vs the USA. *International Journal of Contemporary Hospitality Management*, 16(2):108-115.

Wang, Y.J., Doss, S.K., Guo, C. & Li, W. 2010. An investigation of Chinese consumers' outshopping motives from a cultural perspective: implications for retail and distribution. *International Journal of Retail and Distribution Management*, 38(6):423-442.

Zhang, G., Pine, R. & Zhang, H.Q. 2000. China's international tourism development: present and future. *International Journal of Contemporary Hospitality Management*, 12(5):282-290.

Zhang, Q.H. & Chong, K. 2002. Tourism policy implementation in mainland China: an enterprise perspective. *International Journal of Contemporary Hospitality Management*, 14(1):38-42.

# A LEGAL APPROACH TO HUMAN TRAFFICKING IN SOUTH AFRICA

**Louise du Preez and Antoinette Marais**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*Human Trafficking is an international phenomenon, with more people currently enslaved than in any other time in the history of mankind. All countries should implement legislation preventing and eradicating the trade in humans. The aim of this paper is to give a background on human trafficking with reference to the different forms of trafficking and the factors giving rise to this phenomenon. The different Trafficking Protocols, addressing human trafficking at international level, are also discussed. The paper also investigates the present position in South Africa. A critical discussion concerning current trafficking legislation and the proposed trafficking-specific legislation follows, with reference to the effectiveness of existing and proposed legislation, the prevention of human trafficking, prosecution of traffickers, protection of trafficking victims and their re-integration into society. In conclusion the authors will make recommendations with reference to the effective implementation of the proposed legislation.*

## INTRODUCTION

Human trafficking is a modern form of human slavery, where supply meets demand. Although human trafficking is not a new concept, in the context of globalization it has reached shockingly high levels. Experts agree that human trafficking amounts to nothing more than organized crime with an estimated 600 000 to 800 000 humans being trafficked on an annual basis, with a total market value of approximately \$32 million. Profits for the human trafficking business are estimated to be \$7-10 billion annually. Of the number of trafficked individuals, 80% are presumed to be female. A shocking statistic is that 50% of all trafficked individuals are minors. The International Labour Organization estimates that worldwide there are approximately 12.3 million victims (adults and children) of human trafficking at any given time.

Although human trafficking is considered to be an international crime, there was no internationally accepted definition of human trafficking until 2000, when the Palermo Protocol (to be discussed in detail later) was adopted. This Protocol defines human trafficking as follows:

*'... the recruitment, transportation, transfer, harboring, or receipt of persons, by means of threat or force or other forms of coercion, of abduction, of fraud, of deception, of abuse of power or a position of vulnerability or of giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of exploitation, forced labor or services or practices similar to slavery, servitude or the removal of organs'.*

From this definition it becomes clear that the common denominator present in all human trafficking incidents is the use of force, fraud, or coercion to exploit a person for profit. The definition indicates that trafficking usually takes place in three different stages, namely means (partial deception, full deception, or abduction), mobilization (transport, or transfer of the victim from one place to another whether inside an area or cross-border) and exploitation (where the trafficker transports and sells the victim for personal gain). All three elements must be present and connected to each other before the conduct constitutes to human trafficking.

The Trafficking in Persons Report (TIP-Report) of 2010, brought out by the Department of State of the United States of America, states that human trafficking is likely to extend to every country in the world. For this reason, it is imperative that the international community combine efforts to combat human trafficking. To achieve the total eradication of trafficking in persons all international role players must implement legislation and policies that will make it impossible for traffickers to continue with this practice.

## **FORMS OF HUMAN TRAFFICKING**

It is very difficult to clearly define the different forms of human trafficking, as the different forms more often than not, tend to overlap to a large extent. According to the United Nations, the most common forms of human trafficking are sexual exploitation of women and girls, and to a lesser degree, even young boys. Forced labour in the agricultural-, manufacturing- and construction industries is also rife. Other forms of human trafficking include begging, domestic servitude, acting as a drug mule, organ harvesting and debt bondage.

People often tend to think that the main purpose of human trafficking, on the part of the trafficker, is money and sex. In many instances this is not the case. The main purpose of the trafficker in the abuse of trafficking victims is power and control and the need to humiliate, punish and exploit the victims.

## **FACTORS INFLUENCING HUMAN TRAFFICKING**

Human trafficking only exists because of the fact that a supply and a demand exists. If no demand for trade in humans exists, there will be no purpose in supplying humans. Factors contributing to human trafficking exist on both the supply and demand side of the equation. 'Push'-factors are those factors that influence the supply side of trade in persons, whilst factors contributing to the demand in human beings are called 'pull'-factors.

### **'Push'-Factors**

Various factors influence the supply of humans in human trafficking, such as poverty, gender inequality, poor education and political instability. People living in extreme circumstances of poverty run a far greater risk of becoming a victim of human trafficking, as they are often desperate to improve their living conditions and will therefore believe the false promises that the traffickers make to them. Many people living in poverty in rural areas hear about the so-called riches in urban areas. When a trafficker approaches such a person, with the promise of work in an urban area, they believe this person, in an effort to improve their living standard and often the living standard of their families as well. Traffickers also abuse the person's desire to be transported to an urban area, by offering them transport, often at a price and then abduct the victim to supply a specific demand. In some cases, parents sell their children to traffickers in order to make money.

In many countries men still regard women and female children as inferior members of society, without a voice equal to those of their male counterparts. Young girls are forced into arranged marriages with much older men. Men often have a sense of entitlement concerning sex and sexual activity, whereby the men do not think that exploiting a woman or young girl for sex is wrong. They think that it is what women are there for and in their specific culture such exploitation is acceptable.

A lack of quality education also plays a major role in the supply of humans in the human trade industry. People living in an area or country where quality education is not available, are misled by human traffickers into believing that they are sending their child to a place where the child will receive an education that will improve the child's life. In these cases the parents allow their child to go with the trafficker, because they were deceived. A lack of education on human trafficking also makes it difficult for the victims of trafficking to identify the risks involved in trusting a person. The victims then allow this person a certain amount of control over their lives. The fact that many recruiters acting on behalf of traffickers are acquaintances of the victims makes it easier for the victims to be misled.

Political instability in a country (such as the current situation in countries like Zimbabwe, Iraq and Afghanistan) leads to migration of the citizens of that country to safer countries, often neighbouring countries, where better opportunities exist. The people who flee from the political instability in their country in many cases do not have the necessary travel documents to legally enter the country they are traveling to. This puts these people at a higher risk of falling victim to human trafficking, as they rely on smugglers to illegally smuggle them over the border into the new country. The smugglers can then easily abduct them and sell them as victims of human trade. It is important to note that not all instances of smuggling amount to human trafficking. Only where the smuggled person is exploited at some stage, does the smuggling amount to trafficking.

## **‘Pull’-factors**

One of the consequences of the economic recession is a demand for cheap labour. Traffickers provide these low-skilled and cheap labourers to the industries that require them, most notably brick kiln workers, charcoal- and gold miners and domestic servants. These labourers work in appalling conditions for very long hours, with very little or no pay. Many of these labourers are bound to their employers through debt bondage, where they have to work off a debt which in reality never gets paid in full because of the low wages they earn.

Sex tourism is also a major ‘pull’-factor, where victims of human trafficking are sold to work as prostitutes in brothels, with very little or no pay. Often the only compensation these victims receive is food and lodging, and sometimes drugs, which binds them to their abusers. Young children become the victims of sexual exploitation, because of the perception that young children are HIV-free. It is therefore safer for a person to have sexual intercourse with a young child, as the risk of being infected with a sexually transmitted disease is much slimmer.

Many couples who cannot conceive naturally and who are not in a position to adopt a baby through legal means are willing to buy babies on the ‘black market’. This makes the trafficking of babies a lucrative business for human traffickers to supply babies to the adoption trade.

A demand for organs and body parts for transplants and cultural medicinal purposes leads to the trafficking of persons to harvest their organs and body parts. These organs are then sold to people who require an organ transplant, where organs are not available through legal channels.

Countries in the midst of armed conflict make use of child soldiers to participate in the conflict. As Ali, a former child soldier who fought with the rebels in Chad, was quoted in the TIP report stated: *‘If you see a young person wearing military clothes, carrying a gun, these are children who have lost their lives. Fighting is the last thing that a child should be doing’.*

## **INTERNATIONAL POSITION ON HUMAN TRAFFICKING**

In an effort to prevent the international phenomenon of human trafficking, the United Nations adopted two protocols in Palermo, Italy in 2000, dealing with the trade in human beings. The first protocol (which will be focused on in this paper) is the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, referred to as the Palermo- or Trafficking Protocol. This Protocol came into force on 25 December 2003. By the end of 2009, the Trafficking Protocol had 117 signatories and 133 countries adopted this Protocol. The other protocol adopted was the Protocol against the Smuggling of Migrants by Land, Sea and Air.

The Palermo Protocol obliges ratifying states to prevent and combat human trafficking, and to protect and assist the victims of trafficking.

The Palermo Protocol was the first document that formally defined human trafficking (as indicated above). The Palermo Protocol further described the rights of victims of human trafficking. These rights include appropriate housing, medical-, psychological and material assistance, employment- educational and training opportunities. In addition to these rights there are also counseling and information concerning their legal rights in a language that they understand as well as due compensation for any damages that they suffered as a result of the

trafficking. If the victim of human trafficking is a child, that child is entitled to even more rights, insofar as the child's best interests need to be considered at all times in providing assistance and protection.

In the United Nations Recommended Principles and Guidelines on Human Rights and Human Trafficking, the United Nations lays out certain principles for countries dealing with victims of human trafficking, pertaining to their rights. The country where the victims are found must not arrest or detain the victims of trafficking for illegal entry into the country nor for any other illegal conduct the victims may have made themselves guilty of as a direct result of being a victim of human trafficking. The victims need to be protected against further exploitation after being rescued, irrespective of their willingness to assist in legal proceedings against their traffickers. If the victim is willing to participate in legal proceedings against the traffickers, then the victim must be treated with dignity during these proceedings.

The Palermo Protocol requires of all ratifying states to criminalize human trafficking, investigate and prosecute human traffickers and to undertake border control measures. The Protocol further obliges ratifying countries to introduce trafficking-specific legislation to deal with human trafficking cases in that specific country.

## **SOUTH AFRICAN POSITION**

Due to South Africa's position in Africa, both geographically and as Africa's economic powerhouse, the country plays a major role in human trafficking. South Africa serves as a source-, transit- and destination country. Human trafficking does not only apply to cross-border trafficking, but to internal human trafficking as well.

A large portion of the South African population lives in poverty and suffers from a high rate of unemployment which leads to labour migration. This means one or more of the members of a family leave the home in search of employment. Labour migration creates the opportunity for traffickers to coerce people into believing that they are taken away from their home to be gainfully employed elsewhere. Instead they end up as forced labourers in various industries, sex workers or drug mules within the South African borders, or in other countries. The family allowed the person to leave the family home because of their belief that they will benefit in some way from the transaction, therefore giving consent to the act of taking the person from the family home. The persons lured away with the promise of employment elsewhere are often young children.

A lack of border control on land, air and at sea makes South Africa the ideal country in Africa to act as a transit country. South Africa is a transit hub for countries in Central Africa as well as Asia and even Europe. Direct flights exist between South Africa and many European and Asian countries, making it easier not to be caught by the authorities. From the Western Cape, it is also possible to leave the country by sea, without being detected.

As a destination country South Africa is the end of the road for many victims of human trafficking from neighbouring countries, such as Lesotho, Mozambique and Swaziland. These people, mostly women and young children, are brought to South Africa to work in the sex industry or as low cost workers in various other industries, for example the textile industry. South Africa is also a destination country for people trafficked from the rest of Africa, Asia, the Middle East and some European countries, such as Russia.

From 2005 to 2008 South Africa was placed on the TIP Report Tier 2 Watch List. This in essence meant that the United States Department of State recognised that the South African government was making significant efforts to eliminate human trafficking in the country, but did not fully comply with the minimum standards required to do so. In the 2007 TIP Report the US Department of State reported that the South African government did not provide information on the measures they took to protect the victims of human trafficking. Instead the state continued to deport and/or prosecute foreign victims without providing the appropriate protective services. South Africa was removed from the Watch List in 2009 in recognition of the government's efforts to bring itself in line with the minimum standards required to fight the battle against trade in persons, and the commitments the state made to take additional steps in 2010.

Reliable statistics on human trafficking in South Africa are sketchy and no official statistics on trade in persons for South Africa exist.

## **Existing Coordinated Institutional Responses to Trafficking**

The South African government established the Human Trafficking Desk within the Organised Crime Unit of the South African Police Service (SAPS) in 2003. This Desk was established to co-ordinate all trafficking-in-persons related issues in the country, advise the Organised Crime Unit on human trafficking matters and provide training on human trafficking to members of the Organised Crime Unit.

As part of the fight against human trafficking in South Africa, the government launched the Tsireledzani Programme in March 2009. This is the state's counter-trafficking programme driven by the National Prosecuting Authority (NPA). Tsireledzani comprises of provincial task teams that need to investigate and implement measures to combat human trafficking on a provincial level, in conjunction with NGO's and faith-based organisations. Provincial task teams have already been established in Kwa-Zulu Natal, Limpopo and Mpumalanga, with several more planned in the near future. Tsireledzani also works closely together with key international role players in human trafficking, such as the International Labour Organisation (ILO), the United Nations Office on Drugs and Crime, UN Children's Fund and the Human Science Research Council.

## **Current South African Legislation dealing with Human Trafficking**

All ratifying countries to the Palermo Protocol are expected to introduce trafficking-specific legislation. South Africa ratified the protocol and is therefore obliged to implement such legislation. At present, the country has not yet promulgated the necessary legislation specifically dealing with human trafficking. Currently, a person accused of a trafficking-related crime, may be prosecuted for various other charges. In terms of the common law, a suspected perpetrator of human trafficking can be charged with abduction, kidnapping, rape or sexual assault.

Another option is to charge the suspected perpetrator in terms of various pieces of legislation, such as the Children's Act (38 of 2005) and the Criminal Law (Sexual Offences and Related Matters) Amendment Act (32 of 2007) (hereafter called the Sexual Offences Amendment Act).

Chapter 18 of the Children's Act (sections 281-291) criminalizes trafficking of children, under the age of 18 years. Section 284 specifically prohibits the trafficking of children. The trafficker cannot rely on a defence of consent by the minor child. The Children's Act states that no child can give consent to adoption, removal from the child's home or any exploitation. By including adoption of a child in the Children's Act as one of the forms of trafficking, the Act expanded on the existing definition of human trafficking as described in the Palermo Protocol. The definition was further expanded to include the removal of the child's body parts or organs. The Children's Act, in section 289, provides for the protection of children who are victims of human trafficking, whether they are South African citizens, or foreigners. Section 291 provides for the extra-territorial jurisdiction of the court to include cases of trafficking of South African children outside the borders of South Africa. The convicted trafficker will face imprisonment of up to 20 years, a fine or both. The trafficker can also face a fine or imprisonment of a maximum of 10 years, or both, for related crimes, in addition to the sentence for trafficking.

Sections 70 and 71 of the Sexual Offences Amendment Act were introduced to act as an interim measure until the legislation on the Prevention and Combating of Trafficking in Persons is implemented. Section 71 defines human trafficking for sexual purposes as an offence for which a convicted trafficker can face life imprisonment. Section 71(5) states that a victim of trafficking is not liable to stand trial for any crimes committed as a direct result of the trafficking. The perpetrator upon conviction faces imprisonment of a maximum of 2 years, when making use of the "services" of the victim of trafficking. This Act also applies extra-territorially.

These pieces of legislation have intrinsic limitations, as both only deal with certain aspects of human trafficking. The Children's Act can only be utilised in instances of trafficking involving minors, under the age of 18 years. The Sexual Offences Amendment Act, on the other hand, only deals with cases where the victim of

human trafficking was sexually exploited, raped or sexually assaulted. The Children's Act does not make provision for the payment of compensation by the trafficker to the child victim. The Children's Act falls short in that it does not provide for prevention strategies, or community education on awareness of human trafficking. The Sexual Offences Amendment Act does not describe any form of protection of the victims of human trafficking or preventative measures to curb human trafficking. The Act also does not make provision for compensation to be paid to the victim of trafficking. The shortcomings in both the Children's Act and the Sexual Offences Amendment Act make it essential for the South African government to implement trafficking-specific legislation as a matter of urgency.

## **PREVENTION AND COMBATING OF TRAFFICKING IN PERSONS BILL**

In 2003 the South African government began work on new anti-trafficking legislation to meet the requirements as set out in the Palermo Protocol, due to the fact that the present legislation used to combat trafficking is spread between different acts and no clear statutory offence for human trafficking exists. In March 2010, the government introduced draft anti-trafficking legislation (Prevention and Combating of Trafficking in Person Bill 7 of 2010). This Bill was presented to Parliament on 16 March 2010, and is still awaiting Parliament's approval.

The object of the Bill is to tighten the current laws relating to human trafficking, as well as to criminalise different aspects of trafficking in persons, and to prescribe appropriate penalties in the event of a trafficking conviction. The Bill also seeks to provide for the prevention of trafficking in persons and the protection of victims of trafficking, whilst assisting these victims by rendering various services to them.

Currently South Africa does not have a legal definition describing human trafficking as a criminal offence. The Bill aims to rectify this situation by including a definition for the trafficking of persons in Clause 1. This definition expands on the definition of human trafficking decided on in the Palermo Protocol, as it includes forms of trafficking such as adoption and debt bondage. The definition includes conduct that will be regarded as human trafficking offences, such as trafficking in persons, the possession, destruction, confiscation, concealment of, and tampering with travelling documents of victims of human trafficking, and conduct that results in the trafficking of persons. This proposed legislation will also include extra-territorial jurisdiction of the courts.

Preventative measures in the Bill are described in Chapter 2. By informing and educating the public, through awareness programmes of the risks and dangers of human trafficking, especially those who are vulnerable to human trafficking, the government can sensitise the community against recruitment by traffickers. Victims of human trafficking need to be informed of the various rights and services they are entitled to. As part of prevention, government must discourage the demand, and supply, of victims. The penalties imposed by the Bill serve as a form of discouragement for would-be traffickers. Convicted traffickers face heavy penalties in that they can be sentenced to life imprisonment with/without the option of a fine. The prescribed sentence for causing another person to enter into debt bondage is imprisonment of up to 15 years. The prescribed sentence for tampering with travel documents is imprisonment of a maximum of 10 years. Clause 7 of the Bill provides for imprisonment not exceeding 15 years for a person who intentionally benefited from human trafficking. The court can also order the convicted trafficker to pay compensation to the victim for loss of income, loss of property, mental suffering and contracting a life-threatening disease.

Chapter 4 of the Bill deals with the protection of human trafficking victims. Protection offered to child- and adult victims of human trafficking differ according to the Bill. Where an immigration officer, labour inspector, social worker, social service professional, medical professional, nurse, teacher, traditional health practitioner, -healer or -leader, suspects that a child is a victim of human trafficking, this person must immediately report this suspicion to a police official. If a person, mentioned above, suspects an adult is the victim of human trafficking, they can only report this suspicion if the adult gives his/her written consent. The police must refer the victim of suspected trafficking to a designated child protection organisation, or the provincial department of social development (DSD), in the event of a child, or to an accredited organisation or DSD in the event of an adult, within 24 hours.

Victims of trafficking are also protected against conviction of illegal activities carried out as a direct result of the fact that they are victims of human trafficking.

## RECOMMENDATIONS AND CONCLUSION

From a South African point of view the most important consequence of the Palermo Protocol is to promulgate and implement the Prevention and Combating of Trafficking in Persons Bill. Awareness must be raised amongst government officials, such as judges, magistrates, prosecutors, social workers, police officials as well as the general public. Proper data collection is imperative. The data must be collected on a regular basis and must be reliable and accurate. Without proper data, it will be impossible to ascertain the real impact of human trafficking in South Africa. Finally, South Africa needs to address the root causes of human trafficking and provide social, political and economic stability to name but a few.

The Palermo Protocol and other related international policies emphasize human trafficking all over the world. It is essential that all countries endorsing the Palermo Protocol meet the requirements in order to effectively eradicate human trafficking globally. Human trafficking is a major challenge. Some of the legislation currently enforced globally is still in its infancy and to a large extent untested. Ultimately, human trafficking is an enormous global problem and the response to the problem to date is clearly still inadequate. The preventative, protective and prosecuting responses must be integrated to effectively combat human trafficking. Human trafficking is everyone's problem.

## REFERENCES

Children's Act 38 of 2005

Criminal Law (Sexual Offences and Related Matters) Amendment Act 32 of 2007

Fitzgibbon, K. (2003) *Modern-Day Slavery? The Scope of Trafficking in Persons in Africa*. Africa Security Review 12(1), 81-89

Gallagher, A and Holmes, P. (2008) *Developing an Effective Criminal Justice Response to Human Trafficking: Lessons from the front line*. International Criminal Justice Review Volume 18 number 3, September 2008, 318-343.

International Organization for Migration (2010) *Southern African Counter Trafficking Assistance Programme: Frequently Asked Question Sheet* (Accessed 15 March 2011) [http://iom.org.za/site/index.php?option=com\\_docman&task=cat\\_view&gid=21&Itemid=238](http://iom.org.za/site/index.php?option=com_docman&task=cat_view&gid=21&Itemid=238)

Kreston, SS.(2007) *Trafficking in Children in South Africa: An Analysis of Pending Legislation*. Child Abuse Research in South Africa, 8(1), 35-50

Legget, T.(2004) *Hidden Agendas? The Risks of Human Trafficking Legislation*. SA Crime Quarterly no 9. (Accessed 08 March 2011) <http://www.iss.co.za/uploads/CQ9Full.pdf>

Prevention and Combating of Trafficking in Persons Bill 7 of 2010

South African Government (2009) *Human Trafficking Strategy & What is Human Trafficking?* (Accessed 26 January 2011) [http://www.info.gov.za/issues/human\\_trafficking/strategy.html](http://www.info.gov.za/issues/human_trafficking/strategy.html)

South African National Prosecuting Authority (2010) *Tsireledzani: Understanding the Dimensions of Human Trafficking in Southern Africa*. (Accessed 04 March 2011) <http://www.hsrc.ac.za/Document-3560.phtml>

Steyn, E. (2010) *Rescue Mission for Human Trafficking*. Justice Today, Issue 1 (Accessed 16 February 2011) [http://www.justice.gov.za/docs/articles/2010\\_human\\_trafficking.html](http://www.justice.gov.za/docs/articles/2010_human_trafficking.html)

United Nations Children's Fund (2003) *Trafficking in Human Beings, Especially Women and Children in Africa* (Accessed 26 January 2011) [www.unesdoc.unesco.org/images/0014](http://www.unesdoc.unesco.org/images/0014)

United Nations Economic and Social Council (2007) *Human Trafficking in South Africa: Root Causes and Recommendations*. Policy Paper Poverty Series No 14.5(E) <http://unesdoc.unesco.org>

United Nations Protocol to Prevent Suppress and Punish Trafficking in Persons, Especially Women and Children, Supplementing the United Nations Convention Against Transnational Organised Crime. (2000) (Accessed 28 January 2011) <http://www.iom.org.za/site/media/docs/UNTrafProtocol.txt>

United States Department of State (2010) *Trafficking in Persons Report 2010* (Accessed 26 January 2011) <http://www.state.gov/g/tip/rls/tiprpt/2010/>

# **THE CONTRIBUTION OF INRAPRENEURIAL TRAINING TOWARDS THE IMPROVEMENT OF SERVICE DELIVERY BY PUBLIC INSTITUTIONS IN SOUTH AFRICA**

**M A W Prinsloo**  
**Tshwane University of Technology, South Africa**

## **ABSTRACT**

*During the launch of the ANC manifesto for the upcoming Municipal elections in South Africa the President of South Africa, Mr Jacob Zuma has emphasised the fact that service delivery in South Africa is not up to the standard that is expected from the citizens of this country. The South African public sector focuses on the improvement of the general welfare of the society. This implies that services and products should be delivered in a more effective and efficient way. To achieve these training programmes for official in the public sector there should be a paradigm shift from the traditional approach to training of officials in the public sector to training in intrapreneurial skills. Intrapreneurial skills require that the planning of service delivery programmes should be organised and structured and this should take the form of a business plan. Public intrapreneurs differ from private sector entrepreneurs in that it operates in an environment that holds a particular value system that include responsibility accountability, social equity and efficiency. Public intrapreneurs function within an environment where they should be responsible to the community needs. A public intrapreneur should be trained to become an official who can initiate new circumstances through innovative action and this person should through the training processes be able to capitalize on opportunities in his striving to improve service delivery to the community. The South African public sector is characterised by constant changes. The public intrapreneur should be trained to have the ability to meet these changes. An intrapreneur should be able to identify opportunities and utilised these opportunities to improve service delivery to the communities. In this paper the focus will be on the traditional training programmes for public officials in South Africa. This will be compared to intrapreneurial training with the focus on the advantages of intrapreneurial thinking for the improvement of service delivery programmes in South Africa. If public officials are well trained and the public sector environment can accept the new approach, resources can be used more effectively and efficiently with the result that communities would benefit. An intrapreneurial government will also be able to satisfy needs more quickly as the decision making process would be faster.*

## **INTRODUCTION**

To promote service delivery in South Africa, intrapreneurial management in government departments needs to be encouraged. The current ANC government in South Africa has realised that service delivery to the communities needs to improve and to achieve this, with the limited resources available a new approach needs to be developed.

Public Officials should have the opportunity to address needs from the community on their own initiative instead of, as is currently the excepted norm; wait for someone in a higher position to take decisions that should merely be implemented by the officials.

This is one of the major challenges in South Africa. Power to decide on important issues is in the hands of elected elite and the implementations of decision are therefore time-consuming. Flatter organizational structures are needed where managers can take the responsibility to take decisions and to implement these decisions.

In order to understand public intrapreneurship it is important to differentiate between entrepreneurship and intrapreneurship.

## **ENTRAPRENEURSHIP VS. INTRAPRENEURSHIP**

According to Shukla entrepreneurship is the practice of embarking on a new business or reviving an existing business or reviving an existing business by pooling together a bunch of resources in order to exploit new found opportunities (<http://www.pagu.com> visited on 21 April 2011)

Fox and Maas (1997:9) argues that there can be different definitions of entrepreneurship because they are based on several valid but different premises, but they define entrapreneurship as the ability of a person to identify opportunities and to utilise these opportunities to their benefit. Hisrich and Peters (1992:10) defines entrepreneurship as a process of creating something different with value by devoting the necessary time and effort assuming that these inputs will lead to resulting awards.

Entrapreneurship on the other hand involve the practice of entrepreneurship by employees within the public domain (Shukla 2009). Intrapreneurship refers to employees that are willing, able and allowed to use innovation, creativity and self-determination to identify and convert opportunities into better service delivery programmes.

The difference between the entrepreneurial (private) and intreprenurial environment (public) is that in the public sector, external forces impinge on the public manager in a far greater and more complex way than on his private sector counterpart. Private Management is characterised much more by directions and orders to subordinates (Cameron and Stone 1995:116)

The public Manager on the other hand is regarded as the guardian of the tax payer's money and is restricted in terms of decision making by the legislature, the media, courts and trade unions. To ensure that public service delivery programmes in South improve it is of the utmost importance that managers be trained to develop intrapreneurial skills in order for them to cut on the beaurocratic principles and address problems and opportunities as they develop. Intrapreneurship is a style of management that is concerned with obtaining and managing resources to exploit opportunities. Intrapreneurs create opportunities by disturbing the status quo, but the labour environment should provide the necessary support that will allow intrapreneurs to challenge the status quo.

The main difference between the public sector and the private sector lies in that the public sector aims to improve the general welfare of society and that the private sector focus on profit making (du Toit and van der Walt 1999:45) within a public intrapreneurial organisation, "profit" would be obtained when products and services are provided in the most efficient and effective way.

## **INTRAPRENEURIAL PUBLIC MANAGEMENT**

Characteristics of intrapreneurial governance should include a vision, a mission, innovation and self motivation. Planning in the public sector requires the delivery of goods and services to society optimally. In order for this to happen the public institutions needs to be changed and public officials needs to be trained in the process of intrapreneurialism (Fox and Maas 1997:108)

The argument can be made that planning should take the form of a business plan and that public officials should be socialised so that this business plan can be implemented successfully. Public institutions should be innovative and creative in order to accommodate the constantly changes in the demands and needs from the public.

If government acts as an intrapreneur and use resources effectively and efficiently, society could benefit from it because it could result in better services and less tax.

An intrapreneurial government will also be able to satisfy the needs from the community more quickly as the decision making process would be faster, especially if employees are informed and share the same vision and mission (Fox and Maas 1997:98)

## **CHARACTERISTICS OF A PUBLIC INTRAPRENEUR**

Kroon and Moolman (1992:20) list the following characteristics of an intrapreneur:

## **Motivation**

Motivated public officials can be described as officials who want to succeed. Instead of focusing on the obstacles the intrapreneur will focus his energy on positive ways of changing these obstacles into tasks and challenges that he will achieve.

## **Drive, perseverance and energy**

These characteristics refer to the internal source of motivation and includes expectations, needs, drives and objectives.

## **Role orientation and purposiveness**

This includes the ability to formulate challenging attainable objectives that will motivate the intrapreneur to be selective in evaluating opportunities and to know when not to take up a challenge.

## **Time perspective**

An intrapreneur regards time as extremely valuable. They see time as a scarce resource. They are future orientated and tend to finalise tasks without procrastination or self-doubt

## **Internal focus of control**

Intrapreneurs believe in their own ability to direct their activities towards success, despite obstacles. They realise the fact that they might make mistakes but these mistakes are regarded as learning opportunities and they are unlikely to repeat these mistakes.

## **Handling uncertainty**

Because intrapreneurs possess an inner drive towards success they will sometimes have to make decisions in times of uncertainty, but they have the ability to endure uncertainty without compromising effectiveness and efficiency.

## **Risk taking**

Intrapreneurs are prepared to take calculated risks. They are aware of their own limitations and abilities and will take on challenges within these boundaries.

## **Ethics and integrity**

Integrity and reliability are probably the most important factors contributing to the long-term success of an intrapreneur. Timmons (1990:291) argue that success without the highest measure of integrity is regarded as failure.

# **COMPETENCE REQUIREMENTS FOR INTRAPRENEURIAL MANAGERS**

Competence can be defined as skills, knowledge, attitudes, attributes and values required to perform a task as well as the ability to apply them in the work environment (Lindsay and Stuart, 1997) for the purpose of

this paper, attitudes attributes and values are referred to as personal competencies. Personal competencies can be described as:

## **Identification of opportunities**

Intrapreneurial managers need to learn to utilise information effectively to determine the priority need of the community. The one factor that distinguishes an intrapreneurial official from one that does not have intrapreneurial orientation is the ability to identify opportunities and most important, to be pro-active. Being pro-active will ensure timeously and improved services to the community.

## **Networking**

Intrapreneurial managers should be able to capitalize on existing internal and external networks and how to use existing networks to expand their total network. Knowing with whom you partner with can be the competitive edge to capitalising on opportunities.

## **Self acceptance**

Intrapreneurial managers should know their personal abilities and limitations. Their focus areas should be within their special talents and abilities. If there are any areas where they can develop, they should embark on initiatives that can ensure competence.

## **Drive and determination**

According to Timmons (1999) drive and determination are the most important personal competencies that an intrapreneurial manager should have. Drive and determination is the fuel that accelerates the intrapreneurial vehicle.

## **Opportunity obsessed**

Successful intrapreneurs are obsessed with opportunity. This obsession manifests itself in a sound knowledge of the needs from the communities and identifying ways and means to address these needs effectively and efficiently.

## **Creative problem solvers**

Intrapreneurs have the ability to think laterally or to stimulate teams to do that. Intrapreneurs don't have to be creative people, but they have the ability to find creative solutions to traditional problems.

## **Adaptable**

Intrapreneurs have the ability to learn quickly and to adapt to change in a short time. Because of this, they don't fear failure, but regard mistakes as an opportunity to learn.

## **THE INTRAPRENEURIAL ORGANISATION**

The public sector differs from the private sector because of different value systems. Values in the public sector include efficiency, accountability, responsiveness and the upholding of individual rights. In order to develop an intrapreneurial organisation, public institutions need to change.

Intrapreneurship cannot come into practice if the organisations culture is not intrapreneurial, but the culture of the organisation cannot be changed overnight. Intrapreneurs must be innovative in creating an organisation that

is entrepreneurial (Holtzhauzen 199). Fox and Maas (1997:19) has identified the following guidelines that promote the establishment of an intrapreneurial organisation.

## **Vision**

The vision of the organisation must be understood and supported by employees at all levels in the organisation. The vision will be the energy that sends the organisation in the correct direction. This vision should include intrapreneurship and create the opportunity for intrapreneurial thinking in the organisation.

## **Training**

The intrapreneurial organisation functions within a dynamic and constantly changing environment. Training of intrapreneurs should therefore be continuous to keep up with the latest developments.

## **Recognition**

A system of recognition should be implemented to stimulate intrapreneurial thinking. Intrapreneurs should be allowed to exploit opportunities without the fear of punishment.

## **New ideas**

In order to identify new opportunities, new ideas must be created. Communication plays an important role in the stimulation of new ideas and newly implemented ideas should be made visible to the employees of the organisation so that they can be inspired and motivated to contribute to the continuous search for new and better ideas to improve service delivery.

## **Flexible structures**

The implementation of new ideas should be done as soon as the ideas have been generated. This calls for structures that should be flexible in order to adapt to the changing environment and circumstances. Robbins (1999:405) adds that entrepreneurial organisations tend to have similar cultures. They encourage experimentation reward both successes and failures; and celebrate mistakes.

According to Robbins (1999:405) these organisations are likely to have the following characteristics:

- Acceptance of ambiguity: Too much emphasis on objectivity and specificity constrains creativity.
- Tolerance of impractical: Individuals who offer impractical answers to what-if questions are not stifled. What might seem to be impractical might lead to creative and innovative solutions.
- Low external controls: Rules regulations and policies are kept to a minimum. Intrapreneurs should be encouraged to challenge the status quo and should not be bound by rules and regulations.
- Tolerance of risk: Intrapreneurs are encouraged to experiment without fear of consequences should they fail.
- Tolerance of conflict: Diversity of opinions is encouraged. Different ideas will generate more options or possible solutions to problems.
- Focus on ends rather than means. Goals should be made clear and intrapreneurs should be encouraged to consider alternative routes towards meeting the goals. Focusing on the final result suggest that there might be several right answers to any given problem.
- Open-systems focus: Institutions closely monitor the environment and respond rapidly to changes as they occur.

# **DEVELOPMENTS IN THE TRAINING PROGRAMS OF PUBLIC OFFICIALS IN SOUTH AFRICA SINCE 1994**

After the election of the South African government in 1994 a number of significant changes in the training and development of public official has been introduced.

The South African government has promulgated a number of legislation with the specific aim on improving training of public officials. Some of this legislation is:

### - **The White Paper on Public Service Training and Education, 1998**

The aim of the White Paper is the development of a dedicated productive and people-centred public service staffed by public servants whose performance is maximised and whose potential is fully developed via the comprehensive provision of appropriate and adequate training and education at all levels of the organisation (White Paper on Public Service Training and education, 1998:14)

According to the White Paper (1997:38) the formulation and evaluation programmes of public service training and education will be carried out in accordance with the following broad principles:

- Access and entitlement: All public servants will be entitled to ongoing and meaningful opportunities for training and education.
- Needs analysis: Programmes of training and education will be based on a detailed assessment of the needs of individual organisations and employees and will be designed in particular to secure on optimal fit between these two set of needs.
- A competency-based approach to learning outcomes:  
The new approach to public service training and education will focus on outcomes rather than inputs, with particular reference to the competencies required at different levels to build individual and organisational capacity.
- Flexibility and decentralisations:  
To ensure that programmes of training and education are designed flexibly to meet the individual and changing needs of particular departments. Responsibilities will be decentralised as far as possible, with agreed upon national norms and standards.
- Learning Organisations: Training education and development will be promoted in ways which will enable public service institutions to become learning organisations, capable of continuous development and adaptations through the creative integration of learning at all levels.
- Adequate resourcing: This is vital for the success of training and educational programmes and will be ensured in particular by integrating plans and priorities for training and education as a central element in the budget planning process, at national, departmental and provincial levels.
- Qualify and cost-effectiveness: This will be promoted through the effective utilisation of available resources; avoidance of duplication; establishment of effective structures and mechanisms for co-ordination of training and education at national and provincial levels; introduction of improved forms of standard setting and accreditation; and the forgetting of training and education activities that add value by developing skills, knowledge and attitude that can be transferred to the job.
- The skills Development Act 97 of 1998:  
The purpose of this Act is firstly to develop the skills of the South African work force by improving the quality of life of workers, productivity in the workplace and the competitiveness of employers, and to promote self-employment and the delivery of social services.  
Secondly to encourage employers to employ people who find it difficult to find employment and to use the workplace as an active learning environment to provide employees with opportunities to acquire new skills.  
Thirdly the Act encourage workers to participate in learner-ships and other training programmes and to ensure the quality of training and education for the work place (Skills Development Act< 1998:8)

## **TRADITIONAL TRAINING PROGRAMMES FOR PUBLIC OFFICIALS IN SOUTH AFRICA**

Traditional training programmes for public officials in South Africa can be categorised into two sections, firstly in the job-training and of the job-training. On the job-training according to Carrell et al. (1998:318) involves job instruction given by an employee's supervisor. This type of training may involve learning how to complete routine tasks such as report writing, conductivity of interviews or selling of a product. Some of the on-the-job training methods used are coaching or job rotation.

Off-the-job training methods include classroom lectures, films and simulation exercises. These types of training are well suited for conveying specific information but it does not encourage intrapreneurial thinking. From the intention and purpose of this legislation it is evident that the South African Government has committed themselves to the improvement of training and education of public officials to ensure better service delivery to the communities in South Africa.

It is however important that intrapreneurship be encouraged through different training programmes.

## **INTRAPRENEURIAL TRAINING PROGRAMMES**

Training programmes should be developed that will encourage public officials to challenge the status quo. Programmes should be challenging and should focus on:

- Creative problem solving:  
Intrapreneurs should have the opportunity to be creative in problem solving according to Robbins (1999:404) creativity refers to the ability to combine ideas in a unique way or to make unusual associations between ideas. An institution that stimulates creativity will develop a novel approach to doing the work on unique solutions to problems.  
To encourage intrapreneurial training and creative thinking, public institutions should be ambiguous with low levels of external control, and public official opinions (Robbins 1999:404) These different opinions might lead to new innovative approaches to solving a problem.
- Brainstorming:  
Brainstorming is an idea-generating process that encourages alternatives while withholding criticism (Robbins 1999:463).  
Intrapreneurs should have the opportunity to discuss different methods of solving a particular problem without the fear of criticism. All alternatives should be recorded for discussion and analysis.
- Leadership Development:  
Training programmes should also focus on the importance of visionary leadership. Visionary leadership can be defined as the ability to create and articulate a realistic, credible, attractive vision of the future for an organisation that grows out of and improves upon the present (Robbins 1999:530)

## **CONCLUSION**

According to Harye MacKay (<http://michaelgoldman.com/intrapreneurship.htm>) many people fail to achieve their goals because they have grown so comfortable in their job that they are afraid to meet the challenges of a new one.

For public service delivery programmes, to be effective and efficient it is important that intrapreneurial thinking be encouraged. To be a successful intrapreneur will take more than just creativity or an idea. The successful intrapreneur has to be willing to take real risks at sharing and pushing a unique idea.

Intrapreneurs may have to be patient and wait for their senior management's final approval to create new services and they must be willing to push-wait-push-work but never quit.

Intrapreneur don't have it better, they simply have it different because they are fighting against well established systems.

To be successful with the implementation of service delivery programmes, intrapreneurs should put the public institution and not themselves first. Ethical conduct is of the utmost importance.

Public intrapreneurs should be involved in training programmes that will develop their creative thinking and visionary leadership skills.

In an environment that is constantly changing intrapreneurs should take the leading role in developing new, better and more efficient programmes to improve service delivery.

It is important that the public institutions create an environment where anyone can come forward with ideas on how to improve service delivery. It should not matter where a person fits in the organisation chart. If the idea is good, and the benefits and risks are clearly stated, that idea should get the green light.

## REFERENCES

- Cameron RG and Stone AB. 1995. *Serving the Public*. A guide for practitioners and students. 1<sup>st</sup> ed. JL van Schaik publishers.
- Carrell, M.R. Elbert, N.F., Hartfield, R.D., Grobler, P.A., Marx, M S van der Schyff, S. 1997 *Human resources management in South Africa*. South Africa: Apprentice Hall.
- Du Toit, D.F.P. 1999. *Public Administration and Management*. The Grassroots 2<sup>nd</sup> ed. Cape Town : Juta & Co, Hd
- Fox. W., and Maas. G.J.P 1997. *Entrepreneurship and Public Management*, Juta & Co, Ltd
- Hisrich RD and MP Peters. 1992 *Entrepreneurship – Starting, Developing and Managing a New Enterprise*. 2<sup>nd</sup> ed Homewood: Richard D Irwin, Inc.
- Kroon J, en Moolman P.L 1992. *Entrepreneurship*. Potchefstroom: Potchefstroom University for Christian Higher Education
- Lindsay, P.R & Stuart, R. 1997 *Reconstructing competence Journal of European Industrial training, 21(a)*
- Meyer, M. 1999 *Managing human resource development: an outcomes based approach*. Durban: Butterworths.
- Robbins, S.P and Coulter M. 1999 *Management*. 6 ed. Prentice Hall upper Saddle River, New Jersey
- Timmons, J. A. 1990. *New Venture Creations – Entrepreneurship in the 1990's*. 3<sup>rd</sup> ed. Homewood: Richard D Irwin.
- Timmons, J.A. 1999. *New Venture Creation. Entrepreneurship for the 21<sup>st</sup> Century*. Mc Graw – Hill, Boston

## LEGISLATION

South Africa. 1998. White Paper on Public Service Training and Education, Pretoria: Government Printer South Africa.

1998 Skills Development Act 97 of 1998. Pretoria: Government Printer

## WEBSITES

<http://www.paggu.com/entrepreneurship>

visited on 21 April 2011

<http://michaelgoldman.com/intrapreneurship.htm>

visited on 23 April 2011

<http://blog.guykawasaki.com/the art of intr.htm/>

visited on 23 April 2011

# HOW CONCERNED IS THE SOCIAL NETWORKING GENERATION REGARDING INTERNET SECURITY AND SAFETY PROTECTION?

**George Priovolos, Vincent Maher, and Joseph Ford**  
**Iona College, ISA**

## ABSTRACT

*Industry experts report that cyber-threats are approaching pandemic levels as Internet-based attacks have significantly increased in number and become more sophisticated and targeted. Users find it more and more difficult to adequately protect, at an affordable cost, the various kinds of information they generate and use on an ever-larger number of Internet-enabled devices. Today's college-age young adults, who grew up with the Internet, have moved most of their daily life online communicating and networking with others through multiple digital touch points. This paper will examine their awareness of Internet security risks and attitudes towards online protection.*

## INTRODUCTION

Online security has developed into a major concern for businesses, governments, Web experts, and the public at large in the past several years. However, online security issues associated with individual usage of the Internet have only recently attracted scholarly attention. Still, academic research in the area has focused mostly on safety issues, especially as they relate to children, and privacy concerns.

The recent escalation of attacks against unsuspected Internet users can be attributed, at least in part, to the increased level of sophistication of cyber-criminals; at the same time, individuals surfing the Internet during their leisure time—as opposed to doing so in the course of their employment or education—may be less aware of security threats for a number of reasons: lack of information on online illegal activities aiming specifically at individual users; inability to grasp the vulnerability of the medium to the extent that much of it involves technical detail and esoteric terminology, and a false sense of security that may be amplified by the use of standard computer protection software, often pre-installed in new hardware.

Moreover, at least some of these users may be in a state of denial hoping that somehow their (perhaps, limited) online activity would not attract the attention of cyber-criminals. On the other hand, even when leisure Internet users are quite aware of the dangers, many of them may be slow to take appropriate action to protect their online information and activities due to the high perceived cost in time and money that most comprehensive protection solutions seem to require and a reluctance to modify their online behavior in order to minimize exposure to the danger. Either way, selecting an online defense is not easy; a multitude of so-called “security shields” appear to promote mostly technological solutions (i.e., software programs), which are designed to protect against already known threats. As cyber-criminals continuously evolve their schemes and update their technologies, vendors of such programs seem to always try to play catch-up—a thing that may further erode consumer confidence in them.

One of the main reasons why many experts at this point warn that threats to cyber-security are approaching pandemic levels is the fast growth of new Internet-enabled hardware like smartphones, game consoles, tablet PCs, etc. These devices connect to the Internet when the user's attention is more likely to be focused on online content—not Web security per se. Furthermore, the latest popular Internet platforms supporting e-commerce, social networking, communication and entertainment are designed with built-in capabilities to collect and pass on user information making them (and their owners) more vulnerable to online intrusions and attacks.

Young adults, aged 18-25, tend to be heavy users of the Internet; they typically surf the Web using an assortment of wired and wireless devices, therefore, representing a very important segment of the total online market. Due to their heavy use of the Internet “anytime, anywhere” and their level of comfort at conducting a wide variety of online activities, individually or in groups, they are also highly likely to become targets of cyber-attacks and other abuses. Although, this demographic is undoubtedly more intimate with technology than other age cohorts, their Internet savvy might not necessarily help them become more sensitized to online dangers. In fact, it is conceivable that their relatively high level of familiarity with the Web could actually make them underestimate the threat.

This paper represents an exploratory attempt at examining the awareness of online security threats among college-age young adults, who access the Web via multiple Internet-enabled devices, in their leisure time (i.e., outside of work and/or school). The research reported here actually constitutes a preliminary step towards a larger project seeking to establish the security profile of this important cohort.

## NATURE OF INTERNET THREATS

According to Gray and Christiansen (2009), online risk can be classified as either “safety risk” or “information risk.” The former may involve physical harm and is usually considered in connection with online abuse of underage children. On the other hand, “information risk” relates to the hazards associated with disclosing online one’s pertinent personal information (e.g., name, age, address, etc.).

In fact, in popular Social Networking Sites (SNSs) like Facebook, LinkedIn or Twitter, young adult Internet users are these days accustomed to revealing additional information about their activities, interests, and opinions on current—and often controversial—social and/or political issues. This information—once posted—may be collected, stored, mined and sold for marketing or other (even unethical/illegal) purposes (Zeidner 2007). Moreover, various popular applications (“apps”), run within social networking and other sites, interact with users and their data posing additional performance and security risks (Makridakis et al. 2010). Smartphones and other recently introduced Internet-enabled digital equipment, using relatively new operating systems, are even more vulnerable to security threats.

Sun (2007) identified four types of malicious software programs: (a) system monitors that unobtrusively record and communicate sensitive and personal information; (b) “Trojans” that steal information, install malicious programs, or hijack a computer; (c) “Adware,” which monitor the online activities of individuals in order to deliver targeted advertising, and (d) tracking cookies that store user preferences regarding websites and other online content. Malicious software (“malware”)—an all-inclusive term used nowadays to describe various types of abusive software launched through a user’s Internet connection—can be installed with or without the user’s knowledge or consent; in the former case, user agreement is usually obtained by means of a misleading or incomplete disclosure. Certain types of users e.g., children and seniors may be particularly vulnerable to the extent that they do not fully appreciate the implications of providing their consent for the installation of such software in their computers. Young adults, who are heavy users of so-called “Peer-to-Peer” (P2P) applications allowing easy transfers of large video and audio files across networks, constitute another high-risk group.

The effects of security breaches may be severe: users whose digital equipment has been infected by malicious programs are exposed to surveillance and/or information collection without their awareness or consent. In addition, malware often causes a computer crash, freeze or slow-down negatively affecting an Internet user’s online experience. Ironically, a user’s effort to limit exposure to potentially infected websites in order to reduce online risks e.g., by blocking all dynamic content (including Javascript, Flash, etc.) would likely diminish his/her Internet enjoyment. Moreover, repeated, ominous warnings about the Web’s vulnerability are making today’s Internet surfers more hesitant to search for and connect to untried websites/links—a condition aptly termed in a recent paper as “clickphobia” (Lucky 2011).

Despite widespread concerns about online dangers among users, Internet experts, as well as policy makers, and the rapid proliferation of various “security solutions,” scholarly research in the area is generally lagging behind (Sriramachandramurthy et al. 2009; Dinev and Hu 2007). More specifically, past literature in the field of Internet security—as viewed from an end user’s perspective—has been dominated by conceptual studies seeking to describe the wide array of online threats; on the other hand, empirical research on Web user perceptions of online vulnerabilities has often considered only one type of threats (i.e., “spyware”) focusing specifically on the adoption of technological solutions to the problem (Sipior and Ward 2008; Lee and Kozar 2008). In fact, to-date, much of the information regarding Web user online security perceptions has been generated by commercial organizations providing security products and services; for instance, the most recent

RSA Global Online Consumer Security Survey involved 4,500 adult active Internet users from 22 countries, who were asked to share their opinions and attitudes on the security risks they face, their level of awareness concerning the latest threats, and what online service providers should do to protect them (RSA 2010).

Recent studies have suggested that online users concerned with Internet security may need to employ both “technical” (e.g., installing anti-malware software; pop-up blockers; firewalls, etc.), as well as non-technical, i.e., “tactical” measures (e.g., avoiding high-risk online activities) to adequately protect themselves (Sriramachandramurthy et al. 2009; Buchanan et al. 2007). Related research indicates that Internet users who adopt “tactical” defensive measures may neglect to also use protective technologies perhaps due to the mistaken belief that they do not need it (Lee and Kozar 2008). On the other hand, it has also been reported that users with high self-efficacy are less likely to employ preventative i.e., “tactical” measures (LaRose, Rifon and Enbody 2008); this may be due to the fact that these individuals tend to be more familiar with and trust the various existing security arrangements at popular websites (Acquisti and Gross 2006). Thus, one would expect that young adults, who are typically quite accomplished—albeit risk-prone—users of the Web, would be likely to rely, mostly, on “technical” means in order to protect themselves online.

## METHODOLOGY

Four “in-depth” group interviews were used in this study to establish familiarity with the topic i.e., Internet behavior and security, as it is understood by the target population, namely school-age young adults. Using qualitative research for exploratory purposes is quite common in the social sciences and marketing research (Desvousges and Frey 1989).

The four group interviews for which results are reported in this paper were conducted, over a two-week period, using an approach comparable to that used in marketing focus groups. They were moderated by two of the authors, who structured them in a way that would facilitate the disclosure of related information from the participants’ personal experience. Group moderators adopted a flexible, objective and empathetic approach throughout the interviews; moreover, every effort was made to encourage the entire group to participate in order to ensure the fullest coverage of the topic under investigation and preclude a few respondents from dominating the discussion (Merton et al. 1956; Stewart and Shamdasani 1990). In addition, throughout the group discussions, the interviewers tried to alleviate any feelings of asymmetrical power that might have been present as a result of their position (Fontana and Frey 2005; Silverman 1997), in effect, inviting group participants to “educate” them on the issues on hand. The setting i.e., classroom gatherings following the completion of case studies dealing with the current state and future outlook of Social Networking Sites was considered highly conducive for this kind of inquiry. As a result, all group interviews were characterized by a high level of respondent participation and a fair amount of group interaction. Warren (2002) has described a similar interviewing approach as part of a qualitative research design that is rooted in grounded theory (Strauss and Corbin 1990; Glaser and Strauss 1967).

Furthermore, according to Charmez (2002), researchers employing qualitative methods must outline specific and focused questions that seek to uncover the root issues to be investigated; they should use open ended questions and remain flexible in order to “pick up and pursue themes.” To this end, a Discussion Guide was developed by one of the authors that included the topics to be covered during the interviews, the most important questions related to them, as well as instructions for probing participants to facilitate the interviewing process. A partial list of the questions included in this Guide is included below (the specific order and phrasing of the questions asked of each group differed depending on the flow of the discussion):

- How extensive is your use of the Internet in your leisure time i.e., outside of work and school?
- What are some of the things that you do online during your leisure time?
- Overall, how concerned are you about Internet security and safety? What are some of the issues that you are most concerned about in this regard?
- Have you (or someone close to you) ever been the victim of an Internet attack? If so, what kind? How did you (or the person close to you) resolve it?
- Who do you believe should be responsible for protecting personal information posted online? Why?
- What are some of the things you do in order to protect yourself and your personal information online? Do you think you’re doing enough in this regard? If not, what else could you have done to avoid online hazards?
- What is your overall opinion regarding Web marketing and the way it is practiced nowadays? Is online marketing a threat or an opportunity from a consumer perspective? Why?

At the end of each group session, interviewers compiled a synopsis of the main points brought up during the group discussion based on their contemporaneous notes. Creswell (1998) has suggested that qualitative study data analysis consists of reducing the raw data derived from in-depth interviews to a small set of “themes” from which “the story” behind the collected information can emerge. To that end, an initial search for themes within the data was followed up by a second phase of systematically organizing all the information collected during the interviews on the basis of these themes. Further reviews of the materials produced additional insights that helped better conceptualize the original themes and their interrelations and pointed to important exceptions or inconsistencies. Finally, by looking into the list of themes developed from the data, several generalizations or propositions were constructed (Taylor and Bogdan 1984), which are described in the Findings section below.

## FINDINGS

The findings of this study reinforce the popular belief that today’s young adults have made the Internet a major part of their lives; in fact, some respondents talked about their online experiences as if their whole lives were designed around the Internet. For instance, a group participant responding to a question about frequency of Internet use stated: “How many hours I spend online? How about ‘how many hours I’m NOT online on any given day?’”

Moreover, several respondents described their Internet use in terms that may lead one to believe it has become an addiction of sorts i.e., an end-in-itself. Indeed, some of the themes that emerged from the interview data reflected a single-minded commitment to Internet-related activities, which persists over time: “lack of control” over Internet use, developing Web surfing “rituals,” and lack of concern about the “consequences” of Internet use were the most prominent among them. Yet, the vast majority of participants appeared to thoroughly enjoy their online activities during their leisure time and used generally positive terms to describe it—many of the latter related to themes like “staying in touch” with friends, “sharing” and, to a lesser extent, “keeping up with the news/staying informed.”

Nearly all respondents in this study identified Facebook, the currently most popular Social Networking Site, as the website they visit on a daily basis and the one where they spend most of their time online; a distant second was Twitter, which—however—they mostly accessed while “on-the-go” using their smartphones. Moreover, unlike Facebook that was apparently a universal choice to conduct a wide variety of online activities, Twitter appeared to have both dedicated fans as well as strong critics—the latter referred to it as a “fad” and “a waste of time” with a few even questioning its networking abilities/character. Interestingly, virtually no respondent indicated that they ever visited Myspace these days, the leading networking site of years past; a couple of participants dismissively stated “it’s only good for young(er) kids.” These findings seem to confirm the present status of Facebook as “the site of choice” for college-age young adult Internet users, as well as its “stickiness.” At the same time, they serve as a reminder of how ephemeral can an Internet service’s success be, especially when it caters to a “fickle” demographic like today’s teens and young adults.

Although no exact count was obtained during the interviews, it appeared that significant gender differences might exist with regard to preferred online activities among young adult Web surfers. For example, many female respondents indicated that they spend considerable amounts of time searching for and communicating with online friends, whereas males claimed most of their online activities involved searches for video and audio downloads, file sharing, and streaming sports events. Both male and female respondents reported that they spend significant amounts of time playing online games. Assuming such gender differences hold in future empirical studies, it appears that male Internet users are likely to engage in riskier Internet behaviors and thus be more vulnerable to online threats.

Furthermore, the findings of this exploratory study do not confirm those of previous research that generally showed a lack of awareness and understanding of security issues by Internet users (e.g. Sipior, Ward and Roselli 2005; Lee and Kozar 2008 etc.). An overwhelming majority of participants in this study thought they were quite knowledgeable regarding online dangers and—when probed—listed several different types of malware and other online threats, including newer forms like “spear phishing” (i.e., targeted phishing) and “smishing” (i.e., phishing by means of SMS messages). In fact, about half of them claimed that they had experienced some form of online abuse, including malware infection of their hardware, scams, identity theft, or harassment (e.g., cyber-stalking). Factors that may explain the substantially higher levels of Internet vulnerability awareness found in this study include participant age and heavy use of the Internet—both of them point to a higher than average familiarity with Internet-related issues. Also, efforts to educate the public about

online threats, including malware and how it is spread on the Web and between different Internet-enabled devices, have recently intensified, contributing to higher overall levels of awareness.

In addition, when group participants were asked to discuss the consequences of online security vulnerabilities, the majority of them indicated that, in most circumstances, some forms of “spyware,” like “adware,” could in fact be beneficial to Web users to the extent that the information collected is used by marketers for designing better programs (e.g., special offers) targeting them. Moreover, “cookies,” tracking the websites an Internet user visits and “beacons” monitoring his/her behavior on these sites were considered by many respondents as “a fact of (online) life.” Consequently, study participants were likely to view intrusions into their personal information and their online habits by or on behalf of marketing firms as mostly a trade-off between “privacy” concerns, on the one hand, and potential market benefits, on the other.

By contrast, the appropriation of a Web user’s sensitive information (e.g., credit card numbers and other financial information) by cyber-criminals was clearly identified as a “security threat.” Moreover, corroborating previous research, respondents seemed to also differentiate the latter from issues relating to online “safety,” a term applied, by most, exclusively to problems encountered by young children surfing the Web on their own e.g., attacks by cyber-predators, online stalking, etc. Lastly, a separate category of cyber-threats were identified as those causing social embarrassment such as the use of personal information posted by the user him/herself for purposes other than those originally intended. The most frequently-cited example to illustrate this case—as perhaps it should have been expected of college students concerned with their future careers—involved prospective employers searching for and finding potentially compromising online information about a user’s past and present personal habits, private activities, etc.

As far as online protection is concerned, virtually every interview participant confirmed the use of commercially available anti-virus software programs although several of them reported problems with and/or reservations about their activation; in addition, most respondents claimed that this type of online defense was quite effective but could not guarantee 100% protection against newer forms of cyber-attacks. Again, reaffirming past reports, many study participants, stated that cyber-criminals and spies will “always be ahead of (protection) software developers,” thus, rendering purely technological solutions to online security problems only partially effective. On the other hand, modification of online behavior, like avoidance of “nasty” sites, was cited by only a handful of interview participants as the most effective form of cyber-defense. In addition to doubting the effectiveness of such measures, most respondents appeared reluctant to alter their established surfing habits arguing that doing so would deprive them of “much of the joy of (Internet) surfing.” Characteristically, when probed, none of the respondents indicated that they had ever stopped or reduced their online activities, including e-shopping, in response to talk about online security threats.

Finally, a number of particularly interesting findings relate to the question of who—in the opinion of the study’s participants—should be responsible for online security and safety. As expected, given their perceived high familiarity with the Internet and online hazards, the vast majority of respondents adopted a “user beware” approach stating that such responsibility should—first and foremost—be exercised by users themselves. Additionally, many seemed to believe that commercial entities providing online access (ISPs), as well as those mostly interested in collecting, storing and/or using Web user data i.e., e-tailers, Web portals, and Social Networking Sites should be held liable for online security breaches. Also, it was apparent from reviewing participant responses on this issue that there was a strong preference for strict user control over personal data by means of optional security settings—a feature that should be available on most commercial and social websites.

## CONCLUSION

The expansion of the Internet and the proliferation of associated technologies have resulted in both increased efficiency and the emergence of new methods of communication, entertainment, and personal expression. More than anyone else, the Web has affected today’s young adults, who were raised with it and for whom its use has become second nature. However, Internet use may also give rise to a number of security threats, which are increasingly targeting individual “leisure” users of the medium whose online activities are not related to work and/or study.

It has been suggested that a thorough understanding of current online activities by specific groups of users and their attitudes toward protective measures (technologies as well as behaviors) is necessary for the design and implementation of effective defenses against such Internet threats (Dinev and Hu 2007). This exploratory study contributes in this direction by offering insights into how college-age young adults may behave while surfing the Internet during their leisure time; the study’s findings regarding young adult Web

users' awareness of the risks involved and the various measures they take to mitigate such risks could provide a useful foundation for further empirical research.

However, to put the findings of this study in the proper perspective, one has to keep in mind that all focus group discussions are context- and time- dependent; they represent opinions and attitudes of the particular group of individuals involved, at that specific moment in time (Charmez 2002). In order to generalize the results obtained from one such group discussion, additional sessions with different groups of participants drawn from the same population segment (i.e., young adults) should be convened. The present study reported on findings from four such groups; however, the composition of these groups was not sufficiently varied to warrant the extraction of robust behavioral patterns and/or attitudinal trends.

Another obvious extension of this study could examine how leisure Internet users' attitudes towards online threats and protection are affected by their exposure to related information in the course of their employment and/or education. As the process of boundary blurring between work/school and leisure activities continues unabated, one may assume that behaviors and information learned in one of these domains will be readily utilized in the other. However, the findings of this study suggest that this might not be the case to the extent that young adults, in particular, may be willing to accept relatively high levels of risk in their private lives to be able to participate in their favorite online activities.

Furthermore, as "cloud" computing gradually expands into the individual Internet user market, online threats should also be expected to increase. Protecting sensitive online information, from intrusion or abuse by unscrupulous marketers and other cyber-criminals will undoubtedly become more challenging. In fact, a migration to the "cloud" could alter the way individual leisure users perceive online dangers: for instance, any additional safeguards (e.g., strong encryption) offered by "cloud" providers could instill in them a false sense of security ("Alice-in-Wonderland" phenomenon); alternatively, their fears regarding online dangers may be exaggerated by their apparent lack of control over their data in the "cloud" and what may happen to it.

Thus, additional research is also warranted on the marketing implications of online behavior modification in response to ongoing security concerns. While automatic online collection of personal information has the potential to radically change marketing practices delivering substantial benefits to businesses and consumers alike, concerns about ownership and control of user private data are likely to intensify.

Lastly, from a public policy perspective, future research efforts should focus on determining better ways to educate the public about the diverse nature of online security risks and their diffusion mechanisms, as well as the technical and tactical defense measures that could provide effective protection against them.

## REFERENCES

- Acquisti, A., and R. Gross (2006). "Imagined Communities: Awareness, Information Sharing, and Privacy on the Facebook." Retrieved from <http://www.heinz.cmu.edu/~acquisti/papers/acquisti-gross-facebook-privacy-PET-final.pdf>
- Buchanan, T., et al. (2007). "Development of Measures of Online Privacy Concern and Protection for Use on the Internet." *Journal of the American Society for Information Science and Technology*. 58(2) pp. 157-165
- Charmez, Kathy (2002). Qualitative Interviewing and Grounded Theory Analysis. In J.F. Grubium, and J.A. Holstein (Eds.), *Handbook of Interview Research: Context and Method*. Thousand Oaks, CA: Sage Publications
- Creswell, John W. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. Thousand Oaks, CA: Sage Publications
- Desvousges, W.H. and J.H. Frey (1989). "Integrating Focus Groups and Surveys: Examples From Environmental Risk Studies." *Journal of Official Statistics*. 5(4), pp. 349-63
- Dinev, T., and Q. Hu (2007). "The Centrality of Awareness in the Formation of User Behavioral Intention toward Protective Information Technologies." *Journal of the Association for Information Systems*. 8(7) pp. 386-408
- Fontana, A., and J.H. Frey (2005). The Interview. In N.K. Denzin, and Y.S. Lincoln (Eds.), *The SAGE Handbook of Qualitative Research*. Newbury Park, CA: Sage Publications

- Glaser, B.G., and A.L. Strauss (1967). *The Discovery of Grounded Theory*. Chicago, IL: Aldine
- Gray, Deborah M, and Linda Christiansen (2009). "Protecting Adolescents' Personal Information Online: Constraints and Parameters." *Journal of Information Privacy & Security*. 5 (4), pp. 31-50
- LaRose, R., N.J. Rifon, and R. Enbody (2008). "Promoting Personal Responsibility for Internet Safety." *Communications of the ACM*. 51(3) pp. 71-76
- Lee, Y., and K.A. Kozar (2008). "An Empirical Investigation of Anti-spyware Software Adoption: A Multitheoretical Perspective." *Information and Management*. 45(1) pp. 109-119
- Lucky, R.W. (2011). Clickphobia. *IEEE Spectrum*. 48(1)
- Makridakis, A., et al. (2010). "Understanding the Behavior of Malicious Applications in Social Networks." *IEEE Network*. 24 (5), p. 3
- Merton, R.K., et al. (1956). *The Focused Interview: A Manual of Problems and Procedures*. Glencoe, IL: Free Press
- RSA (2010). RSA Global Survey Reveals Confidence in Social Networking Security Shaken as Online Crime Rises." Retrieved from [http://www.rsa.com/press\\_release.aspx?id=10671](http://www.rsa.com/press_release.aspx?id=10671)
- Silverman, D. (1997). *Qualitative research: Theory, method, and practice*. London: Sage
- Sipior, J.C., and B.T. Ward (2008). "User Perceptions of Software With Embedded Spyware." *Journal of Enterprise Information*. 21(1) pp. 13-23
- Sipior, J.C., B.T. Ward, and G.R. Roselli (2005). "The Ethical and Legal Concerns of Spyware." *Information Systems Management*. 22(2) pp. 39-49
- Sriramachandramurthy, R., et al. (2009). "Spyware and Adware: How Do Internet Users Defend Themselves?" *American Journal of Business*. 24(2) pp. 41-53
- Stewart, D.W., and P.N. Shamdasani (1990). Focus Groups: Theory and Practice. *Applied Social Research Methods Series*. Vol. 20. Newbury Park, CA: Sage Publications
- Strauss, A., and J. Corbin (1990). *Basics of Qualitative Research*. Newbury Park, CA: Sage Publications
- Sun, L. (2007). "Who Can Fix the Spyware Problem?" *Berkeley Technology Law Journal*. 22 pp. 555-575
- Taylor, S.J., and R. Bogdan (1984). *Introduction to Qualitative Research Methods: The Search for Meanings*. 2nd ed. New York: John Wiley and Sons
- Warren, C.A.B. (2002). Qualitative interviewing. In J. F. Gubriem, and J. A. Holstein (Eds.), *Handbook of interview research: Context and Method*. Thousand Oaks, CA: Sage
- Zeidner, Rita (2007). How Deep Can You Probe? *HR Magazine*, 52(10), pp. 57-60

# INDUSTRIAL POLICY REVIVAL?

**Michal Putna**  
**Masaryk University, Czech Republic**

## ABSTRACT

*The debate on industrial policy can be characterized by a number of contradictions and different opinions on this topic. Many economists reject the idea of industrial policy as such arguing that only free market can guarantee effective allocation. On the other hand, many economists support the idea of a new industrial policy and its positive effects on national economy. The purpose of this paper is to review the debate on industrial policy and outline the concepts and instruments of a new industrial policy. This paper also discusses the current tension between the theory and practice of industrial policy.*

## INTRODUCTION

Industrial policy (IP) raises heated debates among economists all over the world. Those who are against it, reject the idea that the state and its agencies should be better at allocating scarce resources than a free competition. They do not believe that state interventions as part of industrial policy could ex ante detect viable companies eligible to receive support. Such a “*selection of winners*” is seen as problematic and unfair by the IP antagonists mainly because of asymmetric information and the danger of rent-seeking and bribery. Those who advocate industrial policy, on the other hand, see IP as an opportunity to boost the economy of a country increasing its competitiveness in a global economy. Bringing in evidence examples of IP having contributed to growth of productivity and economy in the past, they believe that industrial policy is a suitable tool for economic growth stimulation and support. This clearly shows that the clash of opinions between the opponents and advocates of industrial policy is rather fierce. This paper aims to shed some light on the theoretical background of industrial policy and clarify the reasons for its modern revival.

Its first part is concerned with a concise definition of industrial policy. Next the main obstacles are listed impeding the implementation of industrial policy: asymmetric information and rent-seeking. Finally, the impacts of globalisation on the effectiveness of IP are outlined.

### **Definition of industrial policy**

Although no generally accepted definition of industrial policy is known, we should accept one for a start. For the purposes of this paper we will use a definition by Pack and Saggi (2006: 2) where industrial policy is described as: “*Any type of selective government intervention or policy that attempts to alter the structure of production in favour of sectors that are expected to offer better prospects for economic growth that would not occur in the absence of such intervention*”. Also another, very similar, definition of IP can be used that defines industrial policy as activities that: “*Stimulate specific economic activities and promote structural change,*” Rodrik (2008: 3). Initially, it is also good to introduce the basic tools with which industrial policy works. These include: tax breaks, import tariffs and/or quotas, public guarantees, incentives for foreign direct investment, R&D subsidies, establishment of research centres, preferential access to finance and many others. The selection and implementation of a particular tool of industrial policy always depends on the objective to be achieved. A detailed list of industrial policy tools along with their fields of use was made by Naudé (2010: 8). At the end of his paper, Naudé (2010) also lists the basic bibliography on industrial policy, which is a good starting point for those interested in these issues.

## Revival of industrial policy

*"Neomercantilism is perhaps a better name for an interventionist industrial policy," DiLorenzo (1984: 605).  
"Now more than ever, Europe needs industry and industry needs Europe," EC (2010: 3).*

The above citations clearly demonstrate the gap between the authors' opinions. However, despite this contradiction, one thing is clear. Today, particularly after the 2008 economic recession, the industrial policy experiences its revival. The financial crisis having inflicted serious damage on whole industries, the subsidies granted to businesses and whole sectors of national economies had never been so high before. The reason is that, in most of the advanced countries, the industry brings a major contribution to the GDP thus determining the standard of living of the population of such countries. Table 1 lists the contribution to GDP of each sector of economy.

**Table 1: GDP composition (2010)**

GDP composition by sector (%)			
Country	Agriculture	Industry	Services
Saudi Arabia	2.7	61.9	35.4
United Arab Emirates	0.9	51.5	47.6
China	9.6	46.8	43.6
Indonesia	16.5	46.4	37.1
Thailand	10.4	45.6	44
Norway	2.1	40.1	57.8
South Korea	3	39.4	57.6
Russia	4.2	33.8	62
Mexico	4.2	33.3	62.5
Argentina	8.5	31.6	59.8
South Africa	3	31.2	65.8
World	5.7	30.7	63.6
Austria	1.5	29.4	69
India	16.1	28.6	55.3
Germany	0.8	27.9	71.3
Turkey	8.8	25.7	65.5
Spain	2.9	25.5	71.6
European Union	1.8	25	73.2
Italy	1.8	24.9	73.3
Netherlands	2.6	24.9	72.4
Australia	4	24.8	71.2
Japan	1.1	23	75.9
United States	1.2	22.2	76.7
United Kingdom	0.9	22.1	77.1
Canada	2	20	78
France	1.8	19.2	79

Source: <https://www.cia.gov/library/publications/the-world-factbook/fields/2012.html>, Central Intelligence Agency, April 18, 2011.

Table 1 also testifies to the importance for national economy of the industry in each country. This is also the reason why industrial policy becomes the key interest of the governments. Aiginger and Sieber (2006) show that industrial policy has again been gaining ground for the following three reasons: (i) globalization and rapid advances of technology encourage efforts to find new industrial policy tools suitable for the third millennium, (ii) the re-united Europe is afraid that it could lose some of its key industries due to outsourcing, which would lead to de-industrialization (iii) the new states (not just the new EU member states) are rather active

and aggressive in attracting investors. It is especially industrial policy that can face all these global challenges, which may be the reason for its present revival.

Another reason for the idea and tools of industrial policy being revived is that (economic) development is closely related to structural changes that make it possible to produce new goods and services using better technology and thus efficiently allocate scarce resources. By the neo-classic growth theory (the Solow model) the output is determined by the capital accumulated and the work force and, therefore, the accumulation of capital is thought to be a basic condition of economic growth. By the New Growth Theory (Romer), however, a long-term economic growth no longer depends on the accumulation of capital only, but mainly, on investment in research and development as well as on innovation. This may also be seen as another reason for the renewed interest in industrial policy in today's post-recession world. Thus, by supporting R&D investment, industrial policy may make a major contribution to economic growth. Other authors, too, see innovation (Cimoli et al., 2006) and accumulation of capital (Lucas, 2008) as the basic components determining the development of industries. With the correct institutional setting, industrial policy may stimulate structural changes in economy leading to higher growth and productivity rates to achieve a higher standard of living.

Today this industrial policy potential is often pointed out, particularly in EU, as one of the tools of Europe's post-recession upturn. In "*An Integrated Industrial Policy for the Globalisation Era*" a document adopted by the European Commission in late October 2010, one can read that: "*Now more than ever, Europe needs industry and industry needs Europe,*" EC (2010: 3). This document is one the key initiatives of *Europe 2020*, a new ten-year growth policy to accelerate growth and generate employment by preserving and strengthening the European industrial basis. Neither was industrial policy forgotten in the USA. On the contrary, as stated by Naudé (2010: 5) „*Faced with the recent financial crisis, the USA has continued to resort heavily to what can be described as industrial policy to support recovery.*“ Thus, today industrial policy experiences a real revival.

## **Theoretical background of Industrial policy**

Having touched some of the reasons for the renewed interest in industrial policy, let us now take a look at the theoretical background of IP and two key problems faced when industrial policy is implemented in practice. Economic theory justifies regulatory interventions through industrial policy by efforts to put right market failures. The main market failures related (not only) to industrial policy include: asymmetric information and rent seeking with corruption, Naudé (2010) and Rodrik (2008). Opponents of IP believe that these problems cannot be resolved and, therefore, it is better to reject industrial policy as such. IP advocates, on the other hand, maintain that these problems are not insurmountable and, therefore, industrial policy should not be rejected. We might now want to look at the two main (theoretical) obstacles that the industrial policy opponents say cannot be resolved.

### **Asymmetric information**

The IP opponents' major objections include the argument that governments do not possess sufficient and relevant information to know beforehand which sector is potentially viable to be supported by industrial policy tools. This asymmetry of information is allegedly an insurmountable obstacle to implementing IP. However, if one takes a closer look at this argument in the light of other economic policies commonly carried out by governments all over the world, its relevance quickly disappears. Rodrik (2007, 2008), for instance, says that governments implement a great deal of regulatory policies that could be rejected exactly on the same grounds of inherent asymmetric information. Despite that, we do have fiscal and monetary policies, healthcare and social policies, pension policy, education policy, trade policy, competition policy, and many others. Thus, industrial policy is just one of many economic and political measures adopted by governments and rejection of IP on account of information asymmetry would logically imply rejection of all other policies facing this problem, too. As Rodrik says (2008: 2-3) ". . . most governments do carry out various forms of industrial policy already, even if they call it by other names ("*export facilitation*", "*promotion of foreign investment*", "*free-trade zones*", etc)".

### **Rent-seeking and corruption**

The second most frequently referenced obstacle to successful IP implementation is the danger of rent-seeking and the related corruption. Even this argument can be refuted by looking at the issue in a broader context. The thing is that rent-seeking and corruption are inherent to every, not just capitalistic, society and in no case does it apply only to industrial policy. Although to different extents, corruption is present both in developing and advanced countries, both in countries implementing industrial policy and those that do not. For this reason, the argument that IP cannot be successful due to the danger of corruption and rent-seeking is little convincing. Moreover, as Robinson says (2009), rent-seeking problems are strongly sensitive to the political context in which industrial policy is implemented.

We have just outlined two major objections to industrial policy implementation along with the relevant counter-arguments. Despite this difference of opinions, today most countries have adopted and implemented some form of IP such as running agencies that tout for not only foreign investment, Rodrik (2004). Now that we have mentioned the main (theoretical) obstacles to IP we know that most advanced countries do carry out some sort of industrial policy. The question is now whether industrial policy really does help enhance productivity and competitiveness of a country and thus accelerate its economic development. It may not come as a surprise that the opponents and advocates of IP provide different answers.

Rodrik (2008) says that IP opponents rely on cross-industry econometric studies, which do not suggest a clear positive relationship between the way industrial policy is implemented and the economic strength of a country. Lee (1996), Lawrence and Weinstein (2001) are among such authors. Economists are of different opinions as to whether industrial policy measured by economic tools really works, that is, whether it tends to the fulfilment of its goals. Based on their own research and study of literature, Pack and Saggi (2006) and Rodrik (2004) have come to the conclusion that the empirical data on the implementation of different industrial policies are still insufficient to see clearly whether industrial policy is fruitful or not.

Those advocating industrial policy use mainly case studies from particular countries to illustrate the efficiency of industrial policies such as Rodrik (2004, 2008). They say that the tools of economic analysis used, multiple-regression models in particular, are prone to such problems as ignored variables and/or unclear causal relationships and, therefore, case studies from particular countries are the only reliable method. Rodrik (2004) then lists countries where IP was implemented successfully.

## **Industrial policy and globalization**

In the third millennium, global economy faces new challenges and so does industrial policy. Some authors such as Lall (2004) maintain that globalisation has degraded the potential of industrial policy making its benefits unclear. Also the UN (2007) Report mentions that business policy, as one of the key parts of industrial policy, is no longer as efficient as it used to be. The ongoing globalization, the liberalization of world trade, and the fewer market barriers generally lead to the importance of business politics being diminished and thus the efficiency of industrial policy being smaller. Moreover, IP has always been implemented along with other state policies such as fiscal, monetary, and social policies. This may bring about conflicts between the objectives and tools of industrial policy and other policies. This is a problem pointed out by Valila (2006), who warns that some IP tools are also fiscal tools, which may prevent industrial policy from bringing the desired results.

## **CONCLUSION**

Industrial policy is one of the many business and political measures realized by the state. Same as with fiscal, monetary, social, healthcare and other policies, there is nothing extraordinary about industrial policy and, therefore, arguments trying to prove that IP cannot be implemented successfully because of asymmetry of information and problems of rent-seeking are mostly unjustified. In broader aspect, industrial policy is an integral part of structural policy and most advanced countries do implement some form of IP. This process has been much accelerated by the financial crisis of 2008. Today industrial policy partially coincides with innovation policy and the need to adequately respond to the global economic challenges. Therefore, the new industrial policy assumes that, in a globalized world, industries have no chance if they do not extend their sphere of interest

beyond domestic markets. The future research should be mainly concerned with the impacts of the financial crisis on IP generally, and with the industrial policy tools used in the post-crisis upturn period in particular.

## REFERENCES

Aiginger, K. and Sieber, S. (2006). 'The Matrix Approach to Industrial Policy'. International Review of Applied Economics, Vol. 20, (5): 573-601.

Central Intelligence Agency: *GDP-Composition by sector*, [online] April 18, 2011. At: <<https://www.cia.gov/library/publications/the-world-factbook/fields/2012.html>>.

Cimoli, M., G. Dosi, R. Nelson, and J. Stiglitz (2006). 'Institutions and Policies Shaping Industrial Development. An Introductory Note'. Paper prepared for the task force on Industrial Policies and Development. New York: Columbia University.

DiLorenzo, T. (1984). 'The Political Economy of the National Industrial Policy'. Cato Journal, Vol.4, (2): 587 - 607.

European Commission, (EC) (2010). 'An Integrated Industrial Policy for the Globalisation Era - Putting Competitiveness and Sustainability at Centre Stage'. EUROPEAN COMMISSION, Brussels, SEC (2010) 1272.

Lall, S. (2004). 'Selective Industrial and Trade Policies in Developing Countries: Theoretical and Empirical Issues'. In C. Soludo, O. Ogbu and H.-J. Chang (eds), *The Politics of Trade and Industrial Policy in Africa: Forced Consensus?* Lawrenceville, NJ: Africa World Press & IDRC, 4-14.

Lawrence, Robert Z., and David E. Weinstein. (2001). 'Trade and Growth: Import Led or Export Led? Evidence from Japan and Korea'. In *Rethinking the East Asian Miracle*, ed. Joseph E. Stiglitz and Shahid Yusuf. Oxford: Oxford University Press.

Lee, Jong-Wha. (1996). 'Government Interventions and Economic Growth'. *Journal of Economic Growth*, 1(3): 391-414.

Lucas, R. E. (2008). 'Ideas and Growth'. *Economica*, 76 (301): 1-19.

Naudé, W. (2010). '[Industrial Policy Old and New Issues](#)'. [Working Papers](#) wp2010-106, World Institute for Development Economic Research (UNU-WIDER).

Pack, H., and K. Saggi (2006). 'Is there a Case for Industrial Policy? A Critical Survey'. *World Bank Research Observer*, July: 1-31.

Robinson, J. A. (2009). 'Industrial Policy and Development: A Political Economy Perspective'. Paper presented at the 2009 World Bank ABCDE Conference, 22-24 June. Seoul.

Rodrik, D. (2004). 'Industrial Policy for the Twenty-First Century'. CEPR Discussion Paper 4767. London: Centre for Economic Policy Research.

Rodrik, D. (2007). 'Normalizing Industrial Policy'. Cambridge, MA: John F Kennedy School of Government, Harvard University. Mimeo.

Rodrik, D. (2008). 'Industrial Policy: Don't Ask Why, Ask How'. *Middle East Development Journal*, Vol. 1, Issue (1): 1-29.

Valila, T. (2006). *'No policy is an island – on the interaction between industrial and other policies'*. [online] April 19, 2011. At: <[http://ideas.repec.org/p/ris/eibpap/2006\\_007.html](http://ideas.repec.org/p/ris/eibpap/2006_007.html)>.

United Nations, (UN) (2007). *'Rethinking Industrial Policy'*. Paper No. 183. [online] April 19, 2011. At: <[http://www.unctad.org/en/docs/osgdp20072\\_en.pdf](http://www.unctad.org/en/docs/osgdp20072_en.pdf)>.

# SOCIO-ECONOMIC INNOVATIONS - A CHALLENGE FOR MANAGEMENT

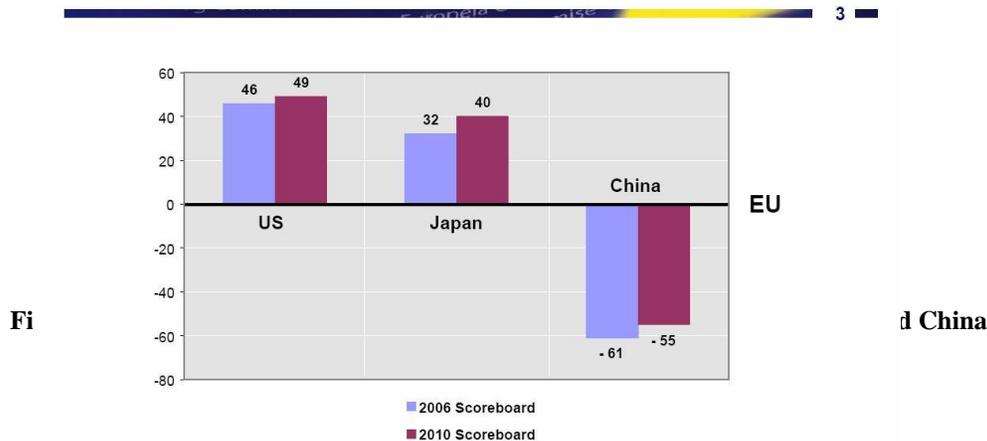
**Anna Putnová**  
**Brno University of Technology, Czech Republic**

## ABSTRACT

*An innovation is defined as launching new or substantially improved products or services. Innovation Union is a flagship initiative of the Europe 2020 Strategy. At first innovations were only based on new technologies later including also organizational changes. Now it is social innovations that seem to play a major role. In June 2009, the Czech government approved a National Research, Development, and Innovation Policy for 2009 to 2015. This is a systematic approach to innovation management. Today, advanced countries are taking what is called a third generation approach – integrated strategy of socio-economic development. This paper tries to show the contribution of socio-economic innovation for management of companies.*

## INTRODUCTION

The innovation concept was centred about changes in technology. It was only later that also organisational changes came to be seen as innovation. In recent years, social innovation has been growing in importance. Socio-economic innovation strategy is an important attribute in the time of economic slowdown since increasing sales, improving quality, and extending markets can no longer be based on financial support, but rather, internal development incentives have to be searched for. Any form of innovation is related to change, progress, and increased competitiveness. Innovation means launching new or substantially improved products, methods, and/or services. In the European Union, innovation has become an important factor of economic development.



*(US is steadily performing nearly 50% better than EU.  
China is still 55% below EU but is catching up).*

Sources: Presentation of J.M. Barroso to the European Council, 4 February 2011

## Innovation in EU

The Innovation Union plan contains over thirty actions points, with the aim to do three things:

- make Europe into a world-class science performer
- remove obstacles to innovation – like expensive patenting, market fragmentation, slow standard-setting and skills shortages – which currently prevent ideas getting quickly to market
- revolutionize the way public and private sectors work together, notably through Innovation Partnerships between the European institutions, national and regional authorities and business.

European Innovation Partnerships will bring together the public and private partners – in Europe, in a country, in a region – to achieve clearly defined objectives in areas where, addressing social problems, Europe may become number one. These partnerships will mean better research, coordinated investment, fast legislation and higher demand. The primary funding provided by the Commission will encourage further investment from the partners. The Commission will take measures for better access to funding. In cooperation with the European Investment Bank, it will facilitate cross-border operations in risk financial exchanges, strengthening the risk-sharing financial instrument.

Through Innovation Union, companies may commercialise ideas to receive new power. Innovation Union means:

- better access to funding,
- innovation-friendly rules and regulations,
- fast regulative legislation,
- cheaper patenting,
- innovations supported by the public sector,
- innovation partnerships making companies in EU more competitive,
- simpler access to the EU research and innovation programmes.

Sources: Innovation Priorities for Europe (2004).

The Scoreboard places member states into the following four groups (see figure 2 below):  
**Innovation leaders:** Denmark, Finland, Germany, Sweden all show a performance well above that of the EU27 average.

**Innovation followers:** Austria, Belgium, Cyprus, Estonia, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK all show a performance close to that of the EU27 average.

**Moderate innovators:** The performance of Czech Republic, Greece, Hungary, Italy, Malta, Poland, Portugal, Slovakia and Spain is below that of the EU27 average.

**Modest innovators:** The performance of Bulgaria, Latvia, Lithuania and Romania,  
*Innovation Priorities for Europe (2004).*

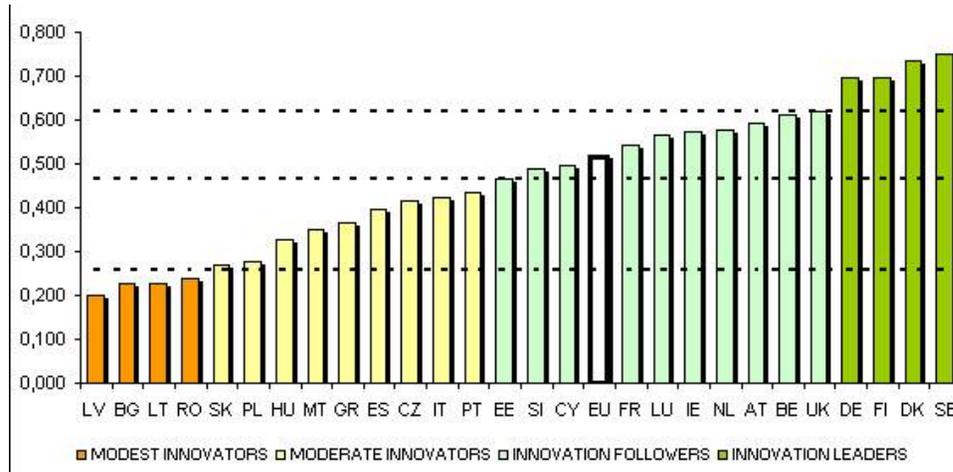
## Socio-economic development

This type of development combines such concepts as education and development of personality which also means development of society. Any form of innovation results in positive changes, progress, and competitiveness. Social innovation should bring more employment, better services offered to the public and, most of all, deployment and development of human potential. Support for social innovations on a European scale gives a chance to new forms of education:

- lifelong learning of all the generations,
- equal opportunities for women,
- closer cooperation between the public and commercial sectors,
- and many others.

In June 2009, the Czech government approved a National Research, Development, and Innovation Policy for 2009 to 2015. This is a systematic approach to innovation management. Advanced countries are taking what is called a third generation approach – integrated strategy of socio-economic development. [*Innovation Union*, 2011].

**Figure 2 : EU Member States’ innovation performance**



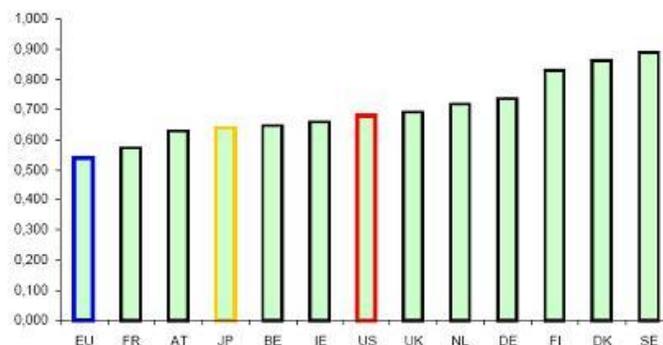
Note: Average performance is measured using a composite indicator building on data for 24 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. Average performance in 2010 reflects performance in 2008/2009 due to a lag in data availability.

The performance of Innovation leaders is 20% or more above that of the EU27; of Innovation followers it is less than 20% above but more than 10% below that of the EU27; of Moderate innovators it is less than 10% below but more than 50% below that of the EU27; and for Modest innovators it is below 50% that of the EU27.

Sources: [[http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=keydocs](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=keydocs)] European Commission, *Innovation Union*. [online] April 19, 2011.

**Figure 3: Innovation index**

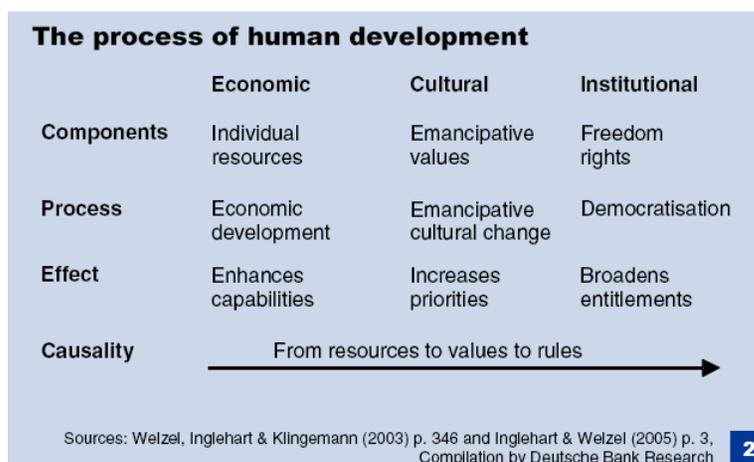
**Research and innovation performance index:  
best performing EU countries compared to Japan and US**



Sources: Presentation of J.M. Barroso to the European Council, 4 February 2011

There are many definitions of socioeconomic development. “ According to Inglehart and Welzel, three closely intertwined components characterise human development or societal progress: socioeconomic development, emancipative cultural value change and democratisation“,[ Deutsche Bank Research, p.10 (2008)].

**Figure 4: The process of human development**



Social innovation may be seen as a form of employment, public service and, mostly, fulfilment and development of human potential.

The green light for social innovation on a European scale improves the chance of support for new, innovative forms of education:

- all generations taking part in lifelong education,
- equal chances created for women in society,
- closer relationship between the public and private sectors in implementing innovations, etc.

“Every firm should look at decisions and opportunities through the lens of shared values. This will lead to new approaches that generate greater innovation and growth for companies and also greater benefits for society. Companies can create economic values by creating societal values.”[Porter, M. and Kramer, M., p. 65, (2011)].

## **Socio-economic innovation – case study from the Faculty of Business and Management**

Faculty of Business and Management is one of 20 business-and-management-oriented public universities. In 2010 it ranked as 17<sup>th</sup>. According to the demographic trends, the student numbers will drop by a whole one third over the next three years. It is clear that the faculty had to look for a new strategy, other than increasing the number of students, to improve its position in the education marketplace [Etický kodex 2011]. Due to a university restructuring policy, the funding received in 2010 dropped by 15 percent as compared with 2009. Thus the strategy chosen was socio-economic innovation. The objective to be achieved was to balance the budget and not increase the costs of the new methods. We concentrated on:

### **1. Quality of research**

- innovation meant changing the rewarding of academics. While previously it was older staff members having worked with the faculty for a long time who received the best pay, since 2009 we have adopted a discriminating approach giving preferential treatment to younger teachers. Being based on an age limit, the system was transparent providing funding for their professional development.
- the best research workers were given a symbolic financial reward along with a public appreciation by the Dean

## 2. Quality of teaching

- we focused on new forms of education, placing more emphasis on lifelong learning and reducing fulltime study in some courses. We enhanced e-learning and self-teaching forms. This meets the requirements of the new ways of study based on new technologies.
- students were given more say in appraising the courses through anonymous enquiries or via the Student Chamber of the Academic Senate
- a student club was established which is also used for hosting social events

## 3. Shared values

An ethical code was created within 15 months by a group of faculty stakeholders. The point was to monitor the ethical aspect of each activity. This interactive approach has proved to be efficient and the subsequent discussion brought many suggestions for its improvement [Etický kodex 2011].

- assessing processes – next to ethical criteria we also used the criterion of efficiency in judging the activities of faculty departments.
- CSR – we prepared a concept involving both social and environmental activities. For the second time, the faculty organized an alumni get-together to strengthen the feeling of identity with the faculty. We are creating a tradition for cultivating the academic environment by teachers and students together organizing a charity collection under a Christmas tree. The money is given to a children's home.

## 4. Diversity

- Diversity – also students and doctoral students from Eastern Europe and Asia are admitted. We make it a point to search for talents from the former states of the Soviet Union and Eastern Europe. Their activities help internationalize the faculty. It is diversity that we see as chance to have more socio-economic innovations.
- cooperation with practice – we have a systematic approach to establishing cooperation with commercial companies. This is an open group of firms cooperating with us mostly on educational projects.

# CONCLUSION

This approach has yielded good results within very short period. In the rating, the Faculty of Business and Management advanced eight positions finishing among the first ten best business-and-management faculties in the Czech Republic. In terms of funding required, these changes were little demanding. What they did require was a value concept to help implement the innovative changes to their full extent. Using the full potential of human and academic resources can be seen as a return to the role the universities have played since the middle ages. Universities have always been free institutions promoting progress and creativity. They were open to students from different countries guaranteeing education and dissemination of moral values. We should not forget about this aspect if we do not want to end up as mere educational agencies. Progress and responsibility are two sides of the same coin. Therefore, a firm value basis and socio-economic innovations are necessary for the development and growth of society. The case study from the Faculty of Business and Management is an example and perhaps also inspiration for the commercial sphere, which, in the current period of economic upturn, is looking for efficient ways of strengthening its prosperity.

# REFERENCES

The broad basis of societal progress ( 2008). *Current Issues*, Deutsche Bank Research, Frankfurt am Main, (October 2008): 10

Porter, M. and Kramer, M. (2011) Creating shared value. *Harvard Business Review*, Vol. 89, Num.1/2, (January - February 2011): 62-77

Putnová, A., Seknička, P. and Uhlář, P (2009). *Etické řízení ve firmě*. Grada Publishing, Praha

European Commission, (2011). *Innovation Priorities for Europe*. [online] April 19, 2011. At: [http://ec.europa.eu/commission\\_2010-2014/president/news/documents/pdf/innovation\\_en.pdf](http://ec.europa.eu/commission_2010-2014/president/news/documents/pdf/innovation_en.pdf)

European Commission, *Innovation Union*. [online] April 19, 2011. At:

[http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=keydocs](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=keydocs)

Fakulta podnikatelská, *Etický kodex*. [online] April 30, 2011. At:  
<http://www.fbm.vutbr.cz/dokumenty/kodexFP.pdf>

Ministerstvo školství, mládeže a tělovýchovy. *Vzdělávání* [online] April 29, 2011.  
At: <http://www.msmt.cz/vzdelavani/vysoke-skolstvi>

# **CREATING SUSTAIBABLE EMPLOYMENT: WORKPLACE ACCOMMODATION DECISIONS FOR EMPLOYEES WITH HEARING DISABILITIES**

**S. Janse van Rensburg and R. van der Walt  
University of Pretoria, South Africa**

## **ABSTRACT**

*Workplaces are often inaccessible and work practices create barriers for people with disabilities to perform to their full potential and advance upon the career ladder. Workplace accommodation actions can be seen as a way to remove these barriers to advance performance and progression. The purpose of this study is to identify the factors managers consider when they receive a request for workplace accommodation, and how these different factors influence the outcome of the request. A qualitative strategy of inquiry was used to elicit the underlying constructs managers formed in the consideration of requests. Six (6) different scenarios in which a hearing impaired employee has asked for workplace accommodation were presented to respondents and their reactions were elicited using the Repertory Grid Technique. The main factors managers considered were (i) current performance, (ii) size of the request, (iii) the attitude and commitment of the employees towards their work, (iv) their reaction to their disability and (v) using the request as a possible incentive or reward. Being familiar with the factors used to consider requests may allow organisations to develop decision making models that attempt to remove the personal bias involved in these decisions. Reasonably accommodating employees can ensure a more equitable working environment in which both people with and without disabilities may actively participate and benefit. Factors that are considered in the awarding of requests are not always relevant to the promotion of a barrier free workplace. This study provides a basis from which further studies can develop a model that can be applied in the consideration of workplace accommodation requests.*

## **INTRODUCTION**

Employment plays a vital role in modern life; it ensures social and economical inclusion. Unfortunately, people with disabilities experience several barriers in entering, keeping and advancing in gainful employment (Mansour, 2009; Ngwena, 2007; Kleynhans & Kotze, 2010). People with disabilities have benefited from the provision of workplace accommodation, but there is little consensus on what constitutes workplace accommodation and what factors should be considered in the provisions of such accommodation (Butterfield & Ramseur, 2004).

The purpose of this paper is to examine the factors that influence managements' decisions when considering workplace accommodation requests. Factors that possibly affect decisions on workplace accommodation can tentatively be defined as a) onset controllability - the level of control the person with the hearing disability had in the onset of the impairment; b) the size of the request - the magnitude of the financial and non-financial implications of the request and c) current performance - both the successful performance of job functions as well as the integration of the person with the team and culture of the organisation.

### **Exclusion of People With Disabilities**

Exclusion of people with disabilities from the mainstream of society prevents them from accessing fundamental social, political and economic rights. People with disabilities (PWD) are excluded not only from society, but also from employment. According to Jones (2008) the ratio of the employment rate of PWD to non-disabled in most OECD countries is 50%. Cook & Burke (2002) stated that while only 18% of non-disabled

people are excluded from employment, an estimated 70% of PWD are excluded. In the recent Annual Report of the Commission for Employment Equity (CEE) (2009), PWD are the most under-represented group in the South African work place, at only 0.9% of reported employment.

This exclusion can be the result of a range of factors, for example social attitudes which have perpetuated stereotypes of disabled people as dependent and in need of care; and a discriminatory and weak legislative framework which has sanctioned and reinforced exclusionary barriers (Mansour, 2009, Kleynhans & Kotze, 2010).

## Employing People with Disabilities

Employment is seen as a fundamental human right and allows an individual to become a valuable and contributing member of society. However, this remains a fundamental problem affecting the majority of people with disabilities and their families. Ward & Baker (2005:143) states that “individuals with a disability ...while able to work, were limited in the kind or amount of work they could do.” PWD are not just limited by the kind of work they can do, but also face barriers in entering and retaining employment (Ward and Baker, 2005; Schur, Kruse & Blanck, 2005; Solovieva; Walls; Hendricks & Dowler, 2009).

According to Schur, Kruse & Blanck, (2005) the employment experiences of PWD are strongly impacted by supervisor and co-worker attitudes. These attitudes are influenced by several factors including stereotypes; discomfort in being around people with disabilities, strain caused by communication difficulties, personality factors and prior contact with PWD's. These attitudes can resultantly affect the employee with a disability by influencing supervisors' and co-workers expectation of their performance. Evidence has been found of a negative bias on the performance potential of PWD (Colella, De Nisi & Varma, 1998); lower performance evaluations, the desire of the PWD to work and the hiring and career progression of PWD (Schur, Kruse & Blanck, 2005).

The International Labour Organisation (ILO) (2002) prescribes that employers should adopt a strategy for managing disability as an integral part of their overall employment policy and specifically as part of the human resources development strategy. The disability management strategy should include provision for: (a) recruiting jobseekers with disabilities, including those who have not worked before and those who wish to re-enter the labour market after a period of non-employment; (b) equal opportunity for employees with disabilities; and (c) job retention by employees who acquire a disability.

Workplace accommodation is defined by the ILO (2002) as:

”Adaptation of the job, including adjustment and modification of machinery and equipment and/or modification of the job content, working time and work organisation, and the adaptation of the work environment to provide access to the place of work, to facilitate the employment of individuals with disabilities.”

Solovieva, *et al* (2009) confirms that workplace accommodations are essential for reducing unemployment amongst PWD. When opportunities and workplace accommodations are provided, people with disabilities can add value to the workplace by contributing valuable skills and abilities to every workplace. The obligation can arise when an applicant or employee voluntarily discloses a need or the need become self evident to the employer (TAG, 2003).

Workplace accommodations can take several forms, including structural modifications to a work station or work site to make facilities more accessible: assistive technology and devices; adopting a flexible work schedule; changing training and assessment materials and systems; adapting existing equipment or acquiring new equipment: including computer hardware and software; restructuring jobs so that non-essential functions are re-assigned; providing specialised supervisions; training and support in the workplace as examples (TAG, 2003; Hartnet, Thurman & Cordingly; 2010).

There are several factors that influence the awarding of workplace accommodation requests. These include, but is not limited to fears of high costs related to accommodations, the reaction of co-workers and the retention of PWD after workplace accommodation have been made (Schartz; Hendricks & Black, 2006; Hernandez, McDonald, Lepera, Shahna, Wang & Levy 2009; Paetzold, Garcia, Colella, Ren, Triana, & Ziebro, 2008).

Several studies have shown that workplace accommodation is more likely to be given for easily observable disabilities than hidden disabilities (MacDonald-Wilson, Rogers, Massaro, Lyass & Crean, 2002). Physical, auditory and visual disabilities are more easily recognised, while mental disabilities are most often

hidden and not so easily observable, thus it can be expected that workplace accommodations will rather be given to people with physical or auditory and visual disabilities.

However, the extreme levels of inequality and on-going discrimination experienced by disabled people in the workplace suggest that the provisions of legislation and policy statement are not, on their own, sufficient to remove discriminatory practices, nor to support the creation of equal employment opportunities for people with disabilities. It is necessary to understand the problem from various perspectives including the individual with a disability, the complexity of the disability itself; as well as the attitudes and perceptions of managers and co-workers.

Florey and Harrison published a study on reactions to reasonable accommodation requests in 1997, describing an information-processing model of responses to requests for workplace accommodation from disabled employees. The primary focus of their study was to provide a framework of the cognitive and affective mechanisms underlying the support or resistance of managers towards accommodation requests. A sequence of information processing mechanisms is proposed culminating in the willingness or unwillingness to comply with accommodation requests.

The model can be applied to identify the perceptions, cognitions, judgments and intentions of employers when an employee with a disability requests an accommodation. It describes three general sets of variables and mechanisms which influence a decision based on a request. The three variables identified in this model are based on the stimulus characteristics and pertain to the person lodging the request (source), the request itself (message) and the receiver of the request (receiver). The characteristics of the source include the type and severity of the disability, onset controllability, current job performance and request history (Florey & Harrison, 1997). None of these factors should be considered according to the Code of Good Practice on the Employment of People with Disabilities used in South Africa.

The message (request) includes the magnitude of the accommodation requested, the justification for the request, and the formality with which an accommodation request is lodged also influence the reaction to the request (Florey & Harrison: 1997). Legally, the magnitude of the request is one of the only factors allowed to influence willingness to make an accommodation.

The characteristics of the receiver pertain to previous contact with people with disabilities, experience in accommodation requests, stereotypes of disabled and knowledge of the disability (Florey & Harrison 1997). If the receiver has had previous contact or experience in this regard, their decisions might be influenced by that experience.

A persons' willingness to help is reduced if the person receiving assistance can be made personally responsible for the situation they find themselves in (Florey & Harrison, 1997). Thus if the fault for the onset of a disability can be attributed to the person him or herself, other people will be less inclined to offer assistance.

It is commonly perceived that all accommodations are costly. This is, however, a misperception. When considering a request for accommodation, this subjective determination often plays a role. It is generally accepted that requests that imposes a smaller imposition should be complied with, while bigger requests can legitimately be refused (Florey & Harrison, 1997).

Intermediate judgements are influenced by affect, cognition and behaviour. Affect can be seen as the respondent's feelings towards, and evaluation of a person, issue or event, cognition refers to his/her knowledge, opinions, beliefs or thoughts about the object, while conation describes the behavioural intentions and actions regarding the event (Fishbein & Ajzen, 1975).

Weiner in (Florey & Harrison, 1997) states that cognitions, precedes affect. These intermediate judgments will then influence willingness to help. Furthermore, the norm of social responsibility, the possible job performance consequences as well as perceptions that all requests for accommodation will be costly, will influence the long and short term intentions to comply with accommodation requests (Florey & Harrison, 1997).

By modifying various factors in the source of the request, like onset controllability or magnitude of the request, it is possible to determine how perceptions and cognitions influence judgments and intentions to comply with the request. An important finding in the study was that the history of the disabled employee (the source of the request) caused a strong positive affect in the attribution of responsibility which plays an important role in the favourable consideration of a request. The magnitude and perceived cost of the request also contributed significantly to the intention to comply with the request.

Ajzen and Fishbein (1975) propose that beliefs, representing individuals information about an object, person or event is the basis of their attitude and subjective norms toward that object, person or events. This informational base ultimately determines an individual's attitudes, intentions and behaviour. They further state that a human being is essentially a rational organism who uses the information at his/her disposal to make judgments, for evaluations and ultimately make decisions. According to this model, decisions regarding the

awarding of requested workplace accommodation are influenced by several subjective factors based on beliefs and perceptions.

## OBJECTIVE

Taking the discussion in the previous section into consideration, it becomes clear that PWD face several barriers in society and the workplace. Workplace accommodation is a strategy that is available to remove or limit the effect of those barriers. This study endeavoured to understand some of the factors that influence a manager's decision to comply to a request for workplace accommodation.

The objective of this study is to identify which factors managers consider when they receive a request for workplace accommodation from a hearing impaired employee. It further investigates the influence of these factors influence on the outcome of workplace accommodation requests. These questions are listed in table 1.

**Table 3: Research Questions**

---

### Specific Research Questions

To what extent do the characteristics of the source of the request influence the initial perceptions and cognitions of the receiver?

To what extent will contribution of personal responsibility influence affect towards the accommodation request?

To what extent will perceived imposition/cost influence affect towards the request?

To what extent will perceived imposition/cost influence obligation to comply?

To what extent will the perceived performance consequences influence obligation to comply?

---

## DESIGN

Studying the factors underlying responses toward requests for workplace accommodation requires investigation of the subjective meaning applied to the analysis of these requests (Florey and Harrison, 2000). A qualitative study was conducted using a survey design. The survey was implemented by conducting interviews with respondents.

This study required analysis of the deep substructure of beliefs, pre-conceptions, norms and attitudes and their influence on intentions and decision (Fishbein & Ajzen; 1975). Eliciting these deep lying constructs, required a qualitative strategy of inquiry. This choice is supported by Florey & Harrison's original 1997 study that used a qualitative approach to identify factors that influence decisions on workplace accommodation.

Florey & Harrison's original study has been followed up by several studies on the topic of workplace accommodation using qualitative approaches (Combs & Omvig, 1986, Florey & Harrison, 2000 and Baldrige & Veiga, 2003). As these studies were all conducted in the USA, the qualitative survey design was used to attempt to replicate the findings of the 1997 Florey and Harrison study in the, Gauteng Province of South Africa, the economic heartland of the country. Even though Gauteng Province only comprises 1.4% of South Africa's land surface, it accommodates 22.4% of the nation's population, contributes 33% of the national economy and a phenomenal 10% of the GDP of the entire African Continent (SouthAfrica.info: 2011).

## METHOD

The research strategy is based on personal construct theory. This strategy encompasses eliciting personal construction of meaning from participants, based on the premise of "man as scientist" (Stewart and Stewart, 1990). The key points of Personal Construct Theory (PCT) are firstly that perceptions influence expectations, and expectations are influence by perceptions; secondly the medium of this influence is the construct system and finally, these construct systems are unique and develop throughout life (Stewart & Stewart, 1990). Kelley (as cited in Fransella; Bell and Bannister, 2004: 3) defines a construct as being:

*... "A basic dimension of appraisal, often un verbalised, frequently unsymbolised, and occasionally un signified in any manner except by the elemental process it governs. .... the system of constructs provides each man with his own personal network of action pathways, serving both to limit his movements and to open up to him passages of freedom to which otherwise would be psychologically non-existent."*

In PCT the focus is on the process of construing, which consist of the application of personal constructs created during life and which then forms the personal construct system. A central assumption of the theory holds that a person's reality is built up of contrasts rather than absolutes, thus it can be surmised that a person's construct system is composed of a finite number of dichotomous constructs (Jankowich, 2004). The argument is that nothing can be affirmed without simultaneously denying something else. For example, if we say person A is friendly, we are also saying he/she is not unfriendly. The theory continues to state that constructs have a range of convenience, which holds that constructs operate within a context and that it can only be applied to a finite number of elements (Fransella; Bell and Bannister, 2004).

Repertory grids is a technique developed by Kelley used to elicit personal constructs. According to Jankowich (2004: 14) it is a "form of structured interviewing which arrives at a precise description uncontaminated by the interviewer's own viewpoint." This technique was used to elicit personal constructions of meaning and judgements. In the construction of grids, it is important to use the bipolarity of constructs in the rating of elements as well as the context in which the elements must be within the range of each respondent's range of convenience.

## **Instruments**

As all respondents would not necessarily have had experience in workplace accommodation requests, six different scenarios of an employee with a disability requesting a workplace accommodation was described. Each scenario addressed all the factors as stated in the research questions. The different factors that were manipulated in each scenario included onset controllability; job performance and size of the request. To control for the wide range of disabilities and workplace accommodations only one type of disability, i.e. hearing impairment, was described. As people with hearing disabilities are relatively well represented in the workforce, it is feasible the respondents might have encountered this type of disability in the workplace. There is also a wide range of accommodations available to people with hearing disabilities, ranging from assistive devices, changes in work arrangements and support from team members (Baldrige and Swift, 2003).

Six scenarios of employees with hearing disabilities were written. The description of the employment situation and job role was kept neutral and respondents were told the employee was a member of their team. Participants received and read all six scenarios. They were then given an opportunity to record their initial emotional and cognitive reactions to the scenarios, the factors they would bear in mind in considering the request and their intention to comply with the request. The repertory grid was then used to elicit the participants' constructs regarding the scenarios.

## **Data collection**

Data was gathered as to the initial perceptions of the respondents as they read the scenarios. They were allowed to record their thoughts, feeling, factors that was important for them as well as their intentions to respond to each request, on an initial response sheet. After this process, the repertory grid was used to elicit further responses. Respondents were then asked to identify in rank order of who they thought they would be more likely to accommodate as well as to rank the factors they considered in this decision.

Data was collected using the repertory grid technique. The following steps were followed in collecting the data. A scenario with a description of six employees with a hearing disability, background regarding the onset controllability, job performance and request for accommodation was handed to each participant. This construct elicitation was used to determine effect of the initial perceptions and cognitions on the intermediate judgements.

Three of the respondents were not willing to use the repertory grid as they felt the process was too time consuming. They were then allowed to discuss each individual scenario separately, and then rate their intentions to allow the accommodation and the factors they felt would influence their decision.

This unwillingness to use the repertory grid development limited the type of repertory grid analysis that could be used. The data gathered in the initial response sheet and obtained during the rest of the interviews was still useful in examining the factors managers reported.

# **RESULTS**

A convenience sample of 10 managers in the Gauteng Province of South Africa was drawn. The sample consisted of 20% black and 80% white managers, while 40% were male and 60% were female; this distribution reflects the current racial workforce demographics for senior and executive managers as published by the Commission for Employment Equity (2009-2010). The organisations represented were 30% international organisations (from the mining, ICT and pharmaceutical sectors), 50% national companies (from engineering, manufacturing, professional consulting and financial sectors), 20% were from the public service sector on local as well as national sphere of government. The organisational positions of the respondents were distributed as 40% on executive management level, 30% on senior management level and 30% from human resource management. Of the ten respondents interviewed, only one indicated that she had been involved in a workplace accommodation request before.

Before the factors that managers considered regarding workplace accommodation request was examined, their understanding of workplace accommodation was clarified. In general the respondents had an adequate understanding of the objectives of workplace accommodation. One respondent reported not being sure of what it was. The general consensus was that workplace accommodation aims to assist PWD to be able to be gainfully employed and be able to cope with the demands of employment. Two additional aims identified are to ensure effective performance as well as equality. One respondent stated *“Allow a person a fair platform to perform their best....it creates and equal departure point for reaching potential.”*

When asked about the types of workplace accommodations that can be made the majority of respondents placed more emphasis on structural and environmental adaptations. This indicates a tendency to see disability a bit one dimensional – physical and more “obvious” disabilities taking centre stage. One response that can be quoted in this context is: *“It is not fair to change the essential elements of the job – can’t create discrimination towards rest of team”*. Three of the respondents however, identified a wider range of workplace accommodations, including work reassignment; creating awareness amongst other employees and team members, assistive devices and employee assistance programmes for PWD.

As the constructs elicited can differ between the respondents, it becomes difficult to compare individual grids. In this study, generic content analysis procedures were used to cluster the different constructs in grids (Jankowicz, 2004). Table 3 depicts the 7 different categories of constructs identified in combining the seven grids.

**Table 4: Seven Categories of Constructs Based on Generic Content Analysis**

Category	Definition	Sum %
<b>Cause of disability</b>	Not to blame for the disability vs. own negligence caused the disability; Control over onset of the disability;	3 7
<b>Team contribution</b>	Good relationships with colleagues; Good relationships with colleagues vs. does not try to communicate or fit in; positive impact on the team	7 16
<b>Attitude and commitment</b>	Tries hard vs. disruptive to the environment. Positive attitude and commitment vs. tries his best vs. does just the minimum expected of him	11 24
<b>Performance</b>	Delivers very good work vs. poor work; earned their stripes vs. not very deserving	4 9
<b>Size of the request</b>	Small (reasonable) request vs. Request is too big – way out, Less strings attached to request; Cost-benefit ratio.	8 18
<b>Dealing with disability</b>	Deal with their disability in the best possible way vs. hiding behind disability. Disability does not become the employer’s problem vs. has not overcome disability – becomes “others’ problems,	7 16
<b>Miscellaneous</b>	Kind of precedent being established; see the request as a possible incentive/reward; perceived openness for negotiation	5 10
<b>Total</b>		45 100

As can be seen in table 3 the constructs appearing more than any other is attitude and commitment, which comprised 24% of all the constructs; second the size of the request, comprised 18% and finally the contribution made to the team and the way the individual deals with their disability each represented 15%. This result can be seen to indicate that the characteristics of the sources of the request have an influence on the initial perceptions and cognitions of management to a very large extent. The perceived cost/imposition of the request also seems to play a big role in the initial perceptions and cognitions. The cause/onset of the disability seems to have a smaller influence on the initial reactions of the respondents.

## Intentions to comply with the request

Respondents were also asked to rate the different scenarios on the likelihood that they will comply with the request. These ratings are presented in table 4:

**Table 5: Ratings of intention to comply with request**

Respondent	Scenario					
	1 Low onset controllability High job performance Medium request	2 Low onset controllability Low job performance Large request	3 Low onset controllability Low job performance Small request	4 High onset controllability Low job performance Large request.	5 High onset controllability High job performance Large request.	6 High onset controllability High job performance Small request
1	3	5	2	6	4	1
2	1	4	5	6	3	2
3	1	4	5	6	3	2
4	2	3	4	5	6	1
5	6	3	1	5	4	2
6	2	4	3	6	5	1
7	2	4	3	6	5	1
8	3	4	2	6	5	1
9	2	4	3	6	5	1
10	2	4	3	6	5	1
Mean	2.4	3.9	3.1	5.8	4.5	1.3
SD	1.4	0.6	1.3	0.4	1.0	0.5

As illustrated in table 4, the highest rating in terms of intention to comply with the request was given to scenario 6 with a person who even though he could be assigned blame for causing his own disability, was seen to have a positive attitude towards his work as well as coping with his disability. His request was also small and seen to be more reasonable. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 6 Initial reactions for Scenario 6**

Scenario 6: high onset controllability, high job performance and a small request	
Initial thoughts and feelings	Factors considered
<ul style="list-style-type: none"> <li>Valued employee</li> <li>Brilliant attitude</li> <li>Passion toward life</li> <li>Takes responsibility</li> <li>Makes it easier for himself and others</li> <li>Appreciate human willingness to perform</li> <li>Tries hard/committed</li> <li>Would like to help him</li> <li>He is stubborn but resilient</li> </ul>	<ul style="list-style-type: none"> <li>Team player</li> <li>Management potential</li> <li>Performance</li> <li>Initiative</li> <li>Request well thought out</li> <li>Takes parameters of the organisation into consideration</li> <li>Not a very big ask</li> <li>Good worker</li> <li>Positive and wants to live a full life</li> </ul>

The person second most likely to receive the accommodation was depicted in scenario 1, who was also described as a high performer and asked for a small accommodation. This person however, had little or no control over the onset of his disability. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 7: Initial Reactions to Scenario 1**

Scenario 1: low onset controllability, high job performance and a medium request	
Initial thoughts and feelings	Factors considered
<ul style="list-style-type: none"> <li>He doesn't let his disability influence his job performance</li> <li>Team player</li> <li>More positive attitude</li> <li>Performance of good quality, ideas,</li> </ul>	<ul style="list-style-type: none"> <li>Would consider rewarding his performance to help keep him motivated</li> <li>High performance</li> <li>Request is reasonable</li> <li>Team person</li> </ul>

<ul style="list-style-type: none"> <li>• initiative, socially active</li> <li>• Good – nothing puts him off</li> <li>• Doing excellent work – don't want to lose him</li> <li>• Reasonable</li> <li>• Fair</li> <li>• Tries hard/committed</li> <li>• Likeable person</li> </ul>	<ul style="list-style-type: none"> <li>• Already good performance – why spend more money</li> <li>• Small cost to provide possible large benefits</li> </ul>
--	--

The person third most likely to receive the accommodation was depicted in scenario 3, who was described as a poor performer and asked for a small accommodation. This person also had little or no control over the onset of his disability. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 8: Initial reactions for Scenario 3**

<b>Scenario 3: low onset controllability, low job performance and a small request</b>	
<b>Initial thoughts and feelings</b>	<b>Factors considered</b>
<ul style="list-style-type: none"> <li>• He may lack confidence in his own abilities</li> <li>• Solid citizen</li> <li>• Performs well under well defined structures</li> <li>• Can be up skilled</li> <li>• Non-fitting in might be due to others not understanding him</li> <li>• Frustration caused by the situation</li> <li>• Sympathy</li> <li>• Worth spending money on him</li> <li>• Seems to want an improvement</li> <li>• Assistance - make things easier in environment</li> <li>• Big difference is his potential</li> <li>• Seems not to always hear what he should do</li> <li>• Seems hesitant to take action when he doesn't know exactly what is expected of him</li> <li>• Fear of failure</li> </ul>	<ul style="list-style-type: none"> <li>• He obviously tries hard</li> <li>• Performance</li> <li>• Attitude/passion/motivation</li> <li>• Delivery good and bad</li> <li>• Request within reason</li> <li>• Create awareness on both sides</li> <li>• Can perform well if communication is received correctly</li> <li>• Small request</li> <li>• Time frame – what will be the benefits – personally, team and environment</li> <li>• Cost implication</li> <li>• Demands on team</li> <li>• He is coming with suggestions (willingness)</li> </ul>

The person fourth most likely to receive the accommodation was depicted in scenario 2, who was described as a poor performer and asked for a large accommodation. This person also had little or no control over the onset of his disability. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 9: Initial reactions for Scenario 2**

<b>Scenario 2: low onset controllability, low performance and a large request</b>	
<b>Initial thoughts and feelings</b>	<b>Factors considered</b>
<ul style="list-style-type: none"> <li>• Should he be working?</li> <li>• His hearing is affecting his job performance.</li> <li>• He should have communicated his problems to me earlier</li> <li>• Don't always realize the impact of disability on job performance</li> <li>• Wants to improve, wants to be part of the team. Probably feeling anxious to participate</li> <li>• Is he lazy? Or is his hearing impairment impacting on his performance/confidence</li> <li>• Would still like to help him, but expect him to change his attitude</li> </ul>	<ul style="list-style-type: none"> <li>• Should not be in a teamwork environment.</li> <li>• Could he not perform other duties?</li> <li>• Poor performance - time/quality</li> <li>• Team dynamics</li> <li>• Accommodation will add to performance</li> <li>• Climate/team dynamics</li> <li>• Budget and availability of finances and other resources</li> <li>• Opportunity for him and others</li> <li>• Link between request and results</li> <li>• Demands on the organisation/team</li> </ul>

The person second least likely to receive the accommodation was depicted in scenario 5, who was described as a good performer and asked for a large accommodation. This person also had control over the onset of his disability, which was caused by negligence and not following OHS regulations. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 10: Initial reactions for Scenario 5**

<b>Scenario 5: high onset controllability, low job performance and a large request</b>	
<b>Initial thoughts and feelings</b>	<b>Factors considered</b>
<ul style="list-style-type: none"> <li>• Did not obey previous company's rules</li> <li>• Reason for disability own fault</li> <li>• Good performer</li> <li>• Takes initiative</li> <li>• Beyond organisation –impact of disability on other – clients</li> <li>• Asking a lot</li> <li>• He might do some other things wrong</li> <li>• Want to assist – improve performance, assist environment</li> <li>• Positive attitude</li> <li>• Would like to help him but he has to be reasonable</li> <li>• Neglect - own fault for hearing loss</li> </ul>	<ul style="list-style-type: none"> <li>• He lost his hearing through neglect of looking after his own health</li> <li>• Cost benefit analysis – will financial analysis benefit the organisation?</li> <li>• Retention issues – if we change the system – he might leave</li> <li>• Cause of disability – did not comply to policies/procedures for OHS</li> <li>• Average worker</li> <li>• Careless/negligent</li> <li>• Will it improve the situation for him or the company?</li> <li>• Size of request</li> <li>• Being reasonable and job relevance</li> </ul>

The person least likely to receive the accommodation was depicted in scenario 4, who was described as a poor performer and asked for a large accommodation. This person also had control over the onset of his disability. Some of the comments made regarding this scenario on the initial reaction response sheet were as follows:

**Table 11: Initial reactions for Scenario 4**

<b>Scenario 4: high onset controllability, high job performance and a small request</b>	
<b>Initial thoughts and feelings</b>	<b>Factors considered</b>
<ul style="list-style-type: none"> <li>• Not coping</li> <li>• Uses disability as excuse</li> <li>• Stinking attitude</li> <li>• Does not co-operate</li> <li>• Does not take ownership</li> <li>• Deserved to be dismissed</li> <li>• Employee angry and dissatisfied</li> <li>• General poor performer</li> <li>• Trying to manipulate the situation with disability</li> <li>• Below par effort</li> <li>• Resistance to allow request</li> <li>• Last change before performance management</li> <li>• He irritates me</li> <li>• Unreasonable and demanding</li> </ul>	<ul style="list-style-type: none"> <li>• Can't work with people – maybe not his fault.</li> <li>• Not liked by staff.</li> <li>• Difficult to deal with</li> <li>• Performance is bad</li> <li>• Habitual offender</li> <li>• Reckless by nature</li> <li>• Attitude and performance</li> <li>• Request vs. attitude</li> <li>• Does not work as part of team</li> <li>• Behaviours – aggression</li> <li>• Cost implications</li> <li>• Inability to become part of the team</li> </ul>

From the rankings described above it seems as if the size of the request played the biggest role in the intention to complete. The three of the top rated scenarios which represented a small request like asking team members to speak louder and writing instructions down, while the bottom three scenarios had large requests like appointing sign language interpreters as personal service assistance, forcing all team members to attend sign language classes and purchasing expensive assistive devices.

The perceived performance variable seemed to play a secondary role to the top two rated scenarios both depicting a high performer requesting a small accommodation. The scenario where a poor performer requested a small accommodation was rated third. The other scenario of a high performer requesting a large accommodation was rated fifth, indicating the possibility that the size of the request will override the performance variable in factors the managers take into consideration when considering workplace accommodation requests. Onset controllability only seemed to be considered where a scenario described an employee who deliberately disobeyed occupational health and safety requirements resulting in significant hearing loss.

## Rating of Reported Factors taken into Considerations

Respondents were finally given the opportunity to identify the factors they did take into consideration when reading the workplace accommodation requests in each scenario. They were then asked to rate this with one being the most important factor. The different factors identified coincide quite closely with the categories of constructs identified using the generic content analysis reported in table 3. Where a factor is blocked out, the respondent did not report that as a consideration.

**Table 12: identified Factors and Their Ratings**

Factor Considered	Respondent Ratings										M	S
	1	2	3	4	5	6	7	8	9	10		
Size of the request	5	5	1	1	2	4	5	1	1	1	2.6	1.9
Current Performance	3	4	2	4	1	1	4	2	5	3	2.9	1.3
Positive attitude (willingness to try/effort put in)	1	1	4	3		3	1	3	3	2	2.3	1.1
Potential to perform	2	3	5		4	6	2			5	3.8	1.6
Control over onset of disability		6		2					6	6	5	2
Impact of accommodation on future performance			6		3			5	4	7	5	1.5
Personal reaction to disability	4		3			2				4	3.3	0.9
Contribution to the team		2					3	4	2		2.8	0.9

As illustrated in table 11 the attitude of the person asking for workplace accommodation is the factor reported as playing the most important role in the decision to reward the accommodation. The other factors considered in order of the combined rankings were size of the request, the contribution the requester is making to the team and the individual's current performance, requester's reaction and skill in coping with his own disability and the perceived potential of the employee to perform in the future of the accommodation is granted. Factors that play a lesser role in the outcome of the request were identified as the control the individual had over the onset of their disability and the impact the accommodation will have on future performance of the organisation.

## CONCLUSIONS

At the start of this paper the objectives were stated as the identification of the factors managers consider when they receive a request for workplace accommodation from a hearing impaired employee. The eight factors identified were (1) the size of the request, (2) current performance, (3) positive attitude (willingness to try/effort put in),(4) potential to perform,(5) control over onset of disability,(6) impact of accommodation on future performance, (7) personal reaction to disability and (8) contribution to the team.

The research questions stated at the start of this paper can be answered as follows:

### **To what extent do the characteristics of the source of the request influence the initial perceptions and cognitions of the receiver?**

The characteristics of the source of the request has a major influence on the initial cognitions and perceptions of the receiver in the sense that a perceived positive attitude toward the organisation, job and team seemed to have a positive reaction from the management respondents. If the respondents perceived that the requester had a positive outlook on life and also seemed able to deal positively with his/her impairment, it also

appeared to lead to a greater positive perception of this person and the willingness to want to help him/her. However, a negative attitude toward not only work, but also toward his/her disability seemed to lead to negative perceptions and decreased the intention of a manager to grant the requested accommodation.

#### **To what extent will contribution of personal responsibility influence affect towards the accommodation request?**

If personal responsibility could be attributed to someone with a positive outlook on life and his/her disability, the respondents were much more forgiving of the role the individual played in the cause of his/her disability. However, a negative outlook on life and the organisation, job or team, led to a more unforgiving perspective and a smaller drive to comply with the request.

#### **To what extent will perceived imposition/cost influence affect towards the request?**

The affective responses to a request perceived to be less of an imposition was generally more positive than if the request was perceived to be an excessive imposition. The negative affective response was reported in situations where the other factors of the request was perceived more positive, example the performance of the requester was good, or their attitude was perceived to be positive. If the other factors of the request were perceived to be more negative, the perceived imposition of the request seemed to have a stronger negative affective response.

#### **To what extent will perceived imposition/cost influence obligation to comply?**

The perceived imposition or cost of the accommodation played the most important role in the intention and obligation to comply with the request. If the request was deemed too big or unreasonable, even if this was seen as being requested by a valuable employee, the intention and obligation to comply was minimised.

#### **To what extent will the perceived performance consequences influence obligation to comply?**

If there was a perceived positive influence on future performance, the respondents were more likely to comply with the request. This however, also had a more negative effect in that where an already performing employee requested an accommodation, some of the respondents felt that as the person is already performing, he will not need the accommodation. The other side of this argument was that if someone requested an accommodation; they must first show the ability to perform before the request could be considered.

As this study was conducted in a small sample of ten, the results cannot be seen as representative. . However it opens several areas for deeper and more rigorous research to understand how requests for workplace accommodation will be considered and complied to. Future research can focus on how the characteristics of PWD and the perceptions of their attitude influence managers' accommodation requests. A further area of interest can be how managers and colleagues perceive the influence and justifiability of workplace accommodation on organisational and individual performance. Another focus for future research can be to examine the factors a PWD will consider when disclosing his/her need for a workplace accommodation.

## **Managerial implication**

This study serves to assists management in being aware of the factors taken into consideration when considering requests for accommodation. The underlying pre-cognitions and assumptions underpinning these decisions can lead a manager to make an unfair decision. PWD can also benefit from these results by understanding the factors managers take into considerations. From an organisational perspective the findings indicate the need to create awareness of the factors that could unfairly prejudice PWD in the conceding of workplace accommodation requests. This implies that awareness and education programmes should focus on the eliminating biases in the information processing of managers. Specifically training should highlight the need to remove barriers to performance in the workplace for example using written communication rather than verbal communication. .

Organisational and managerial practices aim to maximise the contribution of all employees' talent and abilities. PWD can be as talented and able as people without disabilities, but may experience several barriers in the workplace. Thus it is important to realise that workplace accommodation is essential to performance and not be seen as an incentive or reward for already good performance. The expectation of future benefits and value added by the employee to the organisation should be highlighted. Providing appropriate decision making models and policies for awarding of workplace accommodations can improve workplace retention and quality of life of PWD (this could even have a positive impact on employees without disabilities).

## **REFERENCES**

Baldrige, D.C. & Veiga, J.F., 2003. Anticipated consequences and decisions to request accommodation: the requester's perspective. *Academy of Management Best Conference Paper*, Available through: Ebscohost [Accessed 16 June 2010].

Butterfield, T.M. & Ramseur, J.H., 2004. Research and case study findings in the area of workplace accommodations including provisions for assistive technology: A literature review. *Technology and Disability*, [e-journal] Vol 16: pp. 201–210 Available through: Ebscohost [Accessed 26 January 2011].

Combs I. H., Omvig C. P., 1986. Accommodation of Disabled People into Employment: Perceptions of Employers, *Journal of Rehabilitation*, April/May/June: pp. 42-45.

Colella, A., DeNisi, A. S., & Varma, A., 1998. The impact of ratee's disability on performance judgments and choice as partner: The role of disability—job fit stereotypes and interdependence of rewards. *Journal of Applied Psychology*, Vol 83, pp102–111.

Copeland, J.L., 2007. The impact of disability in the workplace: an assessment of employer attitudes toward people with disabilities and the Americans with Disabilities Act. Ph. D. Capella University: USA.

Fishbein, M. & Ajzen, I., 1975. *Belief, Attitude, Intention and Behaviour*. London: Addison-Wesley.

Florey, A & Harrison, D.A., 1997. Reactions to requests for accommodations from the disabled: theory and evidence in two populations. *Academy of Management Proceedings*: pp. 139 – 143.

Florey, A & Harrison, D.A., 2000. Responses to informal accommodation requests from employees with disabilities: multi-study evidence on willingness to comply. *Academy of Management Journal*: Vol. 43 No 2 pp. 224-233. Available through: Ebscohost [Accessed: 17 April 2010].

Fransella, F; Bell, R & Bannister, D., 2004 *A Manual For Repertory Grid Technique*. 2<sup>nd</sup> Ed. John Wiley and Sons: USA.

Hartnet, H.P; Thurman, H & Cordingly, K., 2010 Individuals' perceptions of employment accommodation decisions and solutions: lessons for social workers. *Journal of Social Work in Disability & Rehabilitation*, Vol 9 pp. 53–68. Available through: Informaworld. [Accessed: 16 January 2010].

Hernandes, B; McDonald, K; Lepera, N; Shahna, M; Wang, A. & Levy, J.M., 2009 Moving beyond misperception, the provision of workplace accommodations. *Journal of Social Work in Disability & Rehabilitation*, Vol 8 pp. 189–204. Available through: Informaworld. [Accessed: 16 January 2010].

Jones, M.K., 2008. Disability and the labour market: a review of empirical evidence. *Journal of Economic Studies*: Vol. 35 No 5 pp. 405-424. Available through: Emerald. [Accessed: 16 January 2010].

ILO (International Labour Organisation), 2007. South Africa country profile: Promoting the employability and employment of people with disabilities through effective legislation (Southern Africa) / prepared by the ILO Skills and Employability Department. Geneva.

ILO (International Labour Organisation), 2002. Managing disability in the workplace. *ILO Code of Practice*: Geneva

Kleynhans, R. & Kotze, M., 2010. Managers' and employees' attitude toward people with physical disabilities in the workplace. *Tydskrif vir Geesteswetenskappe*. Vol. 50, No 3. pp. 405-417. Available through: SABINET. [Accessed: 16 January 2010].

MacDonald-Wilson, K.L.; Rogers, E.S; Massaro J.M; Lyass, A; Crean, T., 2002. An investigation of reasonable workplace accommodation for people with psychiatric disabilities: quantitative findings from a multi-site study. *Community Health*. Vol. 38, No 1 pp. 35-50. Available through: Ebscohost. [Accessed: 26 January 2010]

- Mansour, M., 2009. Employer's attitudes and concerns about the employment of disabled people. *International Review of Business Research Papers*. Vol. 5, No 4 pp. 209-218. Available through: Ebscohost. [Accessed: 26 January 2010]
- Paetzold, R.L; Garcia, M.F; Colella, A; Ren, L.R; Triana, M.C; Ziebro, M., 2008. Perceptions of people with disabilities: when is accommodation fair? *Basic And Applied Social Psychology*, Vol .30 pp. 27–35.
- Robinson J.E., 2000. Access to Employment for People with Disabilities: Findings of a Consumer Lead Project, *Disability and Rehabilitation*, Vol. 22 No. 5 pp. 246-253.
- Schartz, H.A; Hendricks, D.J. & Black, P., 2006. Workplace accommodations: evidence based outcomes. *Work*, Vol. 2.pp. 345–354 Available through: Ebscohost. [Accessed: 26 January 2010].
- Schur, L.; Kruse, D. & Blanck, P., 2005. Corporate Culture and the Employment of Persons with Disabilities. *Behavioural Sciences and the Law*. Vol. 23: pp. 3-20. Available through: Ebscohost. [Accessed: 26 January 2010].
- Solovieva, T.I; Walls, R.T; Hendricks, D.J. & Dowler, D.L., 2009. Cost of workplace accommodations for individuals with disabilities: with or without personal assistance services. *Disability and Health Journal*, Vol. 2 pp. 196-205. Available through: Ebscohost. [Accessed: 26 January 2010].
- South Africa, (1996). Constitution of the Republic of South Africa, Act no 108 of 1996.
- South Africa, (1998) Employment Equity Act, Act no. 55 of 1998.
- South Africa, (2000) The Promotion of Equality and Prevention of Unfair Discrimination Act, Act no. 4 of 2000.
- South Africa. Department of Labour. (2002). Code of Good Practice on the Employment of People with Disabilities: Government Printer.
- South Africa. Department of Labour. (2003). Technical Assistance Guidelines on the Employment of People with Disabilities: Formaset: Cape Town.
- South Africa. Department of Labour. (2009). 10<sup>th</sup> CEE Annual Report 2009-2010: Government Printer.
- South Africa: White Paper on an Integrated Disability Strategy (INDS) (2000) [Online], Available from: <http://www.gov.za> [downloaded 18/3/2005]
- SouthAfrica.info, 2011. Gauteng Province, South Africa. [online] Available at: <http://www.southafrica.info/about/geography/gauteng.htm> [ Accessed 26 April 2011].
- Stewart, V. and Stewart, A., 1990. Business Applications of Repertory Grids. Institute of Personnel Management: Johannesburg.
- Ward, A.C. & Baker, M.A., 2005. Disabilities and impairments: strategies for workplace integration. *Behavioural Sciences and the Law*. Vol. 23 pp. 143-160 Available through: Ebscohost. [Accessed: 26 January 2010]

# **INFLUENCE OF CRM ON CUSTOMER LOYALTY – AN APPLICATION TO THE LIFE INSURANCE INDUSTRY IN SOUTH AFRICA**

**Mornay Roberts-Lombard and Leon du Plessis  
University of Johannesburg, South Africa**

## **ABSTRACT**

*The primary objective of this study is to investigate the influence of CRM on customer retention at a South African long-term insurance organisation. Primary data was gathered using a questionnaire, with items referring to CRM and customer loyalty. The sample consisted of 254 customers in four major centres in South Africa. Data was factor-analysed. The findings of the study stipulate that CRM positively influences customer loyalty. The relationship between CRM and customer loyalty is significant at a p value equal to 0.000. This relationship implies that if the long-term insurance organisation successfully maintained relationships with its customers, intentional customer loyalty at the long-term insurance organisation will increase. Furthermore, CRM in the multiple regression analysis explained 80.2% of the variance ( $R^2$ ) in customer loyalty. In other words, it can be said that 80.2% of a possible change in the level of customer loyalty in the long-term insurance organisation investigated, is caused by CRM. Therefore, one unit increase in CRM will increase customer loyalty with 89.5% when considering Beta.*

## **INTRODUCTION**

An organisation that wants to succeed in today's global competitive market where customers are empowered and brand loyalty erosion is increasing, will have to move to Customer Relationship Management (CRM). Customer Relationship Management enables organisations to provide excellent real-time customer service through the effective use of individual account information (Kotler and Keller, 2006). This requires a more complex approach, organisations need to investigate customer needs, they have to build relationships with both existing and potential customers, and they will have to satisfy their customers' needs (Rootman, 2006). Organisations realise the importance of satisfying and retaining customers. Acquiring new customers can cost five times more than the cost involved in satisfying and retaining current customers. Organisations on average can lose up to 10% of their customers. When customer defections are decreased by 5%, this can lead to an increase in profits of between 25% - 85%, depending on the industry. The profit rate of a customer tends to increase over the life of the retained customer (Berndt, Du Plessis, Klopper, Lubbe & Roberts-Lombard, 2009; Kotler and Keller, 2006; Ndubisi & Wah, 2005). Long-term insurance organisations such as Liberty Life require a loyal customer base to survive. Loyal customers can be generated through CRM. In 2008 Liberty Life lost R940 million as customers lapsed or surrendered their contracts, thereby ending their relationship with Liberty Life (Liberty Holdings Limited, 2009). CRM can assist Liberty Life in building long-term beneficial relationships with customers, which has a direct influence on the value proposition to customers, and the competitive position of Liberty Life in the market. This will lead to customer loyalty and increased profits to Liberty Life.

## **LITERATURE REVIEW**

### **The long-term insurance industry in South Africa**

The South African insurance market generated total gross written premiums of \$24.2 billion in 2007, representing a compound annual growth rate (CAGR) of 8.9% for the period spanning 2003-2007. The long-term insurance segment was the market's most lucrative in 2007, generating gross written premiums of \$14.7 billion, equivalent to 60.6% of the market's overall value. The performance of the market is forecast to accelerate, with an anticipated CAGR of 9.7% for the five-year period 2007-2012, which is expected to drive the market to a value of \$38.5 billion by the end of 2012. Liberty Life was the largest long-term insurance organisation in South Africa, accounting for 20.3% of the country's value (Datamonitor, 2008).

## **Customer Relationship Management**

Today, many organisations such as banks and long-term insurance organisations realise the importance of CRM and its potential to help them acquire new customers, retain existing ones and maximise their lifetime value. A close relationship with customers will require a strong coordination between Information Technology (IT) and marketing departments to provide a long-term retention of selected customers (Read, 2009). The broad application of CRM has led to a multitude of definitions. Krasnikov, Jayachandran and Kumar (2009) describes CRM as an enterprise-wide commitment to identify the individual customers of an organisation, and to create a relationship between the organisation and these customers as long as the relationship is mutually beneficial. CRM evolved from organisation processes such as RM and the increased emphasis on improved customer retention through the effective management of customer relationships.

CRM is important for service organisations. If organisations desire a good relationship with customers, they must ensure that their management and staff are trustworthy and show a strong commitment to service (Tynan and McKechnie, 2009). Trust and commitment are key elements for retaining customers (Ndubisi, 2007). CRM provides a transition from a transaction-based to a relationship-based model that concentrates on the acquisition, development and retention of profitable customer relationships (Baran, Galka & Strunk, 2008). Unless there is a minimum level of trust between the parties in the relationship, it is unlikely that a relationship will be maintained. When trust breaks down in a relationship, the relationship is likely to dissolve. Trust can only be established after numerous interactions took place between the parties. Trust between the parties must be developed and it must be seen as an investment in the relationship building that has a long-term benefit for both parties. Trust emerges as parties share experiences and interpret and assess each other's motives. As the parties learn more about one another, risk and doubt are reduced (Kim, Kim, Kim, Kim & Kang, 2008). Two-way communication with customers is enabled by advances in information and telecommunications systems. All the communication with customers, when it is integrated into the organisation, recorded and managed, allows the relationships with customers to develop and to be maintained (Alhabeeb, 2007). A goal of CRM is to create an opportunity for re-purchase by a customer through an improvement in the communication process to the customer, providing the right offer, relating to product and price, through the right channel, at the right time. This will lead the customer to perceive that the organisation is concerned with the customer's needs, and this in turn may lead to greater satisfaction towards the organisation. When the customer has had additional experiences with the organisation in which the customer's needs were satisfied, the customer may develop a sense of loyalty to the organisation (Kim, Kim, Kim, Kim & Kang, 2008). Similar to trust, commitment appears to be one of the most important variables in understanding relationships, and it is a useful construct for measuring the likelihood of customer loyalty, as well as for predicting future purchase frequency (van Doorn & Verhoef, 2008). How conflict is handled between the organisation and the customer will either ensure loyalty, or the customer will leave the organisation and go to a competitor (Ndubisi & Wah, 2005). Long-term relationships with customers can successfully be created, reinforced and retained by building the customers' trust in an organisation over time, demonstrating a commitment by the organisation to service, communicating with the customers in a timely, reliable and pro-active fashion, and handling conflicts between the organisation and the customers effectively (Tsai, Tsai & Chang, 2010).

## **Customer loyalty**

The aim of relationship marketing is the establishment and maintenance of long-term relationships with customers (Helkkula & Kelleher, 2010). Organisations understand that it is considerably more profitable to keep and satisfy existing customers, than to constantly renew a strongly-churning customer base. To make relationship marketing work, marketers have adopted a customer management orientation, which emphasises the

importance of customer lifetime value, retention and the dynamic nature of a person's customer-organisation relationship over time (Botha and van Rensburg, 2010). The rationale behind CRM is that it improves organisation performance by enhancing customer satisfaction and driving up customer loyalty. A model has been designed to explain this logic, and it is called the satisfaction-profit chain (Lehmuskallio, 2009). Customer satisfaction increases because the insight into customers allows organisations to understand them better, and through this, organisations create improved customer value propositions. As customer satisfaction rises, so does customer repurchase intention. This then influences the actual purchasing behaviour, which significantly impacts organisation performance (Alhabeeb, 2007).

There are two major approaches when defining and measuring loyalty; one is based on behaviour and the other on attitude. The behavioural loyalty refers to a customer's behaviour on repeat purchase, indicating a preference for a brand or a service over time. There are two behavioural dimensions to loyalty. Firstly, the question must be asked if the customer is still active. Secondly, the organisation must determine if they maintained their share of the customer's spending. Attitudinal loyalty refers to a customer's intention to repurchase and recommend, which are good indicators of a loyal customer. A customer who has the intention to repurchase and recommend, is very likely to remain with the organisation (Tynan and McKeachie, 2009). Attitudinal (intentional) loyalty is measured by reference to components of attitude such as beliefs, feelings and purchasing intention. Customers who have a strong preference for involvement or commitment to a supplier are the more loyal in attitudinal terms (Lehmuskallio, 2009). This study will focus on the attitudinal (intentional) loyalty of the customers of long-term insurance organisations. Organisations must track customer loyalty as the truer measure of how they compare to competitors and this will shift the focus from customer acquisition to customer retention (Baran et al., 2008).

## **PROBLEM INVESTIGATED**

Statistics released by the Life Offices Association (2007), indicated that in the second half of 2006 surrenders of policies increased, lapsed premiums also increased by 18% as compared to the previous half-year, and 31% compared to the corresponding period in 2005. A policy is surrendered when the policyholder stops paying the premiums and withdraws the reduced fund value of the policy before maturity. A lapse occurs when the policyholder stops paying premiums before the fund value exceeds the unrecovered costs, meaning that the paid-up or surrender value is zero. In both cases, customers are lost as they terminate their relationship with the long-term insurance organisation. The purpose of CRM is to increase customer satisfaction, improve customer perception of service quality, and increase customer loyalty (Baran et al., 2008). CRM applied correctly leads to customer loyalty, and loyal customers are usually more profitable (Helkkula and Kelleher, 2010). To retain existing customers in the current economic climate where customers are lapsing their long-term insurance policies because of the unsure economic future, long-term insurance organisations will have to understand how trust, commitment, two-way communication and conflict handling through the application of CRM can contribute to customer loyalty. Larger portions of long-term customers than short-term customers exhibit high profitability, therefore the theory of an overall positive connection between customer loyalty and profitability cannot be rejected (Leverin & Liljander, 2006). Long-term insurance organisations will not be able to survive for much longer in the competitive long-term insurance industry, battling the global recession, if they do not understand the importance of these variables influencing their CRM, and how they can improve customer loyalty. This paper will focus on the importance for long-term insurance organisations to better understand the need for CRM, and how that will lead to customer loyalty. The problem statement therefore refers to an investigation into the influence of CRM on customer loyalty at a long-term insurance organisation in South Africa.

Service organisations can benefit from CRM, as customers focus on the service aspect and interaction with the service provider when evaluating a service organisation, as no physical product is involved (Rootman, 2006). Long-term insurance organisations need to be aware of the importance of CRM in ensuring customer loyalty. This would assist long-term insurance organisations in applying a CRM process that will strengthen customer loyalty and increase market share in South Africa.

## **RESEARCH OBJECTIVE AND HYPOTHESES**

The objective of this paper is to investigate the influence of CRM on customer loyalty at a long-term insurance organisation in South Africa.

To give effect to the problem statement, the following null hypothesis was formulated, stating that no relationships exist. An alternative hypothesis was also formulated stating that the relationships exist.

HO<sup>1</sup>: There is no relationship between CRM and intentional customer loyalty at a long-term insurance organisation in South Africa.

HA<sup>1</sup>: There is a relationship between CRM and intentional customer loyalty at a long-term insurance organisation in South Africa.

## **RESEARCH METHODOLOGY**

This study was conducted in two phases, the first phase focused on qualitative research, and the second phase focused on a quantitative research approach. A focus group interview was held with a manager of the Customer Walk-in-Centre in Johannesburg, and two other senior managers responsible for customer relationships at a long-term insurance organisation. The focus group interview assisted the researcher in developing the questionnaire and provided the desired information on CRM and customer loyalty from a long-term insurer's viewpoint (Rootman, 2006). The questionnaire was used during the quantitative phase of the research. The reason for quantitative data is that it is easy to interpret the results in simple conclusions (Zikmund & Babin, 2007: 83). Taking into consideration the nature of the research, the problem statement and all other related matters regarding the research, the research was descriptive. A structured questionnaire survey was used to collect data for this research, and this process was administered by conducting personal interviews. The questionnaire included self-developed items, as well as items from questionnaires used in previous research. The population of the research consists of the long-term insurer's entire individual, natural person, customers who visited Customer Walk-in-Centres in the Gauteng (Johannesburg and Pretoria), Kwazulu-Natal (Durban) and Western Cape (Cape Town) provinces of South Africa. For the purpose of this study a probability sampling method was used. Stratified sampling, followed by simple random sampling was used in this study. The reason for selecting this sampling technique was that the sampling frame of the study was divided into subgroups, strata, and the sampling process was performed separately on each stratum. Stratified samples are the most statistically efficient, and they allow the investigation of the characteristics of the interest for particular subgroups within the population (Churchill & Iacobucci, 2005). The sample size selection of this study was twofold. Firstly, the sample was based on the percentage of customers visiting Customer Walk-in-Centres presented as a portion of the total number of customers visiting these centres. Secondly, the percentage was applied to 254 customers of the long-term insurer entering the Customer Walk-in-Centres in Johannesburg, Pretoria, Cape Town and Durban in South Africa.

The research instrument, a questionnaire, was pre-tested in a pilot study involving five customers in the Customer Walk-in-Centre in Johannesburg. Reliability and validity are the hallmarks of good measurement and the keys to assessing the trustworthiness of any research conducted. The reliability measurement for this study was the internal consistency reliability test. Reliability tests whether the questionnaire will measure the same thing more than once and result in the same outcome every time (Cant, Gerber-Nel, Nel & Kotze, 2005; Ndubisi & Wah, 2005). The extent to which a particular measure is free from both systematic and random error indicates the validity of the measure. In this study exploratory factor analysis, utilising the Varimax with Kaiser Normalisation was performed to assess the discriminant validity of the questionnaire. Validity was also confirmed by conducting the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity (Madiba, 2009). The statistical analysis that was used in the study included a multiple regression analysis to test the hypotheses formulated for the study, and an analysis of variance test (ANOVA). The rotation of the factor matrix was also performed to assess the discriminant validity of the measuring instrument.

## **FINDINGS**

The findings of the empirical investigation are presented in the following section. Firstly, this paper will look at reliability, then validity, and lastly the findings of the multiple regression analyses will be discussed.

## Reliability

The internal consistency reliability test compares different samples of the items being used to measure a phenomenon, during the same time period. This can be done by means of a split-half reliability test, also known as the coefficient alpha or Cronbach's alpha, and results exceeding 0.60 will reflect the lower level of acceptability (Ndubisi & Wah, 2005). The reliability statistics for the questionnaire are presented in Table 1.

**Table 1 Reliability statistics**

Constructs	Cronbach's Alpha
CRM	0.941
Loyalty	0.970
CRM and its influences on Loyalty	0.918

It is evident in Table 1 that Cronbach's alpha for all three constructs are above the lower limit of acceptability, 0.60. This confirms that the measurement set used in the study was reliable.

## Relationship between CRM and customer loyalty

Organisations adopt CRM for a number of reasons, but most noticeably it is employed to increase customer satisfaction and customer retention or loyalty. The relationship with the customer can be exploited by the organisation through cross-selling, extension selling, or by some other transaction offering additional income to the organisation (Biedenbach and Marell, 2010). The study revealed that the majority of customers (45.01%) strongly agree that there is a relationship between CRM and intentional customer loyalty at a long-term insurance organisation in South Africa. All the dimensions of the study had a high structural correlation. The empirical results indicate a positive relationship between CRM and intentional customer loyalty at a long-term insurance organisation in South Africa. The study is consistent with Botha and van Rensburg (2010) and Du Plessis et al. (2005), who state that CRM is based on an organisation's effort to develop long-term, mutually beneficial links with customers. Thus, if a long-term life insurance organisation has high quality relationships with customers, it will end up with more loyal customers. Kotler and Keller (2006) agree by stating that maximising customer value means cultivating long-term customer relationships. Therefore, if a life insurance provider is committed, trustworthy, communicates timely and accurately and is skilled in conflict handling, greater loyalty will be created among customers. These findings corroborate the findings of the study of Ndubisi (Ndubisi, 2007).

A multiple regression analysis was performed to assess the relationship between CRM and customer loyalty. The results are reflected in Table 2.

**Table 2 Influence of CRM on customer loyalty**

Dependent variable Customer Loyalty					
Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	503.073	1	503.073	1019.925	0.000
Residual	124.298	252	0.493		
Total	627.371	253			
	R <sup>2</sup>				
	0.802				
Model	Standardised coefficients, Beta	T	Sig.		
(Constant)		1.691	0.092		
CRM	0.895	31.936	0.000		

Table 2 indicates that CRM positively influenced the dependent variable customer loyalty. The relationship between CRM and customer loyalty is significant at  $p = 0.000$ .

This relationship implied that if the long-term insurance organisation successfully maintained relationships with its customers, intentional customer loyalty at the long-term insurance organisation will increase. Table 2 further indicates that CRM in the multiple regression analysis explained 80.2% of the variance ( $R^2$ ) in the dependent variable. In other words, it can be said that 80.2% of a possible change in the level of customer loyalty in the long-term insurance organisation is caused by CRM. Finally, Table 2 illustrates that one unit increase in CRM will increase customer loyalty with 89.5% when considering Beta.

The hypothesis  $H_0^1$  which states that there is no relationship between CRM and intentional customer loyalty at the long-term insurance organisation in South Africa is rejected. The hypothesis  $H_A^1$  which states that there is a relationship between CRM and intentional customer loyalty at the long-term insurance organisation in South Africa is accepted.

## MANAGEMENT IMPLICATIONS

The empirical results imply that a long-term insurance organisation can improve and maintain its relationships between the organisation and customers if the long-term insurance organisation exhibits trustworthy behaviour and shows genuine commitment to service. A long-term insurance organisation should develop training session to inform employees that the core CRM processes are customer acquisition, customer retention and customer development. Just as a customer acquisition strategy aims to increase the customer base, the focus of customer retention is to keep a high proportion of current customers by reducing customer defections. The long-term insurance organisation should launch a customer development strategy which aims to increase the value of retained customers. A long-term insurance organisation should retain and develop loyal customers by being trustworthy and committed to service delivery. In order to maintain relationships with customers and to retain loyal customers, a long-term insurance organisation can give special benefits to loyal customers, for example lowering policy charges when new policy agreements are entered into, and charging less administrative fees for managing investments. It is clear from the empirical studies that only one unit increase in CRM at the long-term insurance organisation can increase customer loyalty with 89.5%. A long-term insurance organisation should ensure that CRM, and therefore customer loyalty, increases by delivering high quality and high value products and services. The policies and other services should deliver on promises.

A long-term insurance organisation should train employees to understand that every single contact with a customer must count. Customers' first impressions are the ones they remember, therefore frontline employees should be equipped to ensure a positive first experience. This is the best way to acquire loyal customers. A long-term insurance organisation must know its customers. Loyalty schemes equivalent to Discovery's Vitality Programme can be introduced by a long-term insurance organisation. This loyalty programme will not only contribute to obtaining a bigger share of the wallet of the customer, but can also be used to obtain more information about customers. A long-term insurance organisation must build a system linked to its policy master that will inform management when customers defect. These customers should be contacted immediately and asked why they intend leaving the long-term insurance organisation, and determine if anything can be done to rectify the reason why the customer is not happy. A long-term insurance organisation must deliver excellent customer services and the particular experience a customer has with customer service will influence how the customer feels about a long-term insurance organisation. A long-term insurance organisation should always do the unexpected, and that is to treat customers well. Unfortunately, most customers today expect to be ignored or mistreated. A long-term insurance organisation can request senior managers to phone clients personally to thank them for their support or give reasons for a mistake made, and indicate what the long-term insurance organisation is doing to rectify the mistake. A long-term insurance organisation should use its customer database to maximise the personalisation of offers to customers. Should a long-term insurance organisation be able to implement the recommendations, customer loyalty will increase, which will lead to higher profits and will give a long-term insurance organisation a sustainable competitive advantage.

## CONCLUSIONS

It is important to note that, although the research was conducted in four major centres in South Africa at one long-term insurance organisation, the findings and recommendations may be applicable to other long-term insurance organisation in South Africa due to the uniformity of services on offer. This research succeeded in

highlighting the importance of CRM when predicting customer loyalty at a long-term insurance organisation in South Africa. Organisations adopt CRM for a number of reasons, but most noticeably it is employed to increase customer satisfaction and customer retention/ or loyalty. The relationship with the customer can be exploited by the organisation through cross-selling, extension selling, or by some other transaction offering additional income to the organisation. The study revealed that the majority of customers (45.01%) strongly agree that there is a relationship between CRM and intentional customer loyalty at a long-term insurance organisation in South Africa. Finally, the study concluded that there is a high structural correlation between CRM and customer loyalty.

## REFERENCES

- Alhabeeb, M.J. On consumer trust and product loyalty. *International Journal of Consumer Studies*. Vol. 31 (2007): 609-612.
- Baran, R.J., Galka, R.J. & Strunk, D.P. *Principles of customer relationship management*. Mason: Thomson South-Western, 2008.
- Berndt, A., Du Plessis, L., Klopper, H.B., Lubbe, I. & Roberts-Lombard, M. *Starting out in marketing*. Roodepoort: Future Vision Business Consultants., 2009.
- Biedenbach, G. & Marell, A. The impact of customer experience on brand equity in a business-to-business services setting. *Brand Management Journal*. Vol. 17, No. 6 (2010): 446-458.
- Botha, G.J. and van Rensburg, A.C. Proposed business process improvement model with integrated customer experience management. *South African Journal of Industrial Engineering*. Vol. 2, No. 1 (2010): 45-57.
- Cant, M., Gerber-Nel, C., Nel, D. & Kotze, T. *Marketing Research*. 2<sup>nd</sup> edition. Claremont: New Africa Books., 2005.
- Churchill, G.A. & Iacobucci, D. *Marketing Research Methodological Foundations*. 9<sup>th</sup> edition. Mason: South-Western Thomson., 2005.
- Datamonitor. *Country analysis report, South Africa*. n.p.: Datamonitor., 2008.
- Helkkula, A. & Kelleher, C. Circularity of customer service experience and customer perceived value. *Journal of Customer Behaviour*, Vol. 9, No 1 (2010):: 37-53.
- Kim, K.H., Kim, K.S., Kim, D.Y., Kim, J.H. & Kang, S.H. Brand equity in hospital marketing. *Journal of Organisation Research*, Vol. 61 (2008):75–82.
- Kotler, P. & Keller, K.L. *Marketing Management*. 12<sup>th</sup> edition. New Jersey: Pearson Prentice Hall., 2006.
- Lehmuskallio, S. Intranet editors as corporate gatekeepers and agenda setters. *Corporate Communications: An International Journal*. Vol. 13, No. 1 (2009):95-111.
- Leverin, A. & Liljander, V. Does relationship marketing improve customer relationship satisfaction and loyalty?. *International journal of bank marketing*, Vol. 24, No 4 (2006):232-251.
- Liberty Holdings Limited. *Liberty Holdings Limited, annual report 2008*. Johannesburg: Liberty Holdings Limited., 2009.
- Life Offices Association. *Half-yearly statistics – circular 60/2007*. Cape Town: Life Offices Association., 2007.

- Madiba, G. *The influence of the elements of the extended marketing mix on consumers' intention to purchase at a fast-food retail chain in Johannesburg*. Unpublished master's dissertation. Johannesburg: University of Johannesburg., 2009.
- Ndubisi, N.O. Relationship marketing and customer loyalty. *Marketing Intelligence & Planning*, Vol. 25, No. 1(2007):98-106.
- Ndubisi, N.O. & Wah, C.K. Factorial and discriminant analyses of the underpinnings of relationship marketing and customer satisfaction. *International Journal of Bank Marketing*, Vol. 23, No. 7(2005):542-557.
- Norusis, M. *SPSS 12.0 Statistical procedures companion*. New Jersey: Pearson Prentice Hall., 2003.
- Read, B. Top Tips To Build and Keep Customer Loyalty With CRM. *Customer Inter@ction Solutions*, Vol. 27, No. 9 (2009):26-28.
- Rootman, C. *The influence of customer relationship management on the service quality of banks*. Unpublished master's dissertation. Port Elizabeth: Nelson Mandela Metropolitan University.,2006.
- Tsai, M-T., Tsai, C-L. & Chang, H-C. The effect of customer value, customer satisfaction, and switching costs on customer loyalty: An empirical study of hypermarkets in Taiwan. *Social Behaviour and Personality Journal*, Vol. 8, No 6 (2010):729-740.
- Tynan, C. and McKechnie, S. Experience marketing: a review and reassessment. *Journal of Marketing Management*. Vol. 25, No. 5 (2009): 501-517.
- Van Doorn, J. & Verhoef, P.C. Critical incidents and the impact of satisfaction on customer share. *Journal of Marketing*. Vol. 72 (July 2008): 123-142.
- Zikmund, W.G. & Babin, B.J. *Essentials of marketing research*. 3<sup>rd</sup> edition. Mason: Thomson South., 2007.

# **ON-LINE DESIGN AND EMOTIONAL BRANDING: ARGUING A CASE FOR SPIRITUAL TRAVEL AGENTS**

**Mornay Roberts-Lombard , University of Johannesburg, South Africa  
Ray Holland and Anar Mensikotora, Brunel University, United Kingdom**

## **ABSTRACT**

*In recent years, branding strategists have been talking more about emotions, human factor and two-way customer communication that can enhance the way brands communicate and express themselves and their values and create lasting relationships with customers. There are certain types of brands that epitomise evidence of the existence of more than just emotional connection between the brand and a consumer. These brands are respected, loved and understood. These brands are more than tangibles. In recent decades social consciousness in western countries has evolved much, scandals around cheap labour exploitation by mega brands such as Nike and Gap showed that people expect more from brands, and that customers genuinely care about the truth and strong and genuine philosophy behind the brand. Research methods such as a literature review, qualitative interviews, customer journeys and focus groups were applied in order to find main customer preferences and expectations and indicate whether the brands within the spiritual travel industry do compliment these needs and expectations. Today's brands are seeking to become more personally and emotionally engaged with a customer, they aim to take a place in the mind and heart of its audience and so win their loyalty. Therefore, for a spiritual travel agent it is very important to have a personal approach and encourage trust as it deals with a very personal subject – the spiritual development of an individual. The majority of spiritual travel agents are based on-line, however most of these do not realise the importance of on-line-branding and design in creating an impressive and memorable customer experience and differentiating themselves from competitors. The main issues discussed in this paper are the possibility of forming a deeper connection between a brand with a strong set of spiritual values and a customer, how this message can be sent, and in what ways it can be communicated.*

## **INTRODUCTION**

Experiential marketing, emotional branding and deeper connection are new keywords for a successful brand in the modern world. The greater need for differentiation and social trends has pushed the limits of what the brands represented approximately 20-30 years ago (Holt, 2002). Function is no longer the differentiator, what customers are looking for, is meaning. Ever since the 1990s there has been a general interest in New Age practices, various books were published and spiritual techniques were brought from the East into Western countries, including America, where 'spiritual hunger' made people look for the deeper meaning of their existence (Wind, 2009). With increased wealth people also seek outward signs of social respectability, which is expressed by participating in rituals such as worship and religious practices. Tourism is a major area that can contribute to satisfying deeper human needs, many people use trips to faraway countries to explore the world and find their 'true self'. Spiritual tourism is a niche market that attracts more and more customers, especially from the Western world. Tibet and India have been spiritual tourism destinations for centuries, however, in recent years spiritual tourism destinations can be found almost everywhere (Wind, 2009 & De Mooij, 2004).

Previous research argued that spirituality in branding is mainly expressed through humanistic messages, Corporate Social Responsibility (CSR) and ethical business practices. The so-called 'conscious consumerism' trend in the Western world can clearly be linked to the need for intangible values in society. It would, however, be wrong to say that every brand that is ethical and humanistic is somehow spiritual (Czellar & Laurent, 2005; BCG, 2004 & Shenkar & Yuchtman, 1997). Therefore, brands in spiritual tourism that 'sell spiritual

experiences' and that have spiritual values that are much more than Corporate Social Responsibility (CSR) brands were investigated in this paper. From the research in this paper it became apparent that spiritual branding is broader than ethical or CSR branding. Although conscious consumerism might imply a higher development in societal value systems and global responsibility, spiritual in the original meaning of the word is much more than that. More people are looking for spiritual experiences and development. Many find it through such popular practices as Yoga and Meditation, some engage in 'self-seeking' travelling mostly to developing countries, such as India, Thailand, Peru, Tibet and other popular destinations to live simpler lives and find simpler happiness. This research paper aims to help build a successful on-line-based spiritual travel agent brand by enhancing trust, and encouraging more differentiation to improve customer experience and seek to create a framework for building trust and differentiation into such a brand. This paper would be of great help for start-up and existing businesses specialising in spiritual travel and spirituality, and to brand consultants and assist students researching this topic.

## **LITERATURE REVIEW**

### **Exploring emotional branding**

Emotional branding is the organisational-wide pursuit of a sustainable connection that makes customers feel so valued and cared for that they will go out of their way to be loyal. It elevates emotion to the strategic level, recognising its importance in creating a relevant brand identity and managing the consumer's experience. Emotional branding experience is reflected in every stage of the customer life cycle – from acquisition to activation, retention to reactivation (Robinette, Brand & Lenz, 2001). The strongest brand identities both functional and emotional benefits (Aaker, 2002). Emotional branding has almost become a buzz-word in branding in recent years. Emotional branding, unlike 'rational' Unique Selling Points (USPs), provides more emotional than functional benefits. Many fashion, perfume and cosmetics brands use emotional branding to tap into the mind of a person, stimulate emotion and create certain feelings that are associated with a brand (Powel 2007 and Robinette et al., 2001). Brands such as Nike have successfully used emotional branding in its advertisements. Neumeier (2006) states that When Nike folks say, 'Just do it,' they're peering into my soul. I begin to feel that, if they understand me that well, their shoes are probably pretty good. I'm then willing to join the tribe of Nike'. Many product/service choices we make in our daily life are based on personal attraction to a product or service of a specific brand. A successful brand communicates its values effectively, and so manages to take a 'mind space' in consumers' minds thus being able to recall certain emotions that the brand wants to be associated with. Kotler and Armstrong (2010) argue that people are more responsive to emotional messages than to rational ones, as human beings are led by emotion. According to Roberts (2004), emotions are a serious opportunity to get in touch with consumers. And best of all, emotion is an unlimited resource. It's always there - waiting to be tapped with new ideas, new inspirations and new experiences.

### **Five senses**

Roberts (2005) stipulates that the senses are the fast track to human emotions. Brands have realised the importance of sensorial communication in creating certain brand associations and personal experiences for their customers in retail, cyberspace and other brand touchpoints that would consistently send the brand messages. Some examples are Intel's famous sound by which people recognise that a computer has the 'Intel Inside', without even seeing it, or smelling aromatic candles in Spa salons that create a certain mood and recall emotions, such as calmness and relaxation - all of these factors help people to differentiate brands and make them memorable (Lindstrom, 2005). Lindstrom (2005) argues that the five senses identified above are important in any form of communication and life experience which links to memory and can tap into emotion. However, sounds, smell, images and colours can all contribute to reflecting a brand's identity in a unique and engaging manner to a customer. Earlier research found that fast music influences customers in the shop by making them buy more and slow or classic music can make customers spend less. Music can also reflect the personality of a brand, for example, high-end luxury brands might use classical music in their shops more than brands that target teenagers (Aburdene, 2005).

### **Trust**

Honesty is expected. Trust is engaging and intimate. It needs to be earned. Trust is very important in branding, especially when it deals with such an intimate and personal subject as spirituality. A lack of trust can destroy the brand, but its presence can encourage greater customer loyalty (Best, 2006 & Gobe, 2001). Ind (2003) states that with regard to interactions between people and organisations, there has to be a congruency between what is offered and what is delivered. This is the basis of trust. However many brands, especially in the service sector, need to encourage trust by the way they communicate to a consumer before the purchase. Building trust within cyberspace is not an easy virtue. The following guidelines can help an organisation to build trust into an on-line-based brand, namely, make the website simple, but informative, use endorsements and testimonials, anticipate every question, confirm and add real people (Lindstrom, 2005).

## **Social Trends**

A social trend is one of openness and exploration. It seems that people are seeking direct experience as opposed to dogma and the freedom to take meaning where they find it, from a mixture of traditions. Generation X & Y (individuals estimated to be between the ages of 12 and 50 years) are now showing a decided predilection for Eastern mysticism (El-Amir, 2010 & Gobe, 2001). According to Megatrends 2010, Colorado's Shambhala Mountain Center, had 1,342 visitors in 1998, compared to 15,000 in 2003. The stress of the materialistic world and isolation caused by a lack of free time and changing dynamics of lifestyle caused the need for alternative holidays. Eastern philosophy started expanding throughout developed countries and adapted in a more simple way for the general public's understanding and to fit their lifestyle (Aburdene, 2005). Gobe (2002) states that there is a trend in 'Soul Seeking through Sensation', 'This trend is about the impassioned need people today have to actively seek sensations to feel their "aliveness" and gain a deeper sense of themselves, whether through the wild adventure of extreme sports or relatively tame activities that involve indulging in experiences that wake up the senses – and everything in between.

## **Nature of spirituality**

The meaning of spirituality has become broader in recent years. If the traditional meaning of spirituality was associated with religion, it has now shifted to a more broad concept of 'spiritual individualism', when a person follows his/her instincts, inner thoughts, experiences, needs and understanding of life and the world. Spirituality is personal and individual. A person can be spiritual without belonging to any specific traditional religion. Spirituality is defined as "life and consciousness away from the body" (Olins, 2007 & Ries & Trout, 2000). Eastern spirituality was brought to Europe in 1970 and has since become a part of the popular culture. Practices such as yoga and meditation are very popular among people of different ages and backgrounds (Ries, 2003)

## **Spirituality in branding**

Most importantly, the biggest misconception in branding strategies is the belief that branding is about market share, when it is really always about mind and emotions shared (Gobe, 2001). Many brands are aiming to reflect spiritual benefits in its products such as Aveda that offers 'Chakra 5' calming perfume, Origins that sells a 'mind relaxing' chewing gum, or Evolution that specialises in homeware, lucky charms and ethical jewellery inspired by the Buddhist culture Oprah Winfrey has built her phenomenal success by smartly tapping into this customer's need to be viewed and addressed in a holistic manner. Her new multifaceted lifestyle magazine O, which is rich in material for 'body, mind, and soul' and seeks to help readers to become more of 'who they are,' is a testament to this philosophy' (Crosbie & Knight, 1995). A dissertation written by Tasuku Iwano, a former MA Design and Branding Strategies course student at Brunel University, explored the topic of brand spirituality. In the study the areas of conscious consumerism, ethical brands with high values and brand culture were researched. The researcher concluded that brand spirituality can be expressed through strong humanistic values expressed by a certain brand and how these values are embedded into a brand culture. The research has also found that the manner in which society in modern days expresses its need for spirituality can be seen in a rising trend for ethical brands and cause-related marketing.

## **Spiritual tourism**

Spiritual tourism has now evolved from being associated with religion into a more holistic way of maintaining good physical and spiritual well-being that can suit anyone. A person does not have to be religious in order to visit a spiritual site or go on yoga holidays. Eastern philosophy is highly popular due to its 'open-minded' approach to such a personal subject, and many Eastern practices have a significantly good influence on a person's physical and mental well-being. Hundreds of different therapies that have taken their roots from religious and ancient forms of therapies are now evolving and being transformed to suit the busy lifestyle of people. Yoga and meditation have become mainstream and are being practiced not only in Buddhist ashrams (temples), but also in regular gyms and spas. Across the cultural landscape, there is plenty of evidence of this growing trend (Kapferer, 2008). There are now more than 10 000 New Age bookstores throughout the United Kingdom (UK) and South Africa (RSA) respectively, but one can also flip through such mainstream magazines such as Time, Woman's Day, Spirituality in Essence and De Kat to witness it. Spiritual retreats have become a vacation alternative. Spirituality is becoming more acceptable than ever before. Spiritual, also known as holistic holidays, are aimed at both religious and non-religious people. These holidays can have exploratory, philosophical, religious and community character to them. (De Mooij, 2004).

The need for a deeper meaning in one's life is a natural way of evolution of human consciousness. Ind (2003) states that a simple trilogy that Straker and Rawlinson derive from Maslow and evolutionary needs, and which is very relevant to questions of brand, is the need for a sense of control, the need for a sense of identity and the need for novelty. 'The inclusive tour, typical of mass tourism of the past 30 years, is becoming outmoded (Kunde, 2002). The Key Note Market Report (2007a) stipulates that there is growing evidence that more tourists desire individual expression, more possibilities to learn something new, and greater activity. Most of niche tourist agencies that specialise in holistic/spiritual tours operate on-line due to convenience and the low cost which this type of retail offers. There is therefore a big trend globally in on-line holiday purchases and the growing number of people purchasing holidays on the Web shows that it is also convenient to customers. In addition, there is also growing evidence that more tourists desire individual expression, more possibilities to learn something new, and greater activity (Lindstrom, 2005). Most of niche tourist agencies that specialise in holistic/spiritual tours operate on-line due to convenience and the low cost that this type of retail offers. Spiritual (holistic holidays) travel agents, are easier to find on the Web, however there is an evident need for such travel agents to use a strategy which could be applied to make their business model more successful, and enhance trust and deliver more differentiation, as there is an evident lack of such (Key Note Market Report, 2007b). The branding of spiritual travel agents therefore needs to be more focused on what their brand stands for, what their brand values are, and what associations they would like to create in the consumer's mind (Neumeier, 2006).

## **AIM AND OBJECTIVES OF THE RESEARCH**

Creating a strategic model for differentiation and building trust for on-line based spiritual (holistic) holiday travel agencies.

- The first objective which aims to investigate current strategies that spiritual brands and travel agents employ to differentiate themselves from competitors and build trust, was achieved through the conduction off both primary and secondary research, such as a literature review, case studies, observation and qualitative interviews with professionals from the spiritual travel industry.
- The process of reaching the second objective, namely to conduct industry, brand consultancy and user research to find out the existing and suggested branding strategies for a spiritual travel agent was reached through the conduction of qualitative interviews with four customers, three spiritual travel agents, four brand consultants, one experiential marketing consultant, two-stage customer surveys and focus groups, and the outcomes were later compared with the current strategies implemented in industry to see the advantages, disadvantages and opportunities for spiritual brands.
- The third objective was reached when the 5-D Spiritual Brand and On-line Trust Building models were developed and evolved into a further framework for building a spiritual travel agency brand.

## METHODOLOGY

Having read previous works of well-known brand strategists, former MA Design & Branding Strategy students, journals, newspapers and on-line resources enabled the researcher to understand the popularity of the topic being researched and find the views of experts on the issues of Emotional and Spiritual Branding, Corporate Social Responsibility, Tourism Industry Dynamics and Spirituality as a whole. Several tools and frameworks from the branding theory have been used to analyse and evaluate brands in case studies, and later to further develop some of the models according to the findings made. Some of the sources included 4-D Branding by T. Gad, Emotional Branding by M. Gobe, Strategic Brand Management by J. N. Kapferer, Unique Now or Never by J. Kunde, Megatrends 2010, Soul and Spirit magazine and Design Management journals. A focus group was used in order to understand the meaning of spirituality and brand spirituality as defined by a group of people. It enabled the researcher to understand customer expectations, opinions, assumptions, design preferences and certain associations with the topic. Different visuals were also used in a focus group to evaluate the preferences of certain websites and reasons behind these perceptions. Participants were also asked to create mood boards of their own depicting what they perceive as spiritual. Focus groups are undoubtedly valuable when in-depth information is needed about how people think about an issue – their reasoning about why things are as they are and why they hold the views they do (Coldwell & Herbst, 2004). Interviews are a great opportunity for direct involvement with a customer or an expert, whose opinions are important in gaining the insight into an individuals' knowledge and attitudes towards a chosen topic. Qualitative interviews enabled the researcher to research these opinions in more depth by guiding the interviewee through adapted questions. Qualitative interviews can assist with the finding of answers to 'Why?' questions that have arisen from previous pilot surveys. One major advantage of the interview technique is its adaptability. A skilful interviewer can follow up on ideas, probe responses and investigate motives and feelings, which the questionnaire can never do (Bell, 2005). Qualitative interviews were conducted with four customers, three spiritual travel agencies, namely Unique Travel, Neal's Yard Agency and Yoga Ashram Rishikesh in London, four design consultancies in London and Oxford, including Etal Design, Bloom Design, FHD London, and the BlazinStar experiential marketing consultancy. Semi-structured interviews were suitable for the study because they give an opportunity to find out more information about certain areas that the interviewee might have more expertise in. It also allows the researcher to ask the right questions from the respondents depending on their experience and knowledge. Semi-structured customer interviews assisted to adapt questions to each interviewees' perceptions and experiences in spiritual tourism. It was also selected/regarded the most suitable type of interview, because the motivations of the respondents were different when going on a spiritual holiday, for some it was religion, for others spiritual growth and a getaway from the everyday routine.

## STRATEGIC DESIGN AND BRANDING INTEGRATION

The research revealed that a spiritual brand has to start with brand philosophy that is deep and reaches for human consciousness. A brand philosophy makes you think and feel at the same time. Emotional Branding is the key to communicating with a customer on a deeper personal level. Through an emotional approach and sensory elements, the creation of a spiritual experience becomes possible and builds a memorable customer experience. Spirit and emotion are inseparable. They go hand in hand. Destinations and settings are very important for a customer, it also reflects the type of spirituality the brand wants to communicate. Customers prefer visually appealing places to spend their holidays. The majority of customers are also interested in visiting destinations with a rich historical and cultural focus. Cultural-spiritual tours are among the most preferred by these customers. In terms of website design, the aspect of 'spiritual' has to be reflected in nature, earthy, fresh and natural colours, white, blue, green and brown. The overall style of the website has to be pure and simple, with many visuals and pictures of real people. The first page of the website (Home page) has to be more visual than informative, and the rest of the website should be easy to navigate, as navigation is highly important. It also has to be both visual and informative. Interactive website features are also preferred, programmes of tours should also be provided by a travel agent. Helping tips, such as blogs, currency exchange rates, detailed tour programmes and virtual tours are needed for the convenience of customers. Sensory branding is what makes a brand experience unique. Music plays an important role in evoking and heightening positive emotions. Sound branding should be used more often to trigger emotions and bring more differentiation to the website. Only one website from all visited used music as one of the ways to represent the brand, namely the website of the Shymala

Ayurveda Spa. This is therefore evidence of sensory design being undervalued among on-line spiritual brands. Many customers would prefer to engage with the local community at the destination to experience their lifestyle. These people mostly want to discover the place themselves without being led. Travel agents should provide guidance for a holiday and allow customers to have control. This implies that spiritual tourists prefer to be in charge for packaging their own holiday on-line, whether using the same travel agent website or different ones. Therefore spiritual travel agents should focus on offering not only packaged tours such as the packages that they currently offer, but flight and hotel booking facilities on the websites as well. Independent travellers also want to be directed by the travel agent, so that they could have more confidence and freedom at the destination, pre-holiday talks and local maps should be provided to those travellers. Consistent and quality Design, Word-Of-Mouth and Reviews must reflect brand essence and build trust on-line. Travel agents need to differentiate to attract customers. Differentiation can be reached through vision, positioning and emotional design. The message sent to an audience has to be consistent throughout all touch points. A spiritual brand is most importantly a personal brand, mass-media advertising is not suitable, but Word-of-mouth, thematic media, magazines and events such as the Mind Body Spirit Festival in London are more suitable. Spirituality is not mass-market orientated, therefore the service has to be exclusive, even elitist. Social networking websites better not be used, however, the travel agency can create its own networking website or a special section for networking for like-minded people. Storytelling and visuals evoke trust and interest. More blogs, reviews and on-line diaries for sharing personal experiences are needed. More spiritual travel agent brands should take an example set by Amazon regarding the customisation of the brand. This is a highly convenient feature that allows a customer to spend less time searching, and makes him/her feel more 'cared for'. A spiritual brand has to be ethical. It is a natural way to follow for such a brand. Whether it is encouraging recycling, practicing eco-tourism, helping local communities or supporting charities, these actions have to be coherent with a brand's core values, philosophy and vision. Brand extensions suitable for a spiritual travel agency are meditation and yoga workshops, talks on spirituality, charity projects, spa salons and certain products such as aromatherapy candles and Buddha statues.

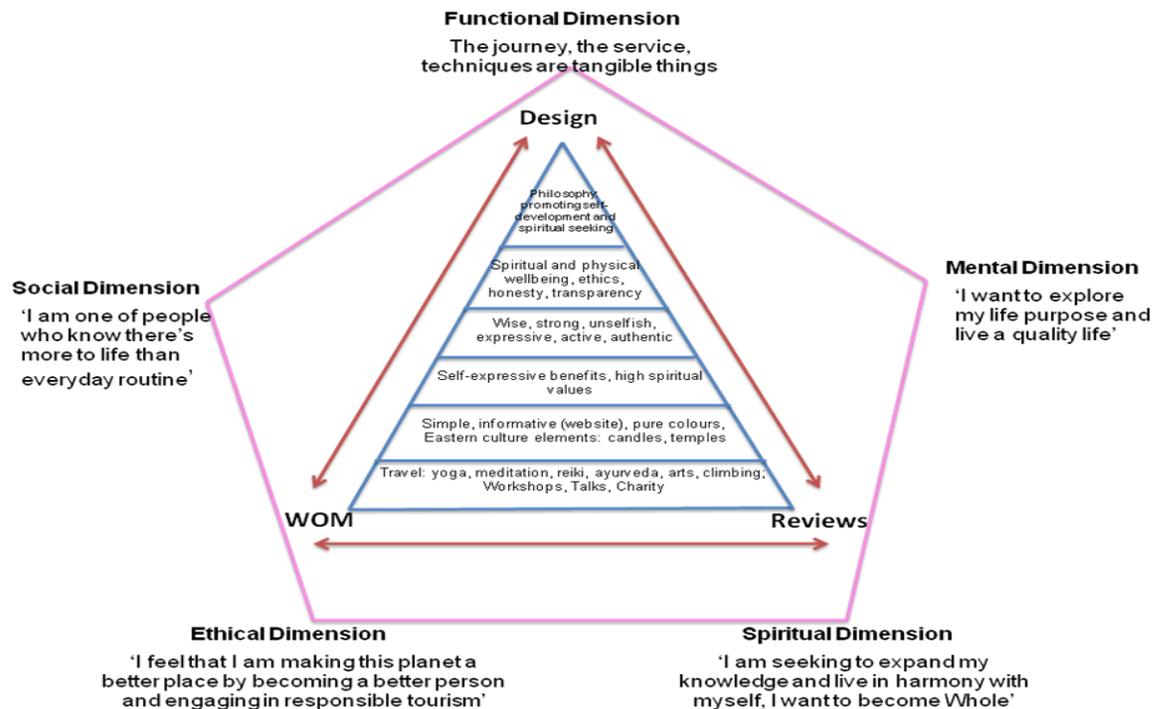
## **A strategic design and branding model for a spiritual travel agent**

The proposed on-line based travel agent brand model illustrated by figure 1 will enable travel agents specialising in spiritual holidays to build trust into their web space, create a holistic brand basis, including brand values, associations and features, and create a holistic brand mind space in the minds of customers. The model suggests that a brand system has to be at the basis of a spiritual brand, as it will provide guidelines for the building and communication of a brand. Website-based spiritual travel agents will need to create trust around its brand through a strategic use of design, reviews and generating word-of-mouth around the brand and its core values and philosophy in the brand system. All of these combined with five dimensions, which are spiritual, mental, social, ethical and functional will create a spiritual brand mind space in the mind of the customer. The model in Figure 1 was evaluated by Phil Cleaver from Etal Design.

## **CONCLUSIONS**

The research revealed that a spiritual brand has to start with a brand philosophy that is deep and reaches for human consciousness. It makes an individual think and feel simultaneously. Emotional branding is the key to communicating with a customer on a deeper personal level. Through an emotional approach and sensory elements, creating a spiritual experience becomes possible and builds a memorable customer experience. Spirit and emotion are inseparable. Destinations and settings are very important for a customer, they also reflects the type of spirituality the brand wants to communicate. Customers prefer visually appealing destinations to spend their holidays. People are furthermore also interested in visiting destinations with a rich history and culture. Many customers would prefer to engage with the local community at a destination, to experience their lifestyle. These individuals want to discover the place themselves without being guided by tour operators. Storytelling and visuals evoke trust and interest. More blogs, reviews and on-line diaries for sharing personal experiences are needed. A spiritual brand has to be ethical. Whether it is encouraging recycling, practicing eco-tourism, helping local communities or supporting charities, these actions have to be coherent with the brand's core values, philosophy and vision. Brand extensions suitable for a spiritual travel agent are meditation and yoga workshops, talks on spirituality, charity projects, spa salons, and certain products such as aromatherapy candles.

**Figure 1 A strategic design and branding model**



Source: Researcher's own construct

## REFERENCES

- Aaker, A. *Building Strong Brands*, Free Press. 2002.
- Aburdene, P. *Megatrends 2010*, Hampton Roads Pub. Co. 2005.
- BCG, *Trading Up: Update On Trends, Brands, and Practices – 2004 Research Update*, Report. 2004.
- Bell, J. *Doing your research project*, Open University Press. 2005.
- Best, K. *Design Management: Managing Design Strategy, Process and Implementation*. Switzerland: AVA Academia. 2006.
- Coldwell. D. & Herbst, F. *Business Research*. Lansdowne: Juta & Co. 2004.
- Crosbie, L.,B. Knight, K. *Strategy for Sustainable Business*, McGraw-Hill Book Company. 1995.
- De Mooij, M. *Consumer Behaviour and Culture, Consequences for Global Marketing and Advertising*, London: Sage Publications, Inc. 2004.
- Dubois, B., Czellar, S. & Laurent, G. Consumer segments based on attitudes toward luxury: Empirical evidence from twenty countries. *Marketing Letters*. Vol. 16, No.2 (2005): 115–128.
- El-Amir, A. & Burt, S. A critical account of the process of branding: towards a synthesis. *The Marketing Review*. Vol. 10, No. 1 (2010):69-86.
- Gad, T. *4-D Branding*. London: Kogan Page. 2001.

Gobe, M. *Emotional Branding: The New Paradigm for Connecting Brands to People*. New York: Allworth Press. 2011.

Gobe, M. *Citizen Brand*, London: Kogan Page. 2002.

Holt, D.B. Why Do Brands Cause Trouble? A Dialectical Theory of Consumer Culture and Branding. *Journal of Consumer Research*. Vol. 29 (June, 2002):70-90.

Kapferer, J.N. *The New Strategic Brand Management*. 4<sup>th</sup> ed, New York: Kogan Page. 2008.

Keller, K.L. Building strong brands in a modern marketing communications environment. *Journal of Marketing Communications*, Vol. 15, No. 2/3 (2009):139-155.

Key Note, *Market Review Report*. Tavel & Tourism. 2007a.

Key Note, *Market Report*. Travel Agents & Overseas Tour Operators. 2007b.

Kunde, J. *Unique Now or Never*, Financial Times, London: Prentice Hall. 2002.

Kotler P. & Armstrong, G. *Principles of Marketing – A Global and Southern African Edition*. Cape Town, Pearson Publishing. 2010.

Lindstrom, M. *Brand Sense*, New York: Kogan Page. 2005.

Neumeier, M. *The Brand Gap*, London: Aiga. 2006.

Olins, W. *Design and Branding Futures*. Lecture at Design Futures Seminar, Brunel University. 2007.

Powell, S. Organisational Marketing, identity and the creative brand. *Journal of Brand Management*, Vol. 15, No 1 (2007):41-56.

Ries, A. *22 Immutable Laws of Branding*. New York: Kogan Page. 2003.

Ries, A. S., Trout, J. *Positioning: Battle for your mind*, New York: McGraw-Hill. 2000.

Roberts, K. *Lovemarks*, New York: PowerHouseBook. 2004.

Robinette, S., Brand, C. & Lenz, V. *Emotion Marketing*. New York. McGraw-Hill. 2001.

Shenkar, O. E. & Yuchtman, Y. *Reputation, Image, Prestige and Goodwill: An Interdisciplinary Approach to Organizational Standing*. London: Human Relations Publications. 1997.

Webster, F.E. Marketing IS Management: The wisdom of Peter Drucker. *Journal of the Academy of Marketing Science*, Vol. 37, No. 1 (2009):20-27.

Wind J.Y. Rethinking marketing: Peter Drucker's challenge. *Journal of the Academy of Marketing Science*, Vol 37, Vol. 1 (2009):28-34.

# DEVELOPING A QUESTIONNAIRE TO PROFILE A HOSPITALITY SUPERVISOR

**Antoinette Roeloffze and Ilse Swarts**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*A competent supervisor enhances the success of an operation by meeting the needs of employees and guests. Successfully profiling the supervisor and identifying specific competencies is critical for the industry, as there is strong competition for financial and human resources capital. A major South African hotel group's 'performance standards' document was used to develop a relevant supervisor profile questionnaire. This document is based on the concept of 'leadership pipeline'- how to build the leadership-powered company. The category 'Manage other'-Operational/Specialist, of which the core purpose is to deliver frontline management, was used to develop the questionnaire. The population of this study will be supervisors from the same hotel group.*

## INTRODUCTION

As the hospitality industry is perceived as a people business, friendly and congenial reception of guests by hospitality employees is viewed as the heart of the industry. Employees need the ability to provide the quality of service and value guests expects. A further challenge is to find and retain employees. An aspiring candidate wishing to pursue a career in the tourism and hospitality industry, should take cognizance of the reality in an industry that is known for its long, demanding working hours. According to Emenheiser, Clay and Palakurhti (1998:1), successful managers need to possess a variety of talents, abilities and skills. Bowen and Ford (2004:394) confirm that those managerial skills needed for hospitality organisations and the managerial skills needed for organisations that produce tangible products, will be different.

Hospitality organisations are in competition with one another to provide high-quality, value-added service and products to their guests (Burke, 2001:28). The ability to deal with uncertainty and ambiguity in the workplace is only one of the many aspects that will require particular competencies of hospitality managers.

The work of a hospitality supervisor involves understanding customers' expectations and meeting those expectations in personalised and creative ways. Therefore successful supervisors need above-average interpersonal, problem-solving and self-management skills. The aims of this study are to compile the profile of a hospitality supervisor and to set-up a conceptual model of criteria for a selection process when appointing and training potential hospitality supervisors. It is imperative to ensure that those candidates who wish to pursue a career in the hospitality industry have a profile to match the requirements laid down by of the industry. Birdir (2002:4) states that hospitality organisations should develop and promote programmes which can be used to identify those employees who have an acceptable level of knowledge and skills regarding the principles and practices of the profession and related disciplines.

According to Greer (2001:14), careful selection is one tried method to retain front-line employees. Valid tests and improved interviewing procedures as part of the selection process, will go a long way towards better job matches, increased job satisfaction among employees and will minimize staff turnover. Charan, Drotter and Noel (2001:1) indicate that the demand for leadership exceeds the supply therefore organisations are attempting to hire 'stars' from sources outside their own pool of workers. Recruiting outsiders for certain positions can imply that the leadership pipeline in the organisation is dysfunctional, further indicating that internal training, mentoring and other developmental programmes are not keeping the pipeline supplied with

potential employees. A need for more leaders at the various levels of management requires that an organisation's management needs to build leaders by developing the average employee's potential. The supposition is that human beings have the ability to grow and that the average person's potential is not fixed. A society would not be able to achieve economic, as well as cultural progress, if this ability were not there. Charan, Drotter and Noel (2001:5) assert that work potential is based on accumulated skills and experience, as evidenced by past achievement, the ability to learn a new skill and the willingness of an employee to take on new challenges. For an organisation to capitalise on an employee's potential, there needs to be an appreciation of the true requirements at key leadership levels. Management needs to have an understanding of the necessary requirements/skills to ensure successful transition from one level to the next level.

## **BACKGROUND AND MOTIVATION**

### **Employment opportunities in the hospitality industry in South Africa**

South Africa, having recently emerged from international isolation, is a country boasting beautiful and unique natural attractions. According to the Tourism, Hospitality, and Sport Education and Training Authority (THETA, 2003:2), the South African Government has identified the tourism, hospitality and sports sectors as the fastest growing industries in South Africa with enormous potential for economic growth, which could lead to unprecedented employment opportunities in the hospitality industry (THETA, 2003:2).

The South African Government expects tourism to increase its contribution to the gross domestic product (GDP) from 8 % in 2005 to 12 % in 2010 (SSA, 2007:12). In terms of these targets, 500 000 new will be created in the next five years (South African Government Information, 2008). The major stakeholders in the South African economy (Industry, Labour and Government) are unanimous on the issues that the skills level of the workforce in South Africa needs to be upgraded. By upgrading the skills of the workforce, the economy could develop to such an extent that more work opportunities and increased life benefits for all South Africans would result (SSA, 2007:7).

Government views the tourism, hospitality and sports industries as a means to create employment opportunities at many levels thereby helping to redress the situation of previously disadvantaged individuals. It aims to develop the tourism, hospitality and sports sectors nationally to open up job opportunities. The stakeholders in these industries are encouraged to establish enterprises that will provide more employment. Creating more jobs in the South African tourism sector could lead to improved service delivery, increased capacity and skills development and upgrading of skills through training (SSA, 2007:7).

The *South African Qualifications Authority (SAQA) Act, no. 58 of 1995* and the *Skills Development Act, no. 97 of 1998*, provided establishments in the tourism, hospitality and sports sectors with opportunities to upgrade the skills level of employees, and to provide education and training for employees in the industry. In addition, Employment Equity legislation has created opportunities for previously disadvantaged sections of the workforce to advance to supervisory and management-levels (THETA, 2003:2). This trend is set to continue due to political pressure and social pressure in the country (THETA, 2003:2). In 2005, when Thabo Mbeki was president (SSA, 2007:12), the South African Government launched the Accelerated and Shared Growth Initiative for South Africa (AsgiSA), that had two main objectives:

- To reduce poverty and unemployment by 50, 0% by the year 2014; and
- To enable South Africa to achieve and sustain average economic growth rates of 4. 5% between 2005 and 2009, and 6. 0% between 2010 and 2014

### **Current skills status of employees in the hospitality industry**

According to a survey done by THETA (2003:38), employees who have jobs, no matter how menial, are not classified as disadvantaged. Nevertheless, there is consensus that such employees are disadvantaged in terms of realistic opportunities for career advancement. Reasons given are a low level of education, restricted skills, and a lack of access to training.

When compared to international standards, the proportion of managerial/supervisory positions to operational positions is not particularly high, with an average ratio of 1:6. Given the extensive overstaffing at operational levels in the hospitality industry, one has to conclude that the industry is generally over-managed and over-supervised. An industry that is over-supervised maintains a low level of skills at both operational and lower supervisory levels. It can however also reflect social transition in South Africa, where employees with almost no supervisory experience are expected to perform lower supervisory roles (SSA, 2007:12).

## **Skills development programmes in the hospitality industry**

A country such as South Africa that has high unemployment and dire poverty levels needs to be competitive and productive, nationally as well as internationally. For the country to be competitive, it needs to have a culture of training a highly skilled workforce. The tourism, hospitality and sports sectors are viewed as key sectors where issues such as training, development of skills, and job creation need to be addressed (THETA, 2003:2).

A key organisation involved in the training and development of personnel for new responsible tourism in South Africa is the Tourism Human Resources Development Department. This department affirmed the introduction of the subject Travel, Tourism and Hospitality in schools in 2000 (South African Government Information, 2008). A second initiative in skills development for the tourism industry is the Levy and Grant system. To follow this approach, the hospitality industry has to become involved in training employees and uniform qualifications based on industry-endorsed unit standards will be established. A third initiative in training and development is spelt out in the *Skills Development Act, no. 97 of 1998*, that makes provision for Learnership programmes. Learnership programmes can take many forms and can be delivered in many modes as long as they satisfy the SAQA requirement of 120 credits at each level. The programmes include a blend of on-the-job and off-the-job learning (THETA, 2003:122-123). Other learning avenues that can be followed are offered at tertiary institutions, such as universities and hotel schools.

## **The profile of the hospitality employee and supervisor**

A candidate wishing to pursue a career in the tourism, hospitality and sports industries, should consider the reality of an industry that is known for long working hours, shift work and working over weekends and on public holidays. Only a specific profile will be able to meet such demands. Staff in hospitality industry deal with people and deliver a service to satisfy the specific needs of customers/guests. Industry expects an employee to be a 'people person', with good communication skills, who is dedicated to quality and good service, is a team player, and has the ability to work under pressure (THETA, 2003:122-123). People can be viewed as a challenge, as the workforce in the hospitality industry has become progressively more diverse in terms of race, gender, ethnicity and generation (Chen & Choi, 2008:295). Worsfold (1989:51) states that during the moment of service the hospitality employee can no longer be influenced by the organisation. It is solely the skills of the employee and the behaviour of the guest, which interact to produce the delivery of the service. The hospitality supervisor has an important role when it comes to fostering a culture of service delivery. It is expected of the supervisor to have an extensive knowledge of customer behaviour traits and expectations. It is critical for the supervisor to enhance the quality of both staff and staff performance. This is generally done through formal and informal training as well as staff development (Burke, 2001:28).

## **Importance of the selection process for employees in the hospitality industry**

Organisations in the hospitality industry, in particular, are faced with high staff turnover (Birdir, 2002:43). According to McFillen, Riegel and Enz (1986:37), a high staff turnover of restaurant managers can be more damaging to hospitality organisations' operations than a high turnover of rank-and-file workers. The primary reasons for high staff turnover are the absence of company training, managerial skills of superiors and non-existent organisational structure and policies, as well as odd working hours, low salaries, excessive public contact and excessive demands of guests and management (Birdir, 2002:43). According to Greer (2001:14),

hiring employees that are a good match with an organisation's job and co-employees will ensure staff retention. Research indicates that careful selection of employees is a tried and tested method to retain front-line employees. Worsfold (1989: 51) states that the sustainability of a profitable hospitality organisation will depend on the selection of efficient managers. According to Walker (2004:5), hospitality employees that are committed to the organisation, are seen as a critical business asset. This powerful tool enables an organisation to function optimally and constantly measure the organisation's ability to retain their intangible assets. The aim of a selection process is to glean such information from the applicant that will predict the success of the candidate in the job (Griffen, 1993:342). A favourable end-result could be that candidates accept jobs that will fulfil their expectations (Greer, 2001:15).

## RESEARCH DESIGN AND METHODOLOGY

The proposed research will be 'exploratory research' (Collis & Hussey, 2003:10-15), as it will be conducted into a research problem about which there are no known earlier studies to refer to for information. The research will provide significant 'value in use' (Remenyi, Williams, Money & Swartz, 2002:39) to the entire hospitality industry. The 'social world' (Remenyi *et al.* 2000:30-31) will serve as the platform for the research primarily because social science deals with how things are and why they are (Neuman, 2003:39). While the proposed research will be primarily empirical in nature using a quantitative (positivistic) research paradigm, it will also be underpinned by theoretical research, using a qualitative (phenomenological) research paradigm (Leedy & Ormrod, 2005:101). As 'case study' research provides the researcher with a wider research application in which to conduct research (Yin, 1994:1), and 'action research' serves as a method of doing case study research (Collis & Hussey, 2003:66-67; Struwig & Stead, 2004:15), 'case study' will serve as the primary research method.

## DEVELOPING THE QUESTIONNAIRE

*"Research should always be driven by curiosity" (White, 2009:5).*

Having been involved in the training and placement of Hospitality Management students for more than twenty-one years, the researcher's curiosity has been aroused to find the link between expectations of the hospitality supervisor and employee. Which skills are required to perform in the workplace and what is the level of education needed for the position? To answer these questions a profile of a hospitality supervisor needs to be drawn up. The hospitality industry has a tendency to rate experienced employees higher than those employees with a qualification. This is in contrast to the general trend that graduates have an advantage in chosen area of work. Furthermore the general opinion seems to be that a qualified employee is not necessarily the best recruit. Data on profiles of senior management indicates that age, work experience as well as gender of the hospitality employee, do influence career prospects (Harkison, 2010:2).

The population chosen for this study is the team of hospitality supervisors in one of the main hotel groups in the Republic of South Africa. This hotel group is rated among the top 50 hotel chains in the world and is regarded as the leading hotel group in South Africa (Southern Sun, 2008). The reason for choosing this specific hotel group is that currently there are more than 76 hotels in South Africa and with a total of around 500 supervisors. The researcher was provided with a 'performance standards' document which is used by the above-mentioned hotel group for the training, development and skills building of staff. This 'performance standards' document is based on the concept of "*leadership pipeline*" – how to build the leadership-powered company. Major organisations constantly headhunt 'stars' from organisations outside their own companies. Recruiting employees for management positions could suggest that the leadership pipeline in a specific organisation is dysfunctional, because internal training, mentoring and other developmental programmes are not keeping the pipeline full (Charan, Drotter & Noel, 2001:1).

According to Charan, Drotter and Noel (2001:5), the need for more leaders at various levels requires an organisation's management to build employee's skills, rather than to buy them. A question that could be raised: Could today's average employee become tomorrow's "right-for-the-job" leader? Charan, Drotter and Noel (2001:5-6), maintain that it is possible, due to the fact that a person's potential is not fixed. It is the belief that a human being has the ability to grow. If this were not true a society would be unable to achieve economic as well as cultural progress. The Leadership Pipeline is a model that was developed to assist employees in an

organisation to re-invent themselves, as well as to match their potential with a series of requirements. Rapid changes in the nature of work, global opportunities and on-line learning have an effect on people's potential which leads to changes several times in the course of a their career. From a managerial point of view it means that one should keep an open mind on and optimistic attitude towards who the right person for a leadership position might be. The Leadership Pipeline model is not a straight cylinder. It bends in six places each of which in return represents a change in organisational position. For the purpose of profiling the hospitality supervisor a questionnaire was developed focusing specifically on the passage/bending to "manage others" (operational/specialists).

An employee who produces good results and demonstrates the ability to interact with other employees usually receives additional responsibilities. When management feels that these employees buy into the organisation's values, they are often promoted to lower management positions (supervisors). This step appears to be an easy, natural process, but unfortunately this is also the point which a large percentage of the potential supervisors resist change, due to the fact that they want to continue with their duties in the same way as before. These employees become supervisors without accepting the new requirements demanded by the job - the shift from "doing" the work yourself to getting the actual work done through the efforts of others (Charan, Drotter & Noel, 2001:17).

The researcher was provided with a 'performance standard' document which was used to compile the questionnaire. The category (Manage Others – Operational/Specialist) of which the core purpose is to deliver frontline team results through enabling others, was used to develop the questionnaire. Supervisors in this specific hotel group are measured according to the following performance dimensions: Leadership and people performance; Guest and relationship performance; Financial and business performance; Management and operational performance; and Innovation and improvement performance (Southern Sun, 2010). In developing the questionnaire the above-mentioned performance dimensions were observed. The questionnaire consists of four sections, namely biographical information (Section A); perceived supervisory experience; knowledge and skills with regard to the achievement of organisation's goals (Section B); perceived expectations of personal performance as a supervisor (Section C); and required supervisory skills (Section D). Precise wording of questions or statements plays a vital role in interpreting the answers given by the respondents (Bradburn, Sudman and Wansink, 2004:3). The researcher made use of all five performance dimensions, provided in the 'performance standard' document, each with its own sub-headings and changed these terms into comprehensible statements, which were then distributed between Section B and C of the questionnaire.

Section A of the questionnaire covers the biographical detail of the respondent. The reason for this section was to glean information which could assist the researcher in determining the age group, gender and level of education that is currently working in the hospitality industry. Studies indicate that there are three generations of employees in the hospitality industry, namely the Baby Boomers (born between 1946 and 1964), Generation Xers (born between 1965 and 1977) and Millennials (born after 1977). The Millennial generation group is slowly entering the hospitality industry as entry-level managerial workforce employees (Chen and Choi, 2008:596). As misunderstanding and resentment between older and the younger employees grow, problems arise. Older employees tend to be more cautious, are less likely to take risks and are probably more resistant to change, whereas younger employees are be more sceptical about the value of relationships in an organisation (Chen and Choi, 2008:596). According to Miller, Walker and Drummond (2002:60), younger employees will also present a challenge in the field of communication and management training. From a managerial point of view it is imperative to understand differences in attitude towards work as well as similarities in a diverse workforce. By understanding these differences management will be able to formulate more effective strategies with regard to recruitment and employee retention. Section B consists of statements. The respondent needs to indicate the importance of his/her experience, knowledge and skills with regard to achieving organisational goals. The supervisor is the person who is responsible for managing people, who in turn are responsible for making products and delivering a service (Miller, Walker & Drummond, 2002:3). To achieve the required results through and with others, influencing skills become critical. Supervisors who are skilled influencers are clear and firm about the outcomes they need to achieve (Yemm, 2008:21). An even scale of 1 – 6 was used. The reason for presenting the respondent with an even number of response categories was to compel the respondent to 'lean' towards one end or the other (Bradburn, Sudman & Wansink, 2004:162). It is important to determine whether the respondents lean towards the same competencies, as this will provide the researcher with information, regarding knowledge, skills and behaviour, that are required as a

supervisor. A combination of these competencies could create a competitive advantage for any hospitality organisation (Jauhari, 2006:123) If a link between specific competencies is found, organisations will be able to develop and use selection techniques that have greater validity and reliability (Worsfold, 1989: 51, Jauhari, 2006:123).

In Section C statements are formulated in such a manner that the researcher would be able to familiarise herself with what the hospitality supervisor's perceived expectations with regard to his/her own performance are in the work place. For an employee to be in a job that does not suit his/her personality requires more energy, than that required from an employee whose job is more in line of how he/she naturally behaves (Baron, 2007:2). An uneven number of response categories were given on a scale of 1 – 5. The respondent had the choice ranging from strongly agree to strongly disagree. The last section of the questionnaire (Section D) consists of two open-ended questions. According to Bradburn, Sudman & Wansink (2004) an invaluable part of any questionnaire consists of open-ended questions. Both advantages and disadvantages exist with open-ended questions. Open-ended questions allow and encourage respondents to express their opinions fully. These could furthermore provide the researcher with additional and quotable material that could lead to future research reports. One disadvantage of using open-ended questions could be that the researcher needs to summarise the data, which is very time-consuming. Another disadvantage could be that the respondents provide different amounts of detail in their answers (Neuman, 2003:241). Caution must be exercised by the researcher not to dismiss any comments that conflict with her own analysis of the research. However open-ended questions could provide the researcher with an opportunity to uncover novel, uncommon but intelligent opinions. As the workforce in the hospitality industry has become more diverse due to factors such as generation differences (Generation, X, Generation Y and Millennials), open-ended questions could provide the researcher with valuable insight into these differences. An appreciation of differences between these generations could result in more effective human resource management strategies. In return the researcher could be provided with valuable information when a conceptual model of criteria for a selection process needs to developed, for appointing and training potential hospitality supervisors. Birdir (2002:4) opines that hospitality organisations should develop and promote programmes which could be used to identify those employees with acceptable levels of knowledge and skills regarding the principles and practices of the profession and related disciplines.

No person is able to draft a perfect questionnaire the first time around. Questions can be misunderstood or not provide the required answers. Therefore it was important for the researcher to conduct a pilot-test before distributing the final questionnaire (Bradburn, Sudman, & Wansink, 2004:317). After the completion of the questionnaire a pilot-test was conducted to ensure reliability and validity of information extracted from the questionnaire. The participants in the pilot-test were ten supervisors from two boutique hotels. As the pilot-test procedure is not identical to the main study and respondents are given more flexibility it was very helpful for the researcher to have a focus group after the completion of the questionnaire to discuss any problems experienced. No difficulties in completing the questionnaire were experienced and all ten respondents confirmed that the questions were clear, logical and relevant to their positions as hospitality supervisors. During the focus group discussion respondents did, however, mention that supervising employees has changed in recent years. The diversity of current employees is forcing the supervisor to change his/her leadership skills. Statistical data obtained from these respondents were checked by a statistician for the purposes of correctness and good order.

In this research, ethical issues are involved. During the research process, various individuals from a major hotel chain in South Africa were contacted and requested to complete the questionnaire in order to collect valuable information from them. A document was drawn up to inform the participants about the nature of the study to be conducted. A statement guaranteed that all responses would remain confidential. The questionnaire was then sent via e-mail to a key staff member in the hotel chain who was responsible for the distribution of the questionnaire. Each respondent had a choice between e-mailing or posting the questionnaire directly to the researcher or it could be sent back via the office of the key staff member who was responsible for distributing the questionnaire.

## **CONCLUSIONS AND RECOMMENDATIONS**

The atmosphere of a hotel, guesthouse or restaurant is what draws guests back (Du Toit, 2001:30). An employee in the hospitality industry needs the ability to affect the human experience, by creating powerful impressions, such as to provide the service quality and value guests expects, which may have a lasting effect on the guest (Walker, 2004:5). The industry depends on the physical labour of many hourly or non-managerial workers to provide the required service. However the level of service with regards to quality depends largely on how well it is managed (Miller, Walker & Drummond, 2002:2) Managing hospitality service delivery systems requires unique skills/competencies. Which competencies are required to perform in the workplace and what is the level of education needed for the position? To answer these questions a profile of a hospitality supervisor needs to be developed and is really essential to create a successful hospitality environment. The workforce in the hospitality industry has become more diverse in terms of race, gender, ethnicity and generation (Chen & Choi, 2008:295). A 'performance standards' document of one of the main hotel groups in South Africa provided the researcher with five performance dimensions with regard to formulating the concept for developing the questionnaire. As this hotel group represents a large population of supervisors in South Africa, the researcher hopes to establish a functional profile. After profiling the supervisor, the researcher would like to develop a set of selection criteria that could assist hospitality organisations to employ the most suitable candidates for supervisory level.

The analysis of the results of the questionnaire will be conducted as soon all questionnaires are received. This paper has some limitations as it focuses only on questionnaire development, therefore the global policy implication cannot be discussed. This issue leaves ample opportunity for further research.

## REFERENCES

- BARON, H. 2007. *Perfect: All you need to make a great impression. Personality profiles.* Random House Books: London.
- BIRDIR, K. 2002. General manager turnover and root causes. *International journal of contemporary hospitality management*, 14(1):43-47.
- BOWEN, J. & FORD, R.C. 2004. What experts say about managing hospitality service delivery systems. *International journal of contemporary hospitality management*, 16 (7):394-401.
- BRADBURN, N., SUDMAN, S. & WANSINK, B. 2004. *Asking questions. The definitive guide to questionnaire design-for market research, political polls, and social and health questionnaires.* Jossey-Bass. A Wiley Imprint.: USA.
- BURKE, R.J. 2001. Supervision and service quality. *Measuring business excellence*, 5(4):28-31.
- CHARAN, R., DROTTER, S. & NOEL, J. 2001. *The Leadership Pipeline. How to build the leadership-powered company.* Jossey-Bass. A Wiley Imprint: USA.
- CHEN, P. & CHOI, Y. 2008. Generational differences in work values: a study of hospitality management. *International journal of contemporary hospitality management*, 20 (6)::595-615.
- COLLIS, J. & HUSSEY, J.I. 2003. *Business research: A practical guide for undergraduate and postgraduates students.* Palgrave Macmillan: New York.
- DU TOIT, C. 2001. Training: get your own back. *Finance week*, 14 September:30.
- EMENHEISER, D.A., CLAY, J.M. & PALAKURTHI, R. 1998. *Profiles of successful restaurant managers for recruitment and selection in the US* [Online]. Available from: <http://www.emeraldinsight.com/Insight/viewContentItem.so;jsessionid=F8D9ADCBCB5516A977>. [Accessed: 07/04/2008].

- GREER, C.R. 2001. *Strategic human resource management: A general managerial approach*. Prentice Hall: New Jersey
- GRIFFEN, R.W. 1993. *Management. International student edition*. Fourth edition. Houghton Mifflin: Boston.
- HARKISON, T. 2010. *Hospitality Graduates and Managers: The big divide*. Emerald Group Publishing Limited.
- JAUHARI, V. 2006. Competencies for a career in the hospitality industry: an Indian perspective. *International journal of contemporary hospitality management*, 18(2):123-134.
- LEEDY, P.D. & ORMROD, J.E. 2005. *Practical research*. Merrill/Prentice Hall: New Jersey.
- MCFILLEN, J.M., RIEGEL, C.D. & ENZ, C.A. 1986. Why restaurant managers quit and how to keep them. *The Cornell hotel and restaurant administration quarterly*, 3 (27) 37–43.
- MILLER, J.E., WALKER, J.R. & DRUMMOND, K.E. 2002. *Supervision in the hospitality industry*. John Wiley and Sons, Inc: New Jersey.
- NEUMAN, W.L. 2003. *Social research methods: Qualitative and quantitative approaches*. Library of Congress Cataloging-in-Publication Data: Boston.
- REMENYI, D., WILLIAMS, B., MONEY, A. & SWARTZ, E. 2002. *Doing research in business and management*. Sage: London.
- SOUTH AFRICAN GOVERNMENT INFORMATION. 2008. About SA – Tourism [Online]. Available from: <http://www.info.gov.za/aboutsa/tourism.htm> [Accessed: 26/02/2008].
- SOUTHERN SUN. 2008. *Corporate profile*. Southern Sun Hotels. Available from: <http://www.southernsun.com/SSH/VID/94a978ae92838010V> [Accessed: 05/06/2008].
- SOUTHERN SUN. 2010. *Performance Standards*.
- STRUWIG, F.W. & STEAD, G.B. 2005. *Planning, designing and reporting research*. Pearson Education South Africa: Cape Town.
- STATISTICS SOUTH AFRICA (SSA). 2007. Linking Government strategies and the Tourism satellite account in South Africa. Pretoria (Discussion document – D0405.6).
- THETA. 2003. Skills plan. Tourism, Hospitality and Sport Sector.
- WALKER, J.R. 2004. *Introduction to hospitality management*. Pearson Prentice Hall: New Jersey
- WHITE, P. 2009. *Developing research questions. A guide for social scientists*. Palgrave Macmillan: New York.
- WORSFOLD, P. 1989. *A personality profile of the hotel manager*. Department of Hospitality Management, Dorset Institute, Poole, Dorset BH125BB, UK. Pergamon Press.
- YEMM, G. 2008. Managing others. Influencing others – a key skill for all. *Journal of the institute of management services*, 52(2):22-24.
- YIN, R.K. 1994. *Case study research: Design and methods*. Sage: Thousands Oaks.

# PREPARING SOUTH AFRICA'S FUTURE PUBLIC SECTOR LEADERS: INNOVATION IN TEACHING AND LEARNING AT UNIVERSITIES OF TECHNOLOGY

**E. J. van Rooyen**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*Universities of technology distinguish themselves from “traditional universities” on the basis of their unique product offering, which includes the incorporation of subject-relevant state of the art technology into its curriculum as well as an emphasis on vocational education and work-integrated learning. At universities of technology, schools of Public Management or Public Policy are preparing students for service in the public sector. This would imply a product and curriculum that is innovative, relevant to the employment market demand, which enjoys industry-recognition thereof, and reflects a career-focused design. Within this context in South Africa, academic schools at universities of technology serve as facilitators for administrative leadership development against the backdrop of the notion of a developmental state. It is thus essential that such academic schools include into their teaching curriculum aspects of leadership and to attempt to expose the students thereto in accordance with a university of technology's ethos. In this paper the challenges ahead for the academic departments and schools of Public Management concerning teaching and learning for leadership development are advanced and some postulates are presented.*

## INTRODUCTION

South Africa is one of the largest and most stable economies in the African continent and boasts a well-developed basic infrastructure. The Country is categorised as a lower middle-income economy country by the World Bank. The country exhibits several characteristics of a developing economy, such as well grown primary, secondary and tertiary sectors and a non-dependency on agriculture as primary industrial activity; the manufacturing, mining and service sectors are the largest contributors to the country's GDP. It sets the platform and acts as springboard for many African countries' development and growth. The country is a lead role player in SADC as well as the African Union.

A significant recent development is South Africa's ascension to the BRIC group of major emerging economies. BRICS is an acronym for Brazil, Russia, India, China and South Africa. BRICS is a forum that provides its members with opportunities to network and to initiate economic arrangements with a view to increasing economic growth and achieving greater global economic impact.

However, within this context it is imperative that South African organisations and institutions ensure that they acquire and develop appropriate capacity in terms of leadership and management technologies to support and guide the above-mentioned developments and challenges. For instance, according to some future watchers and economists the BRICS countries are part of a fraternity referred to as the “new economic eagles” and South Africa counts among the so-called “eagles nests” from which metaphorically a new generation of global leaders and managers will be incubated. Charlton (1993) mentions that the axiom behind all successful human endeavours be it family, business, political, sporting, spiritual or national or international level, can be summed up in one word – Leadership. The supply of leaders does not exceed the demand and if projections are

accurate, the future demand is even greater than the current. Yet, the uniqueness of the South African socio-political as well as economic conditions, both past, current and future, dictate that the moment is imminent where quick-fix leadership development solutions should be substituted in favour of well-considered leadership development models befitting the Country. In other words, it is time to develop a bespoke leadership and management model appropriate for South Africa in particular: South Africa's leadership demand differs from the rest of the world in terms of time, intensity and space.

Within this context, the schools of Public Management at universities of technology serve as facilitators for administrative leadership development in the public sector against the backdrop of South Africa as a developmental state. In this paper the challenges ahead for Public Management schools at South African universities of technology, concerning teaching and learning for leadership development are advanced and some postulates are presented

## UNIVERSITIES OF TECHNOLOGY

A university of technology seeks to remain in touch with and responsive to the needs of its environment and community, be it the labour market, its students, its stakeholders or civil society in general. South African universities of technology are appreciative of the fact that they are located within a state constituted on the principles of developmentalism. Therefore, community engagement is encouraged in both a formal manner, such as interactions that are linked to the curriculum (work-integrated learning or service projects), and a non-formal manner, such as partnering with the community in outreach activities. What especially sets a university of technology apart from a traditional university is its focus on innovation and entrepreneurship, through to commercialisation. In this respect, a university of technology advances its entrepreneurial flair and informs its curricula by promoting cutting-edge research and innovation – activities that are governed by a need for application or problem-solving and which, ideally, lend themselves to commercialisation. Research and innovation are seen as dynamic trans- and multidisciplinary processes that rely on partnerships and networks that collaborate to come to fruition. A university of technology emphasises teaching and learning through means of cutting-edge technology. Technology in this regard, is defined in its broadest sense as the efficient and effective application of expertise. The processes of technological innovation, technological transfer and the commercialisation of technology form the basis of all educational activities.

Therefore, when an academic school such as Public Management at a university of technology embarks on programme design and curriculum formulation it naturally adheres to the principles of the prevailing regulatory regime, but it should also be sensitive to and cognisant of the demands and needs of its particular sector or industry. Not only should these programmes result in the acquisition of skills and the transfer of knowledge through means of an integrated system that is discipline-specific and learner appropriate, but it should also adequately transfer or infuse the competencies that the employer requires from employees as products of the higher education system. In other words, the product of a higher education institution, especially a university of technology should bear knowledge of and be conversant with cutting edge technologies associated with the vocation concerned. In addition, universities of technology in conducting teaching and learning, also profess to be on the forefront of developing cutting edge technology methodologies. Therefore, when Public Administration is taught, not only should the discipline-specific knowledge and theory be conveyed, but also the sector- or industry-specific public administration technologies to ensure that the learners are equipped to perform the necessary administrative and managerial functions as far as possible. The contents of programmes should focus on knowledge and practical skills directly relevant to leadership, as opposed to much of the (theoretic) content in academic disciplines. The programmes must take cognisance of the way in which students learn and acquire knowledge. The contents of development and training programmes must take into consideration the interests of all who have a stake in effective leaders, and not solely what specialists in specific academic fields consider relevant.

Naturally, it would be difficult to teach technical skills for job-specific functionality on a generic Public Administration programme. The intention is not to do this though, but rather to lay the foundation for quick integration into the practical work environment with its particular modalities. In this context consideration should therefore be afforded to appropriate leadership development for the public sector. Yet, before leadership development interventions could be decided upon and introduced into education and training programmes, the

nature of leadership and aspects relating to leadership development theory should receive thorough consideration.

## THE CONTEXT OF LEADERSHIP DEVELOPMENT

In a classical work entitled *Leadership in Administration*, a revered Public Administration scholar, Philip Selznick writes that “*Leadership...is a slippery phenomenon.*” (Selznick, 1957: 25). Selznick continues to indicate that it is futile to understand leadership apart from the broader organizational context of which it forms part: “*a theory of leadership will necessarily reflect the level of sophistication we have reached in the study of the organization. We are dealing with an activity, with a function, with work done: we can make no more sense of it than is allowed by our understanding of the field within which that activity takes place.*” Essentially, the type of organization, for instance whether it is a public sector organization or private (to mention only one qualification) is important when the concept leadership is explored

When leadership development programmes are designed, it may be appropriate to consider what is broadly meant with the concept before decisions are taken as to the exacting content of the programmes. Adapting the *Center for Creative Leadership’s* definition (1998), leadership development may be described as: The expansion of a person’s capacity to be effective in leadership roles and processes, these roles and processes being those that enable groups of people to work together in productive and meaningful ways to achieve common goals.

This definition may imply that:

- *leadership development* is the development of *capacities* within the individual;
- *leadership effectiveness* should be derived from studying what makes people effective in a variety of leadership roles and processes; and
- people must take on *leadership roles* and participate in *leadership processes* in order to carry out their obligations to larger social entities (community of leaders), that is, leadership roles may be formal positions infused by authority to take action and make decisions, or they may be informal roles with little or no formal authority.

In addition, Charlton (1993: 195) mentions that leadership development has a strategic imperative, which underwrites the ideas that:

- it should occur at all levels of the organisation;
- the organisational culture must adapt to allow people to fully utilise their skills and initiative: and
- strategic human resource systems must reinforce attempts to select, develop and maintain leadership *competencies*.

In the above context the old adage applies where an organisation ensures that a strategic (planned) programme is in place where “*the right people are in the right place at the right time*”.

## THE DEVELOPMENT PROCESS

Any well-structured organisational strategy and concomitant business plan provides direction for the modalities associated with a human resources strategy for such an organisation. A human resources plan in the conventional sense includes processes associated with selection, appraisal, development and rewards for performance. The implication however, is that the appropriate people need to be selected, and such people should be appraised and subsequently their development needs should be aligned to particular *competencies* and behaviour (Charlton, 1993: 173). In turn, these strategies should inform all human capital development stakeholders internal as well as external to the organisation, to the nature of the development interventions.

These processes are however dependent on the organisation’s ability to identify specific *competencies*, which form the basis of a particular organisation’s success. What constitutes a good leader in a particular organisation? Which skills, craft or knowledge in particular do we need to achieve the organisation’s goals and objectives? What type of attitude and behaviour are appropriate? Which values are appropriate and expected from the leaders? Such identified *competencies* will then in turn inform on which (developmental) interventions should be made to ensure or enhance organisational success. In a public sector context, the same considerations

would apply but with due cognisance of the service delivery ethic as well as the political backdrop against which such entities operate.

A developmental or learning experience can be conceptualised as consisting of *three elements* (adapted from: Center for Creative Leadership, 1998):

- Feedback
- Challenge
- Support

Following is a description of the aforementioned elements:

### ***Feedback***

The best development experiences provide information that can be used for assessment. Feeding back such assessment information to people on a variety of dimensions will help them to understand where they are now, their current strengths, their current levels of performance or effectiveness as leaders, and what their important developmental needs are. While a developmental experience may provide data, learning only takes place if there is feedback in the form of meaningful information to the learner. Such information also provides a benchmark against which people can assess the effects of their developmental efforts.

### ***Challenge***

Challenging experiences provide people with information that conflict with their perceptions of themselves. When people find that their habitual ways of dealing with situations are not effective, dissonance is created forcing them to question the adequacy of their skills, frameworks, attitudes and approaches. The experiences that stretch, confuse and confront people are characterised by:

- novelty
- difficult goals
- situations characterised by conflict
- dealing with losses, failures, and disappointments

### ***Support***

Developmental experiences are challenging. To change is not easy, it requires new ways of thinking, the development of new skills and abilities that require persistence in the face of initial failures and incompetence before mastery is achieved. To persist, people need support in the form of confirmation by others and encouragement to change. Experiencing that other people value their efforts to change and grow help them cope with the temporary experience of incompetence. Other people, organisational norms and procedures provide support for change.

It is important to bear in mind that people differ in the degree to which they learn from the same kinds of experiences, and that is why a variety of developmental experiences are required. These differences are due to *two factors*:

- Firstly, people differ in the level of challenge they perceive in an experience. What is challenging to one person, may be experienced as normal and well within his or her capacity by another.
- Secondly, people differ in the ability to learn from an experience. The ability to learn is a combination of motivational factors, personality factors, and learning strategies.

Against the preceding background, research aimed at establishing best practices in leadership development, it was found that the most effective leadership development programmes were characterised by the following (Conger and Benjamin: 1999):

- Such programmes were built around a single well-formulated leadership model.
- It was clear who the target population would be.
- Pre-course preparation was used.
- Learning was reinforced through personalised feedback and support.
- Multiple learning processes and approaches were used.
- It consisted of extended learning periods and multiple sessions to accommodate individual aptitude.
- Specialised support systems were provided.

## COMMON SHORTCOMINGS OF DEVELOPMENT PROGRAMMES

In their study of leadership development programmes Conger and Benjamin (1999) found the following common shortcomings:

*Lack of a critical mass (environment-specific focus).* A serious drawback of leadership development programmes is that they often are not geared to people from the same workplace or collective environment. Leadership is a collaborative experience. Learners apply and construct their understandings not only from formal educational experiences but also from the collectives of which they are members and from their relationships with other members of the collective. What gives new learning the potential to take hold is that one's group also endorses, promotes and reinforces them.

*The ineffective use of competency models.* Competency models have become very popular in leadership training, with most training programmes employing these models. They also appear increasingly in performance appraisals. The general conceptualisation of what constitutes a leadership competency has evolved considerably over the past two decades. Boyatzis (1982) defines a *competency* as an underlying characteristic of a person – a motive, trait, skill, aspect of one's self-image or social role, or body of knowledge that he or she uses. As Conger and Benjamin (1999: 56) point out, today's concept of leadership as consisting of far more behavioural dimensions than twenty years ago when leadership models often considered of two roles – a task and a people orientated role, or a set of decision-making steps ranging from autocratic to participative styles. Leadership models have also moved towards reframing the leader's principle role to that of change agent. Competency models have definitive advantages:

- They are normally constructed around tangible dimensions- behaviours, outcomes, or activities – that can be measured;
- They send a clear message about the specific attributes considered valuable. If linked to rewards and performance measures, they can establish clear expectations; and
- They provide a framework for both individuals and the collective to benchmark themselves.

Problems associated with competencies may be due to the fact that they are often derived from academic models that tend to lean towards very general competencies. They are the by-products of research typically conducted across many different organisations and sectors and geographies and cultures and as such they rarely produce customised dimensions. In effective programmes, competencies are customised for the particular environment concerned, and focus not only on the present, but also on the future requirements.

*Insufficient time spent on developing skills.* Programmes often attempt to cover too many dimensions of leadership and end up doing justice to too few. They often focus on conceptual learning and make little or no effort to help participants develop any skills at a pace that would accommodate different learning styles and aptitudes.

*Limited or no programme follow-up and support.* One of the most common dilemmas facing leadership development programmes is the lack of follow-up. When the programme ends there are no additional experiences to reinforce learning nor are there ongoing programmes of feedback to allow participants to gauge their development efforts around specific leadership competencies (Conger and Benjamin 1999: 56).

Providing learners with opportunities to apply what they have learned strengthens learning. This could take the form of project work or specific assignments or work-integrated learning, for which outcomes must be specified, and on which participants must report outcomes. This allows a measure with which to gauge the extent to which leadership development has come about.

## PROPOSED PUBLIC ADMINISTRATION PROGRAMME DESIGN APPROACH

If leadership, therefore forms such an important aspect insofar as preparing South Africa's future public service decision-makers are concerned, should the typical public Administration curriculum not emphasise (even lend extensive attention to) aspects of leadership, its nature, competencies, leadership behaviour and associated

values? Should leadership development not form the core of the curriculum, and its importance be pronounced in this manner? Will such an emphasis detract from the teaching the essence of the science of Public Administration in any real way?

From the preceding discourse, the following suggestions may be of value for a school of Public Management at a university of technology:

**Firstly**, the programme design process should seek to remain true to the ethos of a university of technology. In other words, the following aspects should be considered:

- A continuous alignment with the environment and community in which its products need to serve. The implication is that the economic, social, and psychological needs of individual and organisational role-players in the public sector should be considered. This can only be achieved if the programme designers, both subject-specific experts and practitioners are truly conversant with this environment. A lecturer should be more than only a distant observer of the industry, but rather an actor therein. This would consequently yield especially three important benefits to the University, namely an improved research and publication output, improved knowledge-feedback processes during lecture sessions and quality teaching and learning outcomes.
- A university of technology emphasises innovation and entrepreneurship (which in a public sector organisational context may also be translated to intra-preneurship). This may be achieved by improving creative thinking skills and innovative thought competencies. In other words, a “problem solving mentality” should be developed among learners. Leaders distinguish themselves in their ability to apply visionary acumen and to be solution-generators and technological innovators.
- Any successful programme at a university of technology should also allow for inter-disciplinarianism and trans-disciplinarianism. A fully-rounded Public Administration grandaunt should carry not only knowledge associated with subject-specific matter, but should also be conversant with basics associated with related disciplines such as business management, accountancy, marketing, communication management, information and communications technology and even be exposed to the basics of philosophy, law and language. Such knowledge may improve on the solution-seeking competency of an employee. It would allow a person to see the proverbial “bigger picture”.

**Secondly**, a strategy should be implemented to move away from a predominantly teaching focus to a learning focus as far as classroom activities are concerned. Although firm motivation exists for both of the aforementioned *foci* in the class room, the learning focus orientation should receive emphasis. Although this does form part of the official University policy, it does not practically translate into classroom conduct by many lecturing staff members. This may be achieved through retraining and redirecting lecturing staff towards, output orientation, problem-solution centeredness and contextually defined knowledge sharing methodologies. It is imperative that lecturers should attempt to improve learners’ conceptual thinking skills, improve on their ability to think in terms of the relativism and their ability to prioritise amongst conflicting objectives and criteria in a management environment.

**Thirdly**, lecturing staff should include into their teaching and learning elements of constant feedback on progress and performance. They should ensure that the classroom activities and subject matter on offer are challenging and where necessary, the system should be geared to actively support learners who are either at risk, or who’s aptitude and even attitude in relation to the programme and its content, is below standard.

**Fourthly**, it may be postulated that if the feedback, challenge and support-factors, mentioned previously are in place, conditions for the creation of an enthusiastic learner and subsequently a lifelong learning mentality may be facilitated. Learners should be enticed to develop a love for reading and knowledge exploration. An emphasis should be placed on exploring new technologies to support administrative and managerial functioning in public sector organisations. Life-long learners have an inclination to engage in self-directed learning. The ideal is to establish a behavioural context that promotes self-directed learning. According to Goleman (2002), the crux of leadership development is to convince the learner that they should intentionally and continuously develop and strengthen the aspects of their own knowledge and skills armoury.

Furthermore, excellence in programme design and content as well as in teaching and learning may be achieved by:

- Designing and integrating into all modules and programme content a single well-formulated leadership development model. A model that adheres to the notion of the developmental state. A model that takes account of the past, present and future South African reality.
- Design all modules and programme content according to who the target population or learner profile is. Be cognisant of the fact that learner profiles should be flexible and be able to accommodate differences and extra-ordinary demands or learner needs.

- Include obligatory and level-appropriate but challenging pre-course and pre-lecture preparation by learners, self-directed reading assignments and on-location investigative assignments. Learning should be reinforced through proper guidance, feedback and support.
- Multiple learning processes and approaches should be used. It should include activities that would strengthen conceptual thinking ability, creativity and innovation and include vocation-orientated competency development; the emphasis should thus be on developing critical thinking skills, a problem-solving mentality and practical or technical task execution.
- Apply well-researched competency models as far as public sector leadership needs is concerned. Competency models should be reflective of the current demand and anticipate future demand for particular leadership competencies in the public sector. Such models should actively refrain from being too generic and too abstract. The emphasis should be on developing a leader that will be able to demonstrate not only an ability to lead on different levels (strategically, tactically and functionally) but one who is also competent enough to apply knowledge and technical administrative and managerial skills.
- Integrate into all programmes and modules the essential need for value based-decision making, transparency and accountability to the greater community in the pursuance of public administrative conduct, as enshrined into the Constitution and South Africa's Human Rights philosophy.

## CONCLUSION

In conclusion, it may be stated that a school of Public Management is charged with an immeasurable responsibility to contribute towards South Africa's leadership development demand. Yet, to honour our responsibility in this regard, our lecturing staff should re-assess their own teaching and learning practice and ensure that it is aligned to the leadership development objective associated with Public Administration. Our grandaunts should able to provide not only theoretical solutions to real administrative and managerial quagmires in the public sector, but they should be able to innovate in the arena of administrative and managerial technology development through thought leadership, which culminates in realising the socio-economic development quest of the Country.

## REFERENCES

- Baldwin, T.T. & Ford, J.K. 1998. Transfer of training: a review and directions for future research. *Personnel Psychology*. Vol. 41, issue 1, pp.63-105.
- Berke,D, Kossler,M &Wakef ield , M. 2009. Building Talent. Developing Effective Leaders. onlinelibrary.wiley.com/doi/10.1002/lia.1276/pdf
- Boyatzis, R.E, Cowen, S.S & Kolb, D.A. 1995. Innovative in Professional Education: steps on a journey from teaching to learning. San Francisco: Jossey-Bass Publishers.
- Boyatzis, R.E. 1982. The competent manager: a model for effective performance. New York: Wiley.
- Briggs, G.E. and Naylor, J.C. 1962. The relative efficiency of several training methods as a function of transfer task complexity. *Journal of experimental psychology*. Vol. 64, pp. 505-512.
- Brown, J.S. and Duguid, P. 1991. Organisational learning and Communities of practice. *Organisational Science*. Vol. 2(1) pp 40-57.
- Center for Creative Leadership. 1998. Handbook of leadership development. San Francisco: Jossey-Bass Publishers.
- Charlton, G. 1993. Leadership: The Human Race. A Guide to Developing Leadership Potential in Southern Africa. 2<sup>nd</sup>. Edition. Kenwyn: Juta & Co, Ltd.

- Chernes, C. and Goleman, D. (Eds) 2001. The emotionally intelligent workplace: how to select for, measure, and improve emotional intelligence in individuals, groups and organizations. San Francisco: Jossey-Bass Publishers.
- Collings, D & Mellahi, K. 2009. Strategic talent management: A review and research agenda. *Human Resource Management Review* 19 pp.304–313.
- Conger, J.A. 1992. Learning to lead: the art of transforming managers into leaders. San Francisco: Jossey-Bass Publishers.
- Conger, J.A. and Benjamin, B. 1999. Building leaders: how successful companies develop the next generation. San Francisco: Jossey-Bass Publishers.
- Conger, J.A. and Kanungo, R.N. 1988. Charismatic leadership in organizations. San Francisco: Jossey-Bass Publishers.
- Ericsson, K.A. and Charness, N.1994. Expert Performance. *American Psychologist*. Vol. 49 (8), pp. 725-747.
- Ericsson, K.A., Krampe, R.T. and Tesch-Romer, C. 1993. The Role of Deliberate Practises in the Acquisition of Expert Performance. *Psychologist Review*. Vol. 100 (3). pp. 363-406.
- Fulmer, R.M. and Goldsmith, M. 2001. The leadership investment: how the world's best organizations get strategic advantage through leadership development. New York: AMACOM.
- Goleman, D. 2002. The new leaders: transforming the art of leadership into science of results. , London: Little Brown
- Huczynski, A.A. and Lewis, J. 1980. An empirical study into the learning transfer process in management learning. *Journal of Management Studies*. pp. 227-240.
- Hunt, J. 1996. *Leadership*. London: Sage.
- Kotter, J.P. 1990. A force for change: how leadership differs from management. New York: Free Press.
- Meyer, M. & Botha, E. 2004. 2<sup>nd</sup>. Edition. *Organisation Development and Transformation in South Africa*. Durban: Lexis Nexis Butterworths.
- Naylor, G.E. and Briggs, GE. 1963. The effect of task complexity and task organization on the relative efficiency on part and whole training methods. *Psychology*. Vol. 65. pp. 217-224.
- Pillay, P. Subban, M. & Qwabe, B. October 2008. Talent Management – “Putting the right people in the right jobs”. *Journal of Public Administration*. Vol. 43 number 3.1.
- Selznick, P. 1957. Leadership in Administration. New York: Harper & Row Publishers.
- Senge, P. and Kaüfer, K.H. 2000. Communities of leaders or no leadership at all. in Kellerman, B. *et al* (Eds). *Cutting edge leadership*. <https://fpmwww2.fpm.wisc.edu/.../Communities%20of%20Leaders.pdf>
- South Africa (Republic). Department of Public Service and Administration. 2008. Human Resource Development For the Public Service: strategic Vision framework 2015. Pretoria: Government Printer.
- Vicere, A.A. and Fulmer, R.M. 1997. Leadership by design. Boston: Harvard Business School Press.
- Wikipedia. [Online] Available from: [http://en.wikipedia.org/wiki/Talent\\_development](http://en.wikipedia.org/wiki/Talent_development) accessed: 17 August 2010.

# PROMOTING URBAN FOOD SECURITY IN SOUTH AFRICAN LOCAL GOVERNMENT

**E. J. van Rooyen & M.A.W. Prinsloo**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*The global economic crisis impacts widely on the poor and destitute, especially in developing countries, where it is significantly pronounced in informal urban settlements. Consequently, from a governance point of view the issue of food security is a matter of concern. As a result, some municipal policy makers assert that urban farming activities may be an effective way in which to alleviate the effect of hunger and malnutrition among destitute households - thus providing immediate relief to the needy.*

*From a Public Administration point of view, it is argued that it may be more efficient to expend limited resources on programmes and projects to assist urbanites to become self-sufficient urban farmers, as opposed to spending such resources on merely acquiring and distributing food with the effect that dependency on government is maintained or even increased.*

*In this paper the following aspects are addressed: **Firstly**, the case of the City of Johannesburg is cited where provision is made in the day-to-day victual needs of indigent peoples. **Secondly**, a model through which community and stakeholder consultation may be conducted is presented. **Lastly**, it is postulated that municipal decision makers should decisively apply an issue-driven approach as well as pro-poor growth strategies in their integrated development planning, for such programmes and projects.*

## INTRODUCTION

Across the world the current economic disposition renders many poor households, especially those among developing nations, vulnerable in terms of food security. The impact of the financial crisis is experienced by developing countries on macro-level, which in practice translates to an approximate 923 million people across the developing world being “seriously undernourished” (2007 statistics) and more recently, an additional 119 million receding into this category because of food inflation and related aspects. Thus, according to the former United Nations Secretary-General, the world now has the obligation of fulfilling the Millennium Development Goals (MDGs) by caring for approximately 1 billion poverty stricken people ([www.fao.org](http://www.fao.org)) who suffer from day-to-day food insecurity ([www.financialexpress.com](http://www.financialexpress.com)).

Part of the challenge facing policy makers is the limited comprehension of all the clinical reasons for continuous worldwide increases of food prices. Some of the reasons cited could include the impact of the increased demand for bio-fuels, declining water supply, and population demographics (especially in India and China) (Fresh Link, July 2008, p. 3). According to the Food and Agriculture Organisation, increased investments in agriculture and in particular increased attention to improving international and domestic policies set to fight poverty, are needed immediately. Assessments conducted by the Food and Agriculture Organisation ([www.fao.org](http://www.fao.org)) had identified particular short- and medium-term approaches to be taken rapidly to deal with this crisis, viz.:

- Protective safety measures should be implemented through policy and action to ensure day-to-day household food security to limit vulnerability among the poor.
- Improve the access to quality seeds and fertilizers to boost farmers’ productivity (including small farmers).

- Strengthening capacity building initiatives in the areas of particularly production, processing and marketing of agricultural products.
- Strengthening institutional capacity to improve on policy development and policy implementation.
- Better functioning markets at all levels as well as improved market infrastructure and information services, especially for small farmers.
- Improve sustainable management of natural resources.
- Increased participation of women in the agro-food sector.

For example, during 2008 increased production of cereals in African countries registered less than 1 percent since many were not able to apply the above-mentioned approaches and measures. In Low-Income Food Deficit (LIFD) countries that depend on imports to support their food requirements, the situation is even worse because of price pressures on even locally produced food ([www.fao.org](http://www.fao.org)).

This paper highlights both some theory as well as practical knowledge gained in development practice in relation to the administration of programmes and projects associated with urban farming and food security issues in general. Since a developmental local government is only possible with the established institutions that embrace the principles of democracy and participatory governance which involves all stakeholders and most importantly local communities in the process of decision-making and service delivery to build a sustainable society, existing systems that seeks to achieve participation of relevant stakeholders should be maximised. The intention with this paper is to lay the foundation for more extensive debate surrounding these issues, but in essence attempts to pose the following points:

**Firstly**, the South African local government system of ward committees is posed as an appropriate vehicle with which urban farming programmes and projects may be launched in a municipal setting such as the City of Johannesburg. **Furthermore**, it is postulated that municipal decision makers should decisively apply an issue-driven approach as well as pro-poor growth strategies in their integrated development planning, for such programmes and projects. **Lastly**, it makes the point that urban farming activities are not by default tantamount to Local Economic Development as such, but may be a catalyst to achieve this goal in due course.

## URBAN AGRICULTURE AND FOOD SECURITY

Urban agriculture presents in many forms throughout the world. In some cases urban agriculture forms part of an extensive agri-business (economic) endeavour whereas in some cases the purposes are merely recreational. Yet, in some cases, urban agriculture is seen as an activity purposefully designed to address issues relating to food security and sustenance or survival among poor and indigent peoples in urban environments. Urban agriculture contributes to food security in two ways:

**First**, it increases the *amount* of food available to people living in cities; and **Second**, it allows for an offering of a *variety* of fresh vegetables and fruits and meat products to be made available to urban consumers (City of Johannesburg. Draft Policy Framework – Urban Agriculture Policy, p. 6). In a rapidly urbanising world, innovative interventions such as urban agriculture activities are needed to deal with the challenges in this regard. General statistics on the world’s urban population is:

- 50% of the world’s population lives in cities.
- 800 million people are involved in urban agriculture worldwide and contribute to feeding fellow urban residents.
- Low-income urban dwellers spend between 40% and 60% of their income on food each year.
- By 2015 approximately 26 cities in the world are expected to have a population of 10 million or more. To feed a city of such a size – an estimated 6000 tonnes of food must be availed each day.

One significant aspect of the above-quoted statistics is that most of the growth in urbanisation will occur within the developing world. Sub-Saharan Africa is the most rapidly urbanising region in the world. Much of Africa’s urban population already lives in densely populated cities such as Johannesburg (City of Johannesburg. Draft Policy Framework – Urban Agriculture Policy, p. 6). By way of an example, the City of Johannesburg’s food security and urban agriculture programme resides within the Johannesburg Fresh Produce Market. Until recently, the City of Johannesburg has been actively involved in

alleviating food insecurity within its area through a Food Bank-programme. The Food Bank is a non-profit organisation that distributes approximately 9000 food hampers per month to registered welfare organisations that care for HIV/AIDS orphans, the elderly and to crèches. However, for the purposes of sustainability it is envisaged that this programme should be extended through means of a comprehensive urban agriculture intervention.

## PROPOSING A WAY FORWARD

An intervention is proposed, which is two-pronged in that it will establish food gardens for poor urban dwellers within the confines of a city and simultaneously, it should advance the economic aspirations of those who, through the latter achieve surpluses in their food production endeavours. This initiative should be aligned to the short- and medium-term approaches suggested by the Food and Agriculture Organisation mentioned above.

A sustainable approach to, and purpose with urban agriculture should be to:

- Improve domestic food security – reduction in vulnerability of food economy to external shocks (e.g. fuel price increases, food inflation, shortages of crops, etc.);
- Improve economic opportunities (e.g. job opportunities, enterprise development);
- Address social concerns relating to poverty and unemployment; and
- Improve environmental conservation, preservation and mitigation.

**Firstly**, a municipality should subscribe to a pro-poor growth development strategy, which strives towards achieving sustainability in its design and implementation. Such a strategy has the potential to provide food, environmental enhancement, education, beautification, inspiration and hope. Urban agriculture may contribute to youth education, employment creation, whilst it provides utility and respect to elders, builds communities, recycles kitchen and other urban “wastes”, and produces fresh nutritious food. Because many of the benefits of urban agriculture can be attained through other activities or means, producing food is perhaps the single most important benefit.

**Secondly**, the practices of SHREQ should be introduced into urban agriculture activities and thereby promote sustainable development practice in adherence to the notion of the developmental state. SHREQ refers to amongst others the following:

- **Safety & Health** – Safe agriculture practice, instruments and implements. Use and usage of chemicals, pesticides and pharmaceutical products with due consideration for human and animal health and wellbeing.
- **Risk** – Proper assessment and analysis with regards to investment, effectiveness and efficiency, and economy.
- **Environment** – Sound environmental practices according to the principles of sustainability and Local Agenda 21.
- **Quality** – Adherence to relevant standards set as far as processes and products are concerned.

**Thirdly**, an issue-driven approach (as opposed to a sector-driven approach) in the planning and implementation of urban agriculture initiatives may be considered where the issues of food security and poverty alleviation retain focus, and where sectoral interests are integrated in the design of such a strategies.

Among indigent urban communities, food security is the bottom line why urban agriculture is important. However, urban agriculture is only one way to solve food security issues and thus should be viewed in this larger context. Organising around urban agriculture may not always be the best way to address food security issues, but organising around food security issues is one of the best ways to promote urban agriculture.

## INTEGRATED DEVELOPMENT PLANNING (IDP)

As far as urban farming is concerned, the Resource Centers on Urban Agriculture and Food Security (RUAF Foundation) (PAPUSSA Policy Briefs, p.1) recommendations are made with regards to how policy makers should reflect such activities in a sustainable way. The predominant recommendation is that all such activities should form an integral part of urban planning and development strategies. In South Africa, a form of planning methodology termed Integrated Development Planning (IDP) is followed by local government to provide for sustainable development and service delivery.

Integrated development planning may be defined as both a **process** through which municipalities prepare a strategic development plan, for a five-year period and a **product** of the integrated development planning process (Integrated Development Planning and Integrated Development Plan). The IDP process comprises a single, inclusive planning process within which all other municipal processes must be located. As an extension, all local economic development in a municipality must be fully integrated as a local economic development plan (LED) within the IDP. The IDP is a strategic planning process in itself. Therefore, if a municipality is being developmental and responds to local development problems, it needs to establish a clear vision and objectives to address these issues. For example, poverty and unemployment remain the key challenges facing municipalities in South Africa, and IDP objectives therefore need to include targets for meeting these challenges.

The IDP is a comprehensive plan for the development of the local area. Since the IDP is the key strategic planning instrument that guides and informs all planning, budgeting, management and decision making in a municipality, the IDP draws together all the development goals and objectives, including those for local economic development and food security. It includes a long-term vision, an assessment of the existing level of social and economic development, development priorities, development objectives, a spatial framework, land development objectives, operational strategies, municipal budgeting and all related resource allocation realities. The IDP ensures co-ordination between the different initiatives of government by drawing together the development goals, objectives, priorities, strategies and budgets (Integrated Development Planning and Local Economic Development. Emerging Leadership Municipal Development Programme. 2009. Programme Manual. Module 3).

## **THE ISSUE DRIVEN APPROACH IN INTEGRATED DEVELOPMENT PLANNING**

An Integrated Development Planning-model, as applied in South Africa for instance, is focused towards integrating social, economic and natural environmental concerns across sector and disciplinary interests. Specifically, the integratedness aspect relates to (Local Pathway to Sustainable Development in South Africa, n.a.:12):

- The special integration of place of employment and place of residence;
- The integration of multiple land uses;
- The integration between adjacent geographic areas;
- The eradication of spatial segregation and separation;
- The integration of urban and rural areas;
- The integration of ethnic groups;
- The social and economic integration of different communities;
- The integration and coordination of institutional activities;
- The integration of various developmental processes such as planning, management and implementation; and
- The integration of development information.

To ensure that integration occurs (such as in the above exposition) is practically speaking, a daunting task. It implies that the various issues, sectors and dimensions of development need to be considered comprehensively when development planning is conducted. Contrary to conventional planning practice, integrated development planning requires a focus on issues, rather than merely development sectors. The notion of integration therefore, central to integrated development planning, implies that sectors (stakeholders) are

approached in the context of their contribution to addressing priorities for development. In other words, key priority *issues* are identified and thus forms the focus of the planning process.

In terms of the issue-driven approach, social, economic and natural environmental considerations are taken into account. This forms a cross-cutting “golden thread” throughout the planning process. Cross-sectoral intervention areas may include:

- Poverty Eradication;
- Combating HIV and AIDS pandemic;
- Gender Equality and Development;
- Science and Technology;
- Information and Communications Technology;
- Environment and Sustainable Development; and
- Private Sector Development.

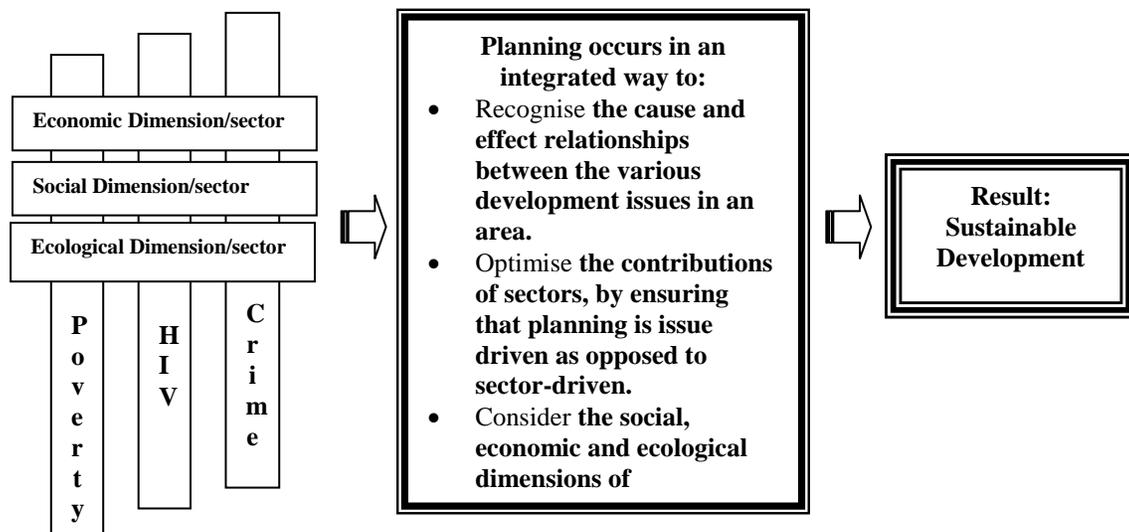
In addition, some integration intervention areas have been identified, being:

- Trade/Economic Liberalisation and Development;
- Infrastructure Support for Regional Integration and Poverty Eradication; and
- Sustainable Food Security; and Human and Social Development.

In the context of scarce human, financial and other resources, elements of institutional and structural capacity should form part of the planning and implementation processes for sustainable development. In figure 1 an example is presented which serves to illustrate the issue-driven approach and integrated nature of integrated development planning and how taking account of the cross-cutting aspect may result in sustainability in development planning.

In conjunction with the above, a particular reference to pro-poor strategies are appropriate: According to a research report emanating from the University of Reading (Pro-Poor Livestock Policy Initiative – A Living from Livestock, June 2004) it should be noted that when development policies and strategies are considered, both the poor livestock producers as well as more established production entities should be targeted. However, the food security and sustenance aspects associated with urban agriculture seem to indicate that some policies and strategies should emphatically be directed to serving the poor as such whilst it could be employed in conjunction with pro-growth policies and strategies as well.

**Issue-driven Approach and the Integrated Nature of Integrated Development Planning (example)**



Source: (Adapted from Local Pathway to Sustainable Development in South Africa, n.a.: 16)

Such a notion is supported by notable scholars ([www.businesstimes.co.tz](http://www.businesstimes.co.tz)) and institutions such as the World Bank (Chief Economist Africa Region, World Bank, November 2005). The essence is that development strategies must be pro-poor, yet it should be broad based and set across sectoral divides. The world bank emphasises that shared growth as an approach seem to be beneficial in recent East Asian countries where a focus is placed on growth across different sectors to equip the poor to participate in, and benefit from growth. Along these lines, recognition is given to the pursuit of growth without bypassing the poor, but equally, devoid of a myopic focus on pro-poor policies, which may divert attention from the growth principle (Chief Economist Africa Region, World Bank, November 2005).

In view of the above exposition, it could be deducted that local communities, who are the beneficiaries (stakeholders) of urban agriculture initiatives by the relevant authorities, should actively have input in the design and execution of such programmes and projects. Naturally, the established system of ward committees may be effectively utilised to further this objective. The following section depicts the ward committee system's functioning, as it presents within the South African policy and regulatory regime.

## **PUBLIC PARTICIPATION AND WARD COMMITTEES**

At all spheres of government, public participation has been identified as an important factor in engaging the broader community. Several government policy documents, such as the Reconstruction Development Programme (RDP) and The White Paper on Local Government, 1998 serve as the policy frameworks advocating and promoting the need for public participation or involvement.

Public participation in local government and development is also influenced by historical and current dynamics of the social, political and economic context in which local government seeks to operate. These dynamics should be acknowledged by local authorities in their formulation and implementation of development policies and their intentions to foster public participation (Atkinson and Reitzes, 1998: 128). The phenomenon of public participation in the South African system of government has become one of the major (and also dynamic) challenges for public managers at all levels and in all spheres of government. In the public domain, many services are provided. The public may be regarded as consumers who are entitled to good service, but they are also citizens (Du Toit, Van der Walldt, Bayat and Cheminals, 1998: 124) of a particular municipality residing in numerous wards. Public participation within a municipality is performed by ward committees. This is also advocated and promoted by government policies and legislation, which should be utilised to capacitate communities as far as the municipal governance process and procedures are concerned.

Participation embraces many different levels of involvement apart from the provision of basic information which is an essential base for all levels of participation. There are four general, separate arrangements embodied in the terms of reference: consultation, where the Council identifies an issue and seeks public response; direct involvement or power sharing, where community representatives are full members of the decision-making body; community action, where groups put forward their own demands; and community self-management, where groups have control of facilities and resources (Stewart, 1983: 132).

Public participation is more often than not restricted to public response to identified issues. The local authority has its own pattern of working, represented by its procedures, settings and roles, and giving expression to the values, assumptions and beliefs of the established organisational interests. Those interests should be respected and not disturbed by uncontrolled public involvement.

Furthermore, the public, as customers and citizens, can share needs and wants, but can also differ in their purposes. Citizens, as customers of government, are naturally more responsive to public needs than are government officials and the poorest of moral performances and accountability by government are generally associated with conditions in which few citizens have any influence (Du Toit *et al.*, 1998: 124).

People have the right to participate in government programmes and in civil society. Public participation includes standing for elections, voting in elections, becoming informed, holding and attending community meetings, joining civil and/or political organisations, paying taxes, protesting and petitioning. Craythorne (1997: 74) argues "...that public participation must also be understood in the context that cannot mean the submission

of all decisions on public affairs to a decibel auction by some vague entity known as the public, as it is likely that decisions will not be taken or that the wrong decisions will be taken, and such a step would amount to the abdication by the elected representative (Ward Councillor) of his/her responsibility to govern”.

## CONCLUSION

In the above discourse an attempt was made to refer to the essential theory concerning food security issues as it arises within the context of development, the South African local government system and sustainable development in general. Practical experience within a particular country and in particular a municipal environment does provide noteworthy suggestions on how sustainable food security measures may be administered. Currently public administrators are faced with the challenge of how to effectively administer programmes and projects associated with LED and food security and it may be opportune to consider how the ward committee system could be utilised to ensure sustainable public participation in this regard.

In summary, it may be noted that food security is currently an immediate response to an immediate problem in the developing world. Yet, as the foundation is cast for urban farming practice to occur, it may simultaneously transpire as the precursor toward local economic development, which may improve the prospects for increased entrepreneurship, job creation and poverty alleviation. Either way, when policies are weighed, local government should lend consideration to urban agriculture interventions, which honour issue-drivenness, pro-poor growth emphasis and the principles of SHREQ, all within the context of a strategic and integrated development planning model.

## REFERENCE LIST

Atkinson, D. and Reitzes, M. (Eds.). 1998. From a tier to a sphere – local government in the new South African constitutional order. Sandton: Heinemann.

City of Johannesburg. Draft Policy Framework. Urban Agriculture. October 2008.

Coetzee, M. N. A. Local Parthway to Sustainable Development in South Africa. Summary document on the IDP LA21 Relationship for Publication and Dissemination at the World Summit. CSIR: Pretoria

Craythorne, D.L. 1997. Municipal Administration. A Handbook. 4<sup>th</sup> edition. Cape Town: Juta.

Department of Provincial and Local Government (DPLG). 2003-2004. Ward Committees. Department of Provincial and Local Government, Pretoria.

Du Toit, D.F.P., Van der Walldt, G. and Cheminais, J. 1998. Public Administration and Management for Effective Governance. Cape Town: Juta.

Fresh Link. Fresh Produce Talk. July 2008.

Fresh Link. Fresh Produce Talk. Spring 2008.

Republic of South Africa. Local Government: Municipal Structures Act, 1998 (Act 117 of 1998). Pretoria: Government Printers.

Republic of South Africa. Local Government: Municipal Systems Amendment Act, 2003 (Act 44 of 2003). Pretoria: Government Printers.

Republic of South Africa. The White Paper on Local Government, 1998. Pretoria: Government Printers.  
RUAF Foundation. Undated. PAPUSSA Policy Briefs.

Stewart, J. 1983. Local Government: The Conditions of Local Choice. London: George Allen & Unwin.

The Planact, 2001. Enhancement Programme for Ward Committees, Councillors & Officials: Module 2: How Local Government Works. Braamfontein: Ultra Litho.

University of Pretoria. Integrated Development Planning and Local Economic Development. Emerging

Leadership Municipal Development Programme. 2009. Programme Manual. Module 3.

University of Reading. Pro-Poor Livestock Policy Initiative – A Living from Livestock. Research Report, June 2004.

Van Rooyen, E. J. Sustainable agricultural development among the Southern Africa Development Community (SADC): considering integrated development planning practices and institutional arrangements. Journal of Public Administration, vol. 39 no. 4.1. November 2004.

World Bank. Strategies for Pro-Poor Growth: Pro-Poor, Pro-Growth or Both? November 2005.

[www.businesstimes.co.tz](http://www.businesstimes.co.tz)

[www.fao.org](http://www.fao.org)

[www.financialexpress.com](http://www.financialexpress.com)

# THE HYPOTHESIS OF A NEW APPROACH TO LEAN PRODUCTION INTO THE CONTEXT OF LEAN THINKING

**Ksenia O. Safronova, Higher School of Economics National Research University, Russia**

## ABSTRACT

*The enterprise management entirely depends on the literacy of strategic management and intellectual potential of employees. Presented in the article are orthoepic content terms of Lean. Also the article includes the detailed analysis of the main operating functions of the production in the concept of lean enterprise, the tools of «Lean Production» as evolutionary development philosophy of «Lean» and the updated hypothesis of a new approach to Lean Production, based on the Noosphere Thinking. In that case, there are born a new term of «Lean Learning Manufacturing».*

## «TOPICALITY OF RESEARCH»

During the last decade, the leadership of many Russian companies began to understand that the deciding factor on the path to business success is a clear statement of the company's strategy and its effective realization. Control of the operating system business is a key in this respect. Performance of the main operating functions of the enterprise is based on the strategic vision of the enterprise core competencies and capabilities to enhance its competitiveness in the market.

Every company strives to meet customer needs, and so maximizes production applying the most efficient use of production facilities and talent. That is why increasing international competition and rapid technological development require the heads of organizations to consider in a new way the full range of management issues for its operating units responsible for the production of goods and services.

During the last decade, management of many Russian enterprises has begun to understand the prospects of using the principles of Lean Production. However, in the pursuit of «winning» as a loyal customer, the company should not forget about the rationality of the use of intellectual, natural and financial resources. In this context, the process of rational using of available recourses becomes important in society, in the company. Therefore, solving the problems of today, we can build a future through the lean technology.

The concept of Lean Production is the philosophy of management, where we don't speak only about changing the prevailing style of production organization, but about a modern culture too; about creating new operating systems, which will be riddled with lean thinking, both among the highest, and among the lower strata enterprise.

Enterprises of this type focus on management approach, the use of existing reserves on the basis of conjecture «Noosphere Thinking». Before proceeding to the analysis of Noosphere Thinking is needed to define the genesis of the concepts of Lean Manufacturing. The hypothesis of a new approach is in the concept of Lean Production in the context of Noosphere Thinking for expanded and detailed proof of the existence. Now the challenges are facing business partly arise because of resistance to change, lack of professionalism, and lack of motivation. Change of ideas and methodologies are cyclically. In the thirties of the twentieth century philosophy of business management system was the most advanced to the «Toyota Production System» (TPS). Today this concept is known as «Lean Production».

The concept of «Lean Production», based on specific principles, where the paramount value is the consumer, and is transformed into a «Lean Thinking», dictated by the value from the standpoint of the manufacturer and the substructures of the operating system business in general. Value - the starting point of Lean Thinking. Value is created by the manufacturer, as defined by the user. Both external and domestic consumers are advocates in the role of consumer. Anybody in any stage of the production process is also considered as a consumer, which should provide all necessary and at the right time. Therefore, it is important to understand values through the integration and coordination of staff through educational programs, which are not only learning the technological aspects, but also brought up the morale, values of the organization.

The process of producing goods and services has been being allowed to talk long about operation management. Breakthrough in the development of the concept of scientific management and production methods has been marked by Just-in-time development approach. The aim of JIT is a smooth and rapid flow of materials, information, and finance through the entire operating system. JIT – strategy driven demand – is nothing made up for as long as there is no need of it. The demand for parts or finished products «pulls» the product of the system. The phrase «sell daily – make daily» embodies the essence of JIT-standard.

Order formations became possible by the emergence of MRP-system as appropriate and in the right quantities. In many ways, the successful implementation of MRP-system depends on the support and active participation in the project implementation of top management. Ignoring this condition is fraught with consequences that can meet resistance from the rank and file employees in the flesh to the loss of communication with business objectives and strategic goals. Reactive process of order execution is carried out through a Kanban system. The Kanban heart is theorizing of the scientific organization of labor theory of F. Taylor and streaming production of H. Ford.

The main purpose of implementing the principles of Kanban and «pull flow» is rapid response to customer needs at the right product at the right time in the specified amounts. To implement this principle the introduction of quick changeovers of equipment – SMED system (Single minute exchange of die) is required. This system implements the approach of Total Productive Maintenance. TPM-task approach focuses on the systematic involvement of all staff in continuous improvement of operational (production) process.

Just-in-time development approach was followed by the development of Total Quality Management. Development of TQM was contributed significant results, both in operational management and in the practice of business management in general. As the process of production management is being developed, a new level of automation of business processes has got a brand new quality. This trend began to popularize the need for training of a new quality (level) – Integrated managers whose duty is to ensure the consistency of individual areas of management.

## **LEAN MANUFACTURING IN THE CONTEXT OF LEAN PRODUCTION**

«Lean Manufacturing» means a systematic influence on the process of creating value for each product - from concept to production, from order to delivery, from raw materials extraction to the moment when the product gets into the hands of end users with a minimum time, cost and losses. Production – this is not the domain of the enterprise. By producing a «Lean Production» is meant that a more general form is the main operating function.

According to, the classification of the business processes of the operating system of the organization, the production is the processing subsystem of the operating system, as the contents of the business process – is the creation of products. Organization's business processes is the primary operating function, which converts the resources received by the company's entry in the final product that represents value to the customer on the exit. The realization of the main operational function determines opportunity, procedures and methods of achieving competent expression and organization competitiveness. It is necessary to build the work with the subsystems of the operating system. In that case, need to talk about working «Lean Production» as «Lean Manufacturing». Management philosophy on the principles of «Lean» is built on the philosophy of morality based on respect for the employee as an individual, involvement in the process of solving the current problems of all employees, creating psychological atmosphere, eliminate fear and providing the ground for the creative potential of man.

There is the development of all three subsystems of the operating system along with the development of production as the main operating function. This means that the activities of all three subsystems – the management, processing, providing – must adhere to the principles of «Lean Manufacturing».

## LEAN PRODUCTION AS TEACH MANUFACTURING

The concept of «Lean Production» – is not just a set of tools and techniques. In order to «Lean» principles work need to create a system that would encourage staff to think, learn and improve. Lean encourages technology to become a learning organization through relentless self-analysis – Hansen. Hansen is part of company culture and an integral part of the Learning Organization. According to the head of Toyota Technical Center, without self-examination is not possible to create a learning organization: «Without Hansen is not possible to do kaizen. Japanese Hansen means that when you do something bad, you should first feel the deepest regret. Then you should develop a plan for solving problems in the future, believing that you will never repeat his mistake. Hansen – a way of thinking, mentality, attitude. Hansen and Kaizen are inextricably linked».

Constant change, innovation and flexibility are integral components of successful business and the mandatory conditions of survival of the XXI century. And the new approach relies on the ability to learn. Lean Manufacturing intelligently uses the stabilization and standardization in order to bring innovation emanating from the project team. These innovations should be standardized and will be used until such time until you find a new approach. Standardization, innovation is intermittent, which is enshrined in the new standards are the foundation of a new approach to learning and creating Learning Manufacturing (Organizations).

Moreover, if the acquired knowledge and skills consistent with the natural inclinations and aspirations of man, it will benefit both the person and company. In this case, preparation of training programs through corporate universities within the enterprises (manufacturing) are transformed into a new type of education of people, because they promote not only professional but also the mental, moral and spiritual development of personality. Continuous improvement and learning in a Learning Manufacturing (Organization) applies to suppliers. Lean enterprise expands its borders and begins a difficult work to integrate third-party vendors into a single network. This structure is called «Lean Learning Manufacturing». Joint training is carried out through workshops on improving production, which is responsible for the results of training provider. At these seminars are being tested different approaches to the organization of the suppliers. Subsequently, some suppliers created an association BAMA (Bluegrass Automotive Manufacturing Association). As part of BAMA's leading providers share their experiences and discuss their concerns, organize joint projects. These meetings contribute to the company-manufacturer convey key information to suppliers.

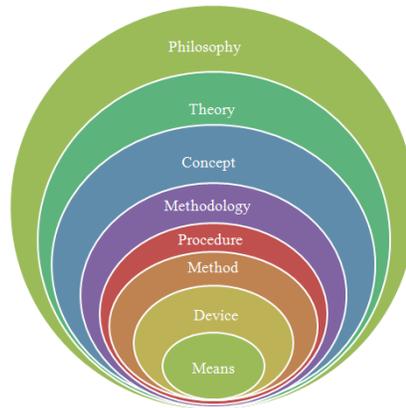
The success of «Lean Learning Manufacturing» equires a skilled top management of the manufacturer, partnerships with suppliers, a culture of continuous improvement and collaborative learning. Conceptually, approaches MRP, TPM, SMED, means of visual control and part of the standard of quality management – JIT, TQM formed the core of the new philosophy of management of modern business Lean Production.

## ORTHOEPIC CONTENT TERMS OF LEAN

In the process of learning concepts (terms), actively used in the concept of «Lean Production» the problem is identified the correct perception and use of terms that constitute the backbone of the «Lean». Incorrect translation of certain terms has provoked confusion in the content of concepts. In order to solve the problem of tracing terms in other languages has been created table (orthoepic content) «Lean» terms with definitions of their values. However, before you begin building orthoepic content terms, it became necessary to clearly define the values of terms used to create a logical connection between the terms of the concept of «Lean Production».

Illustration of the meaning of the terms of inclusion on a «doll» can illustrate their logical linkage (Fig. 1).

**Fig. 1. Logic connection between the values of key terms used in the concepts of «Lean Production».**



In this regard, we are entering on the new level not just process control and management of the operating system. There is a new hypothesis for development. Development of «Lean» may be represented as orthoepic communication terms, is actively used in the concept of Lean Production.

Identified contexts of ideas Lean Production suggest the development of the theory of «Lean» to output to a new level of culture of enterprise management, the scheme of interaction between its levels and departments, as well as a system of values and attitudes to work of employees.

The table «orthoepic content terms» based on the deriving research (Table 1).

**Table 1. Orthoepic content of the terms**

Term	Definition
Lean Production	The concept of management, focused on the struggle against the losses of all kinds in all subsystems of the operating organization.
	A set of techniques developed through the creation of sustainable value for customers, employees and owners with a minimum time, cost and errors.
	Style of management organization, where the main emphasis is on education of gifted people, cross-training, strategic thinking as a higher and the lower layers of the organization.
Lean Manufacturing	Transformed the concept of lean production, which covers all the subsystems of the operating system business (management, marketing, information technology, etc.)
Lean Thinking	The philosophy of lean production, aimed at combating all types of losses in all spheres and at all levels of the company.

The most important aspect of the production process of «Thinking System» is to create a company man.

## **NOOSPHER THINKING AS IDEALOGIYA TRANSFORMING KNOWLEDGE SOCIETY**

As in the evolution of philosophy «Lean», and all changes in nature has always been associated with the role of moderator – Man. Evolution of human relationships: people – society, the employee – company, organization – suppliers, the company – the customer – is largely dependent on modern technologies, concepts and ideologies. Century ideology of today should seek a harmonious combination of Man – Nature – Society – Space. This harmonious union describes the Noosphere thinking. This idea of the noosphere belongs to Russian scientists. Great contribution to the development of the noosphere thinking was made by V.I . Vernadsky in his works «Biosphere and noosphere», «Philosophical thoughts naturalist». Noosphere thinking idea is a mechanism of the humanity survival by creating a balance between the capacity of the biosphere and the needs of the population to meet the good things of life, gradually increasing the technology of maintaining the balance.

Human activities could lead to the degradation of Earth's biosphere and death, but can also lead to the noosphere – the next evolutionary stage of the existence of a new biosphere. Noosphere – a sensible creative

power of thought and action of the majority of people in the biosphere, harmonious union of man and nature. Man of the noosphere – a man of the future. In his teachings Vernadsky said about scientific knowledge as a special area, «where the process of continually organizing and processing information on various events and objects of reality». Biosphere is modified in a new state – the noosphere. Noosphere thinking permits politics and economics, morality and art, philosophical thought and religious life. Academic life generates a new technique, technology, improves manufacturing processes that directly and powerfully alter the nature, «enriches humanity, making it more knowledgeable and skilful». The idea of sustainable consumption involves the creation of future society – Noosphere society. In this regard, there is the reorientation of the society to a creative understanding of the evolution of knowledge, using the methods of energy-self-regulation.

In perspective, the concept of energy-paradigm «sphere of the mind» is a kind of energy-shell of the Earth, «which records are stored all the results of cognitive, emotional, verbal, verbal, material and economic activities of man and mankind». You can submit new model of «being» where the man of the noosphere, and to be more precise human intelligence – is the core, the essence, and the tools of development and transformation of the world, societies, organizations – is the stratosphere thrift. The idea of Noosphere Thinking is not affected by accident, because one must look at the root and see the basic relationship. Realizing the essence of «Lean Production» in conjunction with the specific areas of activity can create an efficient operating system. All parts of the logistics chain will be «linked» the ideology of Noosphere ratio (relationship). Noosphere evolution in the inner world of man can lead to changes in society and nature. And these changes must be backed by concrete action. Role of the applied part or biosphere-saving aspect is given to the principles of «Lean Ratio». If we change the Noosphere Thinking officer, taught him to work, to improve themselves, to devote him to the philosophy of «Lean», then we will create a strong corporate culture and as a consequence, the effective (efficient) operating system.

Let's investigate this theory of Noosphere Thinking if this idea is submitted only in one organization, not in the global sense. Each organization is a small company with its population and territory, wealth and hierarchy, communication and technology, corporate culture and management style. In order to control and manage effectively this system, the organization must actively coordinate all its departments. There are four levels of integration of the organization: operational, functional, cross-functional and inter-institutional. Sharpen their focus on the last two levels. Cross-functional level determines the internal integration of the organization. The essence of it is reduced to the integration of all departments and services of the enterprise for a given outcome. However, cross-functional integration is not enough to achieve competitive advantage in today's business environment. Therefore, under current conditions the company can be effective only when the external integration of its activities on inter-organizational level, where the stability of the open system is formed by the development of interaction with the environment. Thus, we can talk about environmentalism. Therefore environmentalism lean perception can be regarded as a focus of psycho-emotional and cultural education of the individual to interact with the environment (contact with people, the microclimate in a particular situation and environment). This idea can lead Hawthorne experiments of Elton Mayo, which examined the effects of certain environmental changes on the productivity of workers as a confirmation. Despite the fact that the idea of «Lean» is born with business needs, its principles are well reflect the essence of the Noosphere Thinking.

The concept of «Lean Production» in the context of Noosphere Thinking generates a new philosophy of Lean Thinking. Reason for lean thinking is «Learning Lean Manufacturing». In this case, lean thinking has permeated all the subsystem of the operating system business.

## REFERENCES

- Liker K. J., Gardner G. *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*, America Media International, (November 2005):
- Womack P. J., Jones T. D. *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Free Press; 2nd edition, (July 7, 2003):
- Стерлигова А.Н., Фель А.В. *Операционный (производственный) менеджмент: Учеб. пособие.* – М.: ИНФРМА – М, 2009. – с. 30 – 31.

Liker K. J., Meier P. D. *Toyota Talent: Developing Your People the Toyota Way*, American Media International (Nov 1 2009):

Стерлигова А.Н. Теоретико-методологические основы уровневой интеграции деятельности компании в условиях сетевой конкуренции. – М.: МГОУ, 2008. – с. 21.

Вернадский В.И. Мышление как планетарное явление. - М.: Наука, 1990.

Liker K. J. and Meier D. *The Toyota Way Fieldbook: A Practical Guide for Implementing Toyota's 4Ps*. New York: McGraw-Hill Professional, 2005.

Bowersox D. J., Closs D. J., and Cooper M. B. *Supply Chain Logistics Management*, Boston: McGraw Hill; 3rd Edition, 2010.

Баньковская С.П. Инвайроментальная социология. - Рига, 1991;

Спиридонова Е.Б., Петрова Ю.А. «Джордж Элтон Мэйо». - Статья из цикла «Гуру менеджмента». – [Электронный ресурс]. – Электронные данные – Режим доступа: [www.iprmedia.ru](http://www.iprmedia.ru).

Chase B. R., Aquilano J. N., Jacobs F. R. *Production and Operations Management: Manufacturing and Services*, Irwin Professional Publishing; 8th edition, (January 1998).

Ожегов С.И. Словарь русского языка: Ок. 53 000 слов / С.И. Ожегов; под общ.ред.проф. Л.И. Скворцова. – 24-е изд., испр. – М.: ООО «Издательство Оникс»: ООО «Издательство «Мир и Образование»; 2010. – с. 305 – 1117.

Schein H. E. *Organizational Culture & Leadership*, Jossey-Bass; Third Edition, 2004.

Imai M. *Gemba Kaizen: A Commonsense, Low-Cost Approach to Management*, New York: McGraw-Hill Publishing Company, (March 1997):

James D. T. J., Womack P., Roos D. *The Machine That Changed the World: The Story of Lean Production – Toyota's Secret Weapon in the Global Car Wars That Is Now Revolutionizing World Industry*. New York: Free Press, 2007.

Deming W. E. *Out of the Crisis*. The First MIT Press Edition, (August 11, 2000).

# **INTERNATIONAL STANDARDIZATION ON SOCIAL RESPONSIBILITY: UNDERSTANDING LEARNING DYNAMICS THROUGH SOCIAL COMPLEXITY PERSPECTIVE**

**Eduardo Campos de São Thiago**  
**Brazilian Association of Technical Standards, Brazil**

**Maria Fatima Ludovico de Almeida**  
**Pontifical Catholic University of Rio de Janeiro, Brazil**

## **ABSTRACT**

*The social complexity perspective of Organizational Learning is a conceptual approach that integrates cognitive and social perspective conceptions by drawing on two sets of principles of Complexity Theory, particularly those associated to the dynamics of Social Complex Adaptive Systems. Through the social complexity perspective lens, learning emerges as a space where different possibilities can be contained and it is also a process and product of the multiplicity of connections. This approach is particularly relevant for analyzing the process of international standardization on social responsibility, where double level of consensus – amongst stakeholders and across countries – was successfully achieved. The purpose of this paper is to present a new theoretical approach for investigating ISO 26000 standard development as a social, complex learning process. It was assumed that the social complexity perspective of Organizational Learning can improve the understanding of the role of learning as a source of institutional sustainability in the light of the strategic challenges faced by ISO within the global governance arena.*

## **INTRODUCTION**

The expansion of the scope of the International Organization for Standardization (ISO) regarding the societal aspects which ISO standards increasingly address – such as impact on the environment and energy consumption, consumer and worker protection, health, food safety and ethics – requires that the representatives of the corresponding interested stakeholders be properly involved. By way of illustration, the scope and membership of the ISO committee on consumer policy (ISO/COPOLCO), have been systematically reviewed to consider broader participation of the interests associated to the impact of consumer products and services on these societal aspects and the potential contribution of international standards to clarify the corresponding claims (ISO, 2009).

The need for ISO to work on a social responsibility (SR) global standard was first assessed in 2001 by COPOLCO. In 2003, the multi-stakeholder ISO Ad Hoc Group on SR, which had been set up by ISO's Technical Management Board (TMB), completed an extensive overview of SR initiatives and issues worldwide. In 2004, ISO held an international, multi-stakeholder conference to further help to determine whether or not it should launch a SR standard. The positive recommendation of this conference led to the establishment in late 2004 of the ISO Working Group on Social Responsibility (ISO/TMB/WG SR) to develop an international standard on Social Responsibility, which was published in late 2010 as ISO 26000 - Guidance on social Responsibility (ISO, 2010).

The international standard ISO 26000 aims at implementing and accelerating the development, realization, and improvement of influential factors for social responsibility in organizations. ISO 26000 was developed for all kinds of organizations in any country of the world, including countries with emerging markets and developing countries. As the ISO standard was designed as a guidance document, providing meaningful guidance to all kinds of organizations on social responsibility issues, the standard is neither intended for third-party certification nor describes a management system.

Regarding the membership of the ISO/TMB/WG SR, it was the largest and the most broadly based in terms of stakeholder representation of any other single group formed to develop an ISO standard. Six main stakeholder groups were represented: industry; government; labour; consumers; non-governmental organizations (NGO); 'service, support, research and others' (SSRO), as well as a geographical and gender-based balance of participants (ISO, 2011).

Under the joint leadership of the ISO members for Brazil (ABNT) and Sweden (SIS), it was made up of experts nominated by ISO members (national standards bodies – NSBs) and from international or broadly-based regional organizations. ISO/TMB/WG SR concluded its work in late 2010 with 450 participating experts and 210 observers from 99 ISO member countries and 42 D-liaison organizations. ISO 26000's learning process will be treated in the present work as a process that involves individual cognition and collective activities of multi-stakeholders that are bounded by common goals and commitment to organizational actions of the ISO/TMB/WG SR.

This paper presents partial results of an ongoing MSc. research project which aims to: (i) show, through the social complexity perspective, empirical evidences on the learning dynamics and the specific learning mechanisms experimented by the several groups during the development process of ISO 26000 standard; and (ii) identify the facilitating and constraining factors for organizational learning in two social complex evolving systems - the ISO/TMB/WG SR and one of its national mirror committees - the Brazilian ISO/TMB/WG SR Mirror Committee.

The research methodology of this ongoing MSc. project comprises: (i) bibliographical and documental review on international standardization; social complex adaptive systems; organizational, with special attention to integrative approaches; (ii) review of the development process of ISO 26000 standard; (iii) design of a conceptual model that integrates the international standardization and organizational learning, through the lens of the social complexity perspective; (iv) development and application of a survey questionnaire in two levels - ISO/TMB/WG SR and its Brazilian Mirror Committee; and (v) description of ISO26000 study case, bringing empirical evidences of organization learning in an international, multi-stakeholder environment.

The main contribution of this research project is to introduce a new theoretical approach, as presented here, for investigating ISO 26000 standard development as a social, complex learning process. This can be especially useful as it can improve the understanding of the role of learning in a double level of consensus – amongst stakeholders and across countries – in the light of the strategic challenges faced by ISO within the global governance arena. From the ISO 26000's case study, it can be revealed the best mechanisms that facilitated the process of learning and also the main barriers observed in such an international, multi-stakeholders' environment. For future international standards developments, the case study can also bring some recommendations that ISO could adopt in near future to meet needs and expectations of all stakeholders' categories, particularly different groups other than those that classically took part in ISO standardization processes.

## **THE ISO 26000 STANDARD DEVELOPMENT: A COMPLEX LEARNING PROCESS**

For reviewing the development process of ISO 26000 standard and reinforcing its organizational complexity, a reference source of information provided by ISO was accessed via the online ISO Livelink area (ISO, 2011). This database comprises an extensive empirical material on its development process, including circa of 1,700 documents as a whole. By way of illustration, different drafts of ISO 26000, minutes of the

working group meetings, working documents, resolutions, comments or results of ballots could be accessed and reviewed.

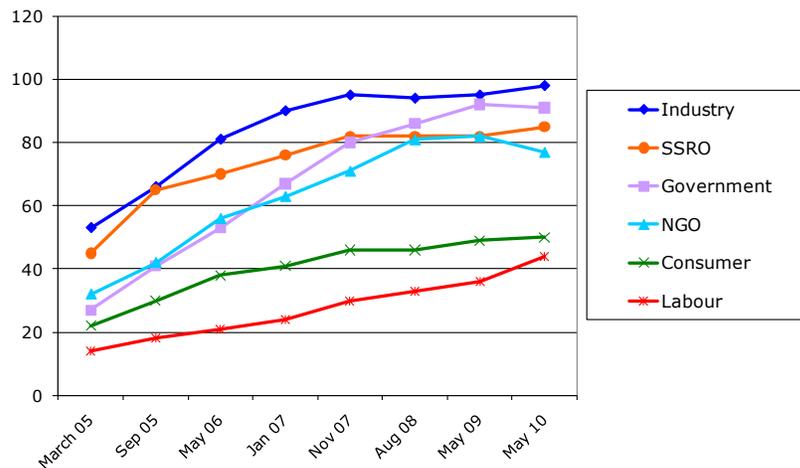
The ISO 26000 development process introduced innovative and flexible organizational procedures, which can be summarized as follows: (i) adoption of a multi-stakeholder approach; (ii) implementation of twinning principle to a greater extent than had yet been carried out in any ISO standards development group; (iii) configuration of a basic organizational framework including subgroups devoted to: adopting new flexible procedures, in addition to the usual ISO rules; looking for funding under-funded groups; and enhancing communication within and outside ISO/TMB/WG SR; and (iv) implementation of an inclusive decision-making process, which encompassed national mirror committees from 99 countries, having in their composition experts from the above mentioned stakeholders' categories.

One of the most prominent characteristics of this process was the adoption of a multi-stakeholder approach. The experts of ISO/TMB/WG SR were nominated by the ISO members and included experts representing six main stakeholders' categories. In addition, interested international and broadly based regional organizations were also able to appoint a maximum of two experts each. The six stakeholders' categories were: (i) industry; (ii) government; (iii) consumer; (iv) labour; (v) non-governmental organizations (NGO); and (vi) 'service, support, research and others' (SSRO). The stakeholders' categories were first defined by ISO/TMB in a document titled "New work item proposal - Social responsibility" (ISO, 2004). Later on, the ISO/TMB/WG SR agreed that the 'Other' category should be re-named "Service, support, research and others (ISO, 2005).

ISO member bodies (MBs), i.e. those national bodies that represent their country within the ISO organization, were allowed to nominate up to six persons, one for each of the six stakeholders' categories. These nominees hold an "expert status", which includes the right to participate actively at the different drafting stages. Their individual views had to be considered during the development process (ISO, 2004; ISO, 2009). International or broadly based regional organizations could additionally acquire a so-called "D-liaison status", which offered the right to nominate up to two experts with the same status as other nominated experts (ISO, 2004).

In May 2010, the ISO/TMB/WG SR consisted of 450 experts from 99 countries and 42 D-liaison organizations. (ISO 2010). Experts representing "Industry" accounted for approx. 22% of the WG experts, followed by the categories "Government" (approx. 21%), "SSRO" (approx. 19%), and "NGO" (approx. 19%). The two smallest groups were "Consumers" (approx. 11%) and "Labour" (approx. 8%), as showed in Figure 1.

**Figure 1: Balance of stakeholder representativeness**



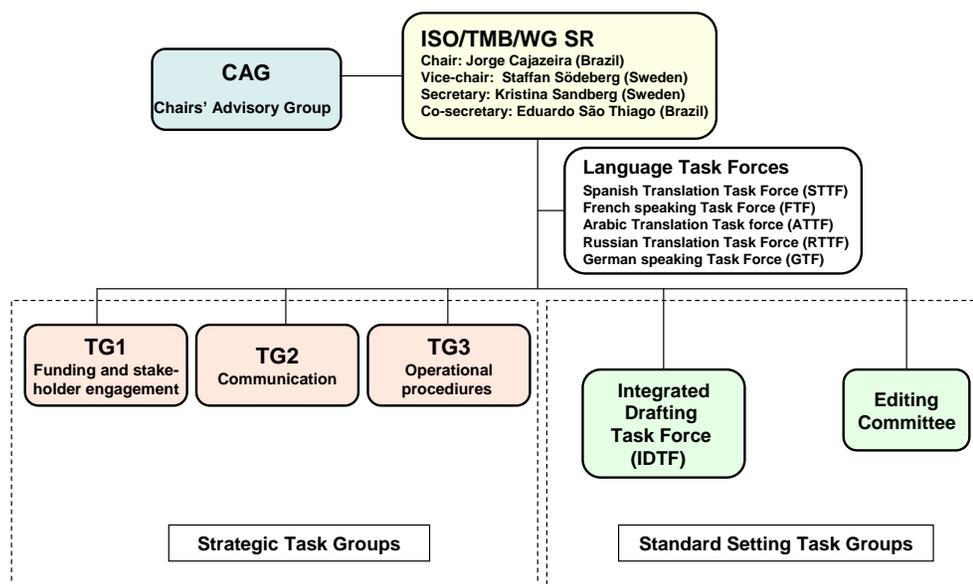
The development process of ISO 26000 was special in a number of respects, particularly with regard to the efforts made to ensure the participation of developing countries. Within this perspective, ISO implemented the principle of twinning (twin leadership between a developed and developing country) in the ISO/TMB/WG SR largely than had yet been carried out in an any ISO standards development group. The ISO/TMB/WG SR was jointly led by two National Standards Bodies: one from a developing country and the other from a developed country, respectively the Brazilian Association of Technical Standards (ABNT), and the Swedish

Standards Institute (SIS). Besides this twin leadership between Brazil and Sweden, there were efforts in the sense that any subgroup that was established should have in their leadership representatives from developing and developed countries on an equitable basis.

Figure 2 shows the organizational structure of the ISO/TMB/WG SR, which was created in 2005 by the group at the very beginning of its operations (ISO, 2005). A Chairs' Advisory Group was established to provide strategic advice to the Chair and to the Vice Chair. A Task Group (TG1) was created to find ways of ensuring balanced participation across regions and stakeholder groups, in particular through fundraising efforts. TG2 was created and charged with developing external communication and dissemination tools, and a third Task Group (TG3) was established to devise internal guidance on special procedures for the WG SR to complement those existing ISO procedures (ISO, 2008). And three additional Task Groups (TG4 to TG6) were initially established to take forward drafting of different parts of the standard.

As reported by ISO (2007), the WG SR organizational structure evolved along the course of the ISO 26000 development. The three additional task groups (TG4 to TG6) were disbanded and their leaders took part of a new subgroup titled 'Integrated Drafting Task Force' (IDTF) established in November 2007 at the Vienna WG SR Meeting. The IDTF was specifically charged with the duty to review and revise the ISO 26000 drafts as a whole. As showed in Figure 2, an Editing Committee was also established. Besides, Language Task Forces (which were not formally part of the WG SR) worked to translate key documents into languages other than English in order to ease participation from non-English speaking countries.

**Figure 2: Organizational structure of the ISO/TMB/WG SR**



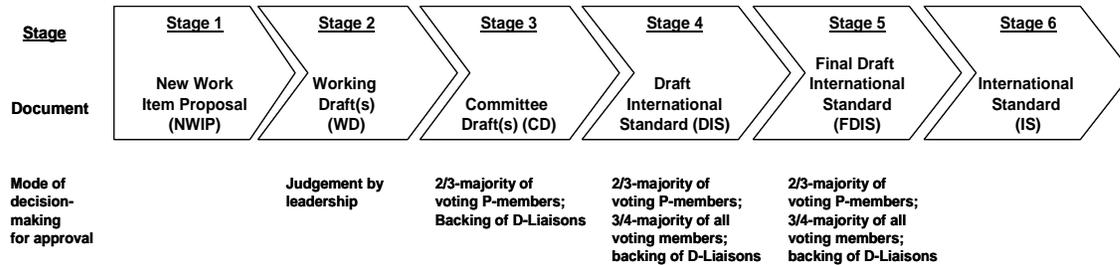
As far as the implementation of an inclusive decision-making process is concerned, National Mirror Committees from the member countries were established, having in their composition experts from the six stakeholder categories. This organizational mechanism was designed to provide national perspectives as input to the experts acting in the ISO/TMB/WG SR, in addition to those from 42 international and broadly based regional organizations (D-liaison organizations).

In accordance with the ISO/IEC Directives, Part 1 (ISO, 2008), the development process of ISO 26000 was performed in several successive stages. Figure 3 shows the stages and modalities of decision-making in the ISO 26000 standard development.

For new ISO projects (Stage 1), the proposer of the initiative shall indicate the range of organizations/stakeholder groups supporting the initiative, as well as those that, according to their interests and identified needs should as a minimum be involved in its development in order to facilitate the arrangements of national consensus building (ISO, 2010). Liaison organizations should be committed to informing and seeking

input from a broad range of their relevant stakeholders on any new ISO projects once the ISO member bodies approve them (ISO, 2010).

**Figure 3: Project Stages and Decision-Making in the ISO 26000 Standard Development**



In order to complete one stage and enter the next, a continuously improved draft version of the guidance standard has to be approved. These different drafts could be considered as milestones of the development project. The main draft versions, representing the pre-stages of the official ISO 26000 document, are namely the Working Draft(s) (WD), followed by the Committee Draft(s) (CD), a Draft International Standard (DIS) and a Final Draft International Standard (FDIS) (ISO, 2008). The aim of such a development project is to build consistent draft documents for each stage for subsequent approval through a consensus-based process among all experts, and consequently the publication of a new standard as an official ISO document (Figure 3).

The overall proceeding principle within the ISO 26000 development was founded in the idea of finding a consensus among the participants (ISO, 2005). ISO defines consensus as a "*general agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments*" (ISO, 2008).

The role of learning in a double level of consensus – amongst stakeholders and across countries – will be the object of the MSc. Research, by applying the new conceptual approach presented in next section. The motivation for this exploratory, conceptual paper was that the organizational learning approaches used so far are mainly focused on how local learning and best practices are shared and transferred across individuals and network of institutions without addressing the dynamics and learning mechanisms employed (Gherardi, 2001; Easterby-Smith et al, 1999; Elkjaer, 2005; Antonacopoulou and Chiva, 2005; 2007).

## THE SOCIAL COMPLEXITY PERSPECTIVE OF ORGANIZATIONAL LEARNING

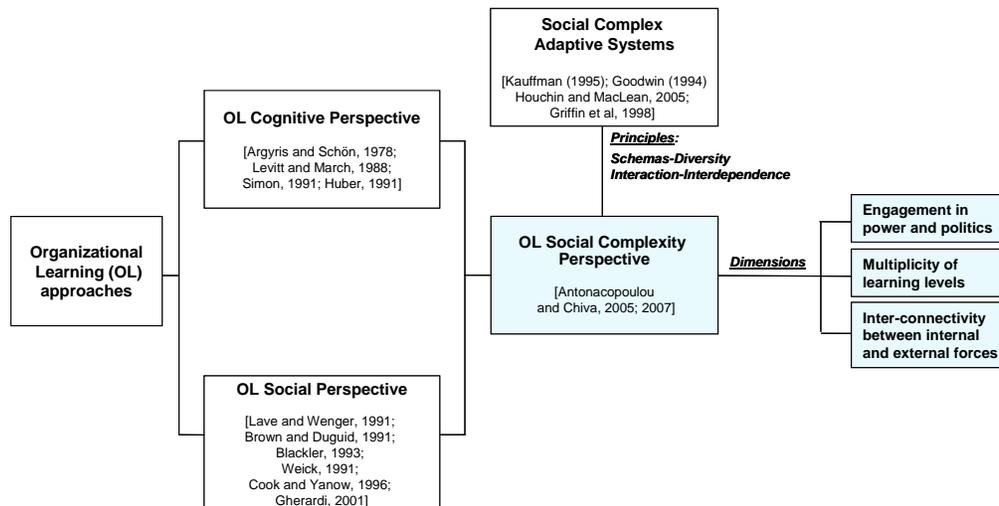
The social complexity perspective of Organizational Learning (OL) is a conceptual approach proposed by Antonacopoulou and Chiva (2005; 2007) that integrates cognitive and social perspective conceptions by drawing on principles of Complexity Theory, particularly those associated to the dynamics of Social Complex Adaptive Systems (Kauffman, 1995; Goodwin, 1994; Houchin and MacLean, 2005; Griffin et al, 1998). Figure 4 represents schematically the theoretical background concerning the social complexity perspective of OL.

Antonacopoulou and Chiva (2005; 2007) focused on the radical perspective of Complex Adaptive Systems (CAS) approach (Kauffman, 1995; Goodwin, 1994; Houchin and Mac Lean, 2005; Griffin et al, 1998), but also considered concepts like schemas or rules, as they refer to micro-dynamics in relation to knowing and doing that are central to organizing.

The complexity principles they focused on are *schemas–diversity* and *interaction–interdependence*. These two sets of principles were chosen both because they reflect the most significant dimensions that explain the nature of CAS, and also because they correspond to the two main streams in OL research: (i) cognitive perspective (Argyris and Schön, 1978; Levitt and March, 1988; and Huber, 1991); and (ii) social perspective

(Lave and Wenger, 1991; Brown and Duguid, 1991; Blackler, 1993; Weick, 1991; Cook and Yanow, 1996; and Gherardi, 2001). A key element of the cognitive perspective is Schema Theory (Gnyawali and Stewart, 2003), which considers learning as the process of transforming, creating, refining or validating schemas. On the other hand, the social perspective considers learning as the product of social interactions (Gherardi, 2001).

**Figure 4: Theoretical Background Schema concerning the Social Complexity Perspective of Organizational Learning**



Based on *schemas-diversity* and *interaction-interdependence* principles, Antonacopoulou and Chiva proposed an integrated conceptual view of OL that explores the interactions between learning actors at different levels and the wider environment and identifies the conditions that support the interdependencies between them. For capturing the dynamics of learning and organizing structures, they identified three dimensions as key for explaining the social complexity of OL. They are: (i) engagement in power and politics; (ii) multiplicity of learning levels; and (iii) inter-connectivity between internal and external forces. These dimensions will be discussed in the next section, focusing on the ISO 26000 standard development process.

## AN ATTEMPT TO UNDERSTAND LEARNING DYNAMICS OF ISO 26000 STANDARD DEVELOPMENT

The choice of the social complexity approach for analyzing the learning process of ISO 26000 development was mainly due to its strength in treating organizations as social evolving complex systems, reinforcing the role of learning as a source of institutional sustainability. One of the basic assumptions of this research is that both internal (endogenous) and external (exogenous) interactions are essential to learning within an international and multi-stakeholders' organizational environment – such as ISO 26000 standard development. As different social actors were involved, they can be identified as learning entities that interacted and negotiated through various boundary objects.

As mentioned before, the three dimensions concerning the social complexity approach are discussed here with an attempt to design, in the second phase of this research, a conceptual model that integrates international standardization and organizational learning processes, through the lens of the social complexity perspective, as conceived by Antonacopoulou and Chiva (2005; 2007).

The first dimension– *engagement in power and politics by individual agents* – can help to explain how the members of the ISO/TMB/WG SR and one of its Mirror Committees - the Brazilian Mirror Committee-contributed through their actions to either the stability or renewal of the whole social complex system, by following or breaking the rules as they had learned. In both groups, engagement by individual agents can be considered as an active and intense process of collaboration. For the research purposes, it was assumed that the

relationships between individual actors within the ISO/TMB/WG SR's and the Brazilian Mirror Committee's internal environments contributed to shape the forces that influenced the complex learning process that took place. Another assumption was that the interactions between the members of these two groups and their respective external environments also influenced the whole learning process.

Concerning the second dimension – *multiplicity of learning levels* – the analysis of multiple connections and interdependencies between the diverse stakeholders involved in the ISO 26000 development (and their social structures) should consider forces such as identity, language, power and politics as key conditions shaping how double level of consensus in relation to the emerging SR schemas was successfully achieved. In fact, understanding which conditions made connections across levels of analysis possible and how they were formed are key points to be taken into account during the development of ISO 26000's case study.

Finally, in relation to the *interconnectivity between internal and external forces* it should be explored the mutually adaptive relationship between the ISO/TMB/WG SR's and the Brazilian Mirror Committee's organizations and their environments. Since the internal and external environments are dynamic and permeable, the social complexity of OL emphasizes interconnectivity by drawing attention to inter-relationships as key to understanding the fluid, emergent and self-organizing nature of learning in organizations.

This new conceptual approach can provide a basis for better capturing the conditions that make organizational learning possible in the ISO 26000's development process. It offers a robust and consistent framework for a deep organizational analysis focusing on the following issues:

- a critical view concerning the political forces that influenced the experts acting in the ISO/TMB/WG SR, and the mechanisms that allowed knowledge to be created and shared and collective learning to emerge;
- an analysis of the negotiations that governed the interaction between the members within the ISO/TMB/WG SR and also within the National Mirror Committees, so that the respective power of individuals could better explain their actions when they sought to protect their perspectives;
- an identification of the conditions that corroborated the interconnections between the ISO/TMB/WG SR and its multiple external environments (countries and stakeholders categories) and also an analysis of the interdependencies between endogenous and exogenous forces defining what was learned and how learning was played by individual agents and groups;
- a better understanding of the facilitating and constraining factors for inter-organizational learning and self-organizing concerning two social complex evolving systems (the ISO/TMB/WG SR and the Brazilian Mirror Committee of WGSR);
- an analysis of the governing assumptions that defined what was learned within ISO/TMB/WG SR's and the Brazilian Mirror Committee's contexts, revealing the tensions and ex-tensions from which learning emerged.

## CONCLUSIONS

From the perspective of an international standardization context, the social complexity approach of Organizational Learning suggested that the actions and interactions of diverse stakeholders can generate learning as a possibility and determine the approaches by which they seek to learn. These features indicate that the learning in such context is a non-linear process that creates the possibility for learning and maximizes the possibilities from learning. In this sense, organizational learning can be considered as the emergent product of multiple connections and this aspect is particularly relevant for analyzing the ISO 26000's process, where double level of consensus – amongst stakeholders and across countries – was successfully achieved.

From the authors' perspective, we strongly believe that the ISO 26000's case study – illustrating the application of the social complexity perspective of OL – can reinforce the role of organizational learning as a source of institutional sustainability in the light of the strategic challenges faced by ISO within the global governance arena. For future international standards developments, this case study can also bring some recommendations that ISO could adopt in near future to meet needs and expectations of all stakeholders' categories, particularly different groups other than those that classically took part in ISO standardization processes.

## REFERENCES

- Anderson, P. Complexity theory and organisation science, *Organisation Science*, v.10, p.216–32. 1999.
- Antonacopoulou, E.; Chiva, R. Social complex evolving systems: implications for organizational learning. In: *OKLC 2005 - 6th European Conference on Organizational Knowledge, Learning, and Capabilities*. Boston, USA, 2005.
- Antonacopoulou, E.; Chiva, R. The social complexity of organizational learning. *Management Learning*, v. 38, n.3, p.277-295. 2007.
- Argyris, C.; Schön, D. *Organisational learning: a theory of action perspective*. Reading, Mass: Addison-Wesley. 1978.
- Axelrod, R.; Cohen, M. D. *Harnessing complexity*. New York: The Free Press. 1999.
- Blackler, F. Knowledge and the theory of organizations - organisations as activity systems and the reframing of management. *Journal of Management Studies*, v. 30, n.6, p.863–84. 1993.
- Brown, J. S.; Duguid, P. Organisational learning and communities-of-practice: toward a unified view of working, learning, and innovation, *Organisation Science*, v. 2, p.40–57. 1991.
- Cook, S.; Yanow, D. Culture and organisational learning, In: M. D. Cohen and L. Sproull (eds). *Organisational Learning*, p. 430–59. California: Sage, 1996,
- Easterby-Smith, M; Burgoyne, J.; Araujo, L. *Organizational learning and the learning organization*. London: Sage Publications. 1999.
- Elkjaer, B. Organizational learning: the third way. *Management Learning*, v.35, n.4, p.419-434. 2005.
- Gherardi, S. From organizational learning to practice-based knowing. *Human Relations*, v. 54, n.1, p.131-139, 2001.
- Gnyawali, D. R.; Stewart, A. C. A contingency perspective on organizational learning: integrating environmental context, organizational learning processes, and types of learning, *Management Learning*, v. 34, n.1, p. 63–89. 2003.
- Goodwin, B. *How the leopard changed its spots: the evolution of complexity*. London: Weidenfeld and Nicholson. 1994.
- Griffin, D., Shaw, P.; Stacey, R. Speaking of complexity in management theory and practice, *Organisation*, v. 5, p. 315–39. 1998.
- Houchin, K. and MacLean, D. Complexity theory and strategic change: an empirically informed critique. *British Journal of Management*, v.16, p.149–66. 2005.
- Huber, G. *Organisational learning: the contributing processes and literature*, *Organisation Science*, v.2, n.1, p.88–115. 1991.
- International Organization for Standardization. *ISO 26000 Project Overview*. 2011. Available in: <[http://www.iso.org/iso/social\\_responsibility](http://www.iso.org/iso/social_responsibility)>. Accessed: Apr 2011.
- International Organization for Standardization. *Guidance for ISO liaison organizations: engaging stakeholders and building consensus*. Geneva: ISO, 2010.
- International Organization for Standardization. *ISO 26000:2010 - Guidance on social responsibility*. Geneva:

ISO, 2010.

International Organization for Standardization. *Consultation for the ISO Strategic Plan 2011-2015*. Geneva: ISO, 2009.

International Organization for Standardization. International Electrotechnical Commission. *Directives, Part 1 - Procedures for the technical work*. 6<sup>th</sup> ed. Geneva: ISO, 2008.

International Organization for Standardization. *Project Plan ISO 26000: ISO/TMB/WG SR N 44. Rev 3*. Geneva: ISO, 2007.

International Organization for Standardization. *Guidance on stakeholder categories in the ISO/TMB/WG SR: ISO/TMB/WG SR N 48 rev. 1*. Geneva: ISO, 2005.

International Organization for Standardization. *Resolutions from the First Meeting of ISO/TMB/WG SR*. ISO/TMB/WG SR N 15. Geneva: ISO, 2005.

International Organization for Standardization. ISO Advisory Group on Social Responsibility. *Working Report on Social Responsibility*. Geneva: ISO, 2004.

International Organization for Standardization. *Survey on ISO 26000 Mirror Committees: ISO/TMB/WG SR N 78*. Geneva: ISO, 2006.

International Organization for Standardization. *ISO/IEC Directives, Part 1: Fifth edition*, Geneva: ISO, 2004.

Kauffman, S.A. *At home in the universe*. Oxford: Oxford University Press. 1995.

Lave, J.; Wenger, E. *Situated learning: legitimate peripheral participation*. New York: Cambridge University Press. 1991.

Levitt, B.; March, J. G. Organisational learning, *Annual Review of Sociology*, v. 14, p. 319-40. 1988.

Mathews, K. M., White, M. C.; Long, R. G. Why study the complexity sciences in the social sciences?, *Human Relations* v.52, p. 439-62. 1999.

Simon, H. A. *The sciences of the artificial*. Cambridge, Mass: Institute of Technology. 1996.

Stacey, R. D. Strategy as order emerging from chaos, *Long Range Planning*, v.26, p. 10-17. 1993.

Weick, K.E. The non-traditional quality of organisational learning, *Organisation Science*, v.2, n.1, p.116-23. 1991.

# **WEB-BASED CUSTOMER REVIEWS FOR A CARIBBEAN FOUR STAR ALL-INCLUSIVE RESORT - IDENTIFY DRIVERS FOR EXCELLENT RATING**

**Martin Schmits, Consultant, Switzerland  
Shaukat Ali, University of Wolverhampton, UK**

## **ABSTRACT**

*The four star Punte Verde is an all-inclusive Caribbean Sea resort in the Punta Cana region in the north east of the Dominican Republic. Resorts such as the Punte Verde need to utilize marketing research processes to optimise their performance and identify the objectives and measures to compete with other resorts and to gain competitive advantage. Main data sources were qualitative and quantitative hotel reviews available on Tripadvisor.com as well as the company's homepage and further online available resources. Based on these customer reviews Tripadvisor.com creates popularity lists for all reviewed hotels within a certain vacation area or region. For the area Punta Cana, tripadvisor.com listed 92 different four to five star hotels, whereas the Punte Verde comes 51st place with overall more than 1,300 reviews and a TripAdvisor®-rating of 3.5 out of 5. This research evaluates in which categories the management need to invest resources in order to improve feedback and avoid negative appraisals and finally to move from the middle places up to higher ranks within the popularity rank.*

## **BACKGROUND**

The Punte Verde is one of around 90 hotel resorts in the municipal district Punta Cana in the most eastern province La Altagracia in the Dominican Republic. Punta Cana is the most popular and fastest growing tourist area of the Dominican Republic and well known for its all-inclusive style vacation resorts (Ministry of Tourism; 2009; www.tripadvisor.com 2009). Hotel operators in the Caribbean Sea are dealing on the one hand with excellent climatic and geographic conditions and on the other hand with strong and growing competition and the outcomes of the economic crises. (www.weather.com, n.d.; Brockmanns, 2009; Froese, 2007; wikipedia.com, 2009). Resorts such as the Punte Verde need to utilize marketing research processes to find out how to optimise their performance. They need to identify the objectives and measures to be able to compete with other resorts and in order to gain competitive advantage. For the hotel and restaurant industry there are many adequate methods for successful marketing research. This research makes use of online secondary sources that are available on the internet. Main source were qualitative and quantitative hotel reviews available on Tripadvisor.com as well as the company's homepage and further online available resources. The hotel offers nearly 800 bedrooms that are separated in standard garden view, standard sea view, deluxe sea view and presidential suits in different sections for families and couples. The entire resorts lies directly in front of the beach front with many coconut palm groves and offers a pool area with two large pools and a separated pool for kids. Within the resort there are four international dress-code required a la carte restaurants, one casual restaurant and several open buffet restaurant for breakfast, lunch and casual dinner. The hotel features a spa area and offers several spa-opportunities, different therapies, sauna and beauty saloon services. Additional services and entertainment offers are corresponding to many other comparable hotels within the region (www.tripadvisor.com, 2009); Fleischmann, 2005). The Punte Verde is facing competition from many hotels and resorts all over the Caribbean Sea, the Dominican Republic and particularly within the region Punta Cana. Occupancy rates are very volatile, for instance 2006 was a record year with a growth of 3%, but there was negative growth. Such numbers show indirectly the influence of economic crises (Brockmanns, 2009; www.domrepworld.com, 2008).

## RESEARCH QUESTIONS

There has been an increasing number of internet-based service providers who allow people to write reviews based on their own experiences about hotels all over the world and containing qualitative as well as quantitative contents. Based on these customer reviews these service provider creates popularity lists for all reviewed hotels within a certain vacation area or region. For the area Punta Cana, tripadvisor.com listed 92 different four to five star hotels, with the Punte Verde ranking 51st place based on more than 1,300 reviews (more than 500 over a two year period) and a TripAdvisor®-rating of 3.5 out of 5. On holidaycheck.com, the Punte Verde comes 33rd place out of 77 reviewed hotels with 85 reviews within the last two years and a popularity index of 4.4 out of 5. Finally, on the German-based platform vivaltis.de, the Punte Verde comes 44th place out of 61 reviewed hotels and holds a popularity index of 3.75 out of 5 with 39 reviews within the last two years (2009) (Table 1). While placing the hotel in the middle part of their ranks, all networks draw more or less the same picture of the resort.

**Table 1 Overview popularity-index and number of reviews (Effective on April 2009)**

Punte Verde	Place	Popularity-Index	Number of Reviews
Tripadvisor.com	51 of 92	3.5 of 5	1376 (2007 – 2009: 520)
Holidaycheck	33 of 77	4.4 of 5	85 (2007 – 2009)
Vivaltis	44 of 61	3.75 of 5	39 (2007 – 2009)

In times of growing competition, hotels must find opportunities to stay competitive or even to create competitive advantages against their rivals. Given the economic slowdown in most countries, many people think twice if and where they spend money when planning their vacation. Meanwhile platforms such as those mentioned earlier have become important vacation decision tools for people all over the world. Consequently they could be a strong part of the marketing mix of every hotel if the reviews are appropriate. The challenge for Punte Verde management is to figure out how to move from the middle places up to higher ranks within the popularity ranks. They need to identify in which categories (services, activities, amenities etc.) they have to invest resources in order to improve feedback and avoid negative appraisals. This research analyses the available qualitative and quantitative secondary data that have been provided for the Punte Verde as well as for its strongest competitors. It compares the outcomes of the reviews with the specifications of the hotel's own website and figure out where are the differences between the promised and the current situation and what are the main reasons for negative feedback. The research questions can be summarised as: What are the main differences between the Punta Verde and much better rated resorts; Which are the main categories that hold room for improvement; What measures have to be taken in order to improve feedback and avoid negative reviews.

## METHODOLOGY

### Data Sources

The qualitative and quantitative data for this research utilises online available secondary data of hotel reviews. We view this secondary data as “quasi-primary” data, whereby the survey already having been conducted by TripAdvisor®. TripAdvisor® Media Network, operated by TripAdvisor®, LLC is the worldwide biggest internet travel community and attracts worldwide more than 32 million monthly visitors across its 14 travel brands. The TripAdvisor® branded sites alone show more than 25 million visitors each month and have 10 million registered members. It provides detailed information and more than 20 million independent customer reviews about more than 400,000 hotels and 550,000 restaurants worldwide. Because of these data's clearly objective and consistent structured design, it is possible to deal with them in the same way like it would be done with primary data, even if they are deemed secondary data in pure research terminology. Whilst there may be concerns about the reliability of individual data, the sample is deemed to be big enough to make outlier visible. This research takes advantage of qualitative and quantitative data in form of discretionary customer feedback posted on the same site. The data have already been “collected” by the company, the design of the questionnaire is pre-defined and the results can be easily taken from the mentioned source for further analyses. Focussing on the reviews of hotels, TripAdvisor® provides a comprehensive questionnaire with a five point scale rating part (cleanliness, location, rooms, service and value), a qualitative and individual review part and descriptive part

with a broad selection of attributes in the categories ‘describe your trip’ and ‘tell other travellers more about this hotel’ (TripAdvisor.com, 2011). The second part starts with the date of the stay, followed by a closed-end question with two possible answers – regarding the purpose of the trip -, two open-ended questions and ends with a ‘purchase-intent’, closed-end question. The first asks for a brief one-sentence statement about the hotel, the second question offers free space to write as much feedback as desired. The last question asks for a recommendation of the hotel with the two possibilities ‘yes’ and ‘no’. The third part covers descriptive information. The first question ‘How would you describe its style?’ provides multiple choice answers such as ‘quiet’, ‘roomy’, ‘charming’, ‘comfortable’, ‘elgant’, ‘romantic’ etc. The second question asks for the perception of amenities such as ‘business centre’, ‘fitness centre’, ‘high speed internet’ etc and can be answered with ‘yes’, ‘no’ or ‘not sure’. (TripAdvisor.com, 2011). Based on its structured approach, the TripAdvisor.com-questionnaire shows a valuable, high degree on comparability and sufficient room for useful additional information. The TripAdvisor.com questionnaire provides many attributes as help in order to describe the perception of the hotel and the type of vacation the respondent has taken. Combined with the type of closed-ended questions, these attributes can be easily compared and used to categorise different customer groups. However, there is still a risk of getting biased feedback because the respondent may not think beyond the supportive provided information. This research uses feedback from all ages and types of travelling group to be able to get an insight about differences between the expectations and perceptions of the different groups. The direct focus thereby lies on people who were not satisfied with their stay in the resort and who would not recommend the hotel to a friend. 80 negative and 20 positive reviews from TripAdvisor® over a sixteen month period were used. Negative means that the respondent gave the resort two or less points and does not recommend the hotel, positive means the respondent gives more than two points and usually recommend it.

## FINDINGS

The goal of this research is to identify those aspects that need to be considered in order to be able to achieve a higher rank on the TripAdvisor.com popularity index. When comparing the achieved overall ratings of the Punta Verde with some of the Top 15 resorts (Table 2), the difference is quite obvious. On the one hand the hotel has between 30 and 45 percent less top ratings of five points and on the other end of the scale, it has between four and six times more bad ratings of one point. The objective seems to be clear – improve the product to avoid poor rates as well as increase the percentage of excellent rates.

Table 2 – Comparing Ranks (Tripadvisor Popularity Index, April 2009)

Overall Rating	Iberostar Bavaro (Rank 3)	Excellence Punta Cana (Rank 9)	Punta Cana Princess (Rank 11)	Punta Verde (Rank 53)
5	62%	65%	50%	21%
4	24%	20%	29%	36%
3	6%	6%	9%	14%
2	6%	6%	9%	15%
1	2%	4%	3%	13%

The following analyses gives an overview over those aspects that have to be considered in order to improve the rank position within a reasonable time. The following analyses are based on two different samples. The first sample includes the last 200 reviews covering the period from August 2008 to April 2009. More than 99 percent of the respondents are either from Canada, USA or UK. This sample provides only the overall rate and the country of the respondent. The second sample contains more detailed information from about 100 reviews over the following 16 months, based on the quantitative part of the questionnaire of TripAdvisor.com. Descriptive information were standardized and coded. The months were designated the number 1 – 12. Regions were distinguished between North America (1) and Europe (2). Status were distinguished by family (1), couple (2) and group (3). Age was separated into four categories 18-24 (1), 25-34 (2), 35-49 (3) and those between 50-64 old (4). The recommendation factor had 1 for ‘no’ or a ‘0’ for yes. An additional information is the average price level which has been taken from the hotel’s web site and turned into an ordinal scale of five categories between (5) for the high season and (1) for the low season.

The data sources as well as the analyses underlie certain limitations in relation to selection, validity and reliability and feasibility. Only the most significant are highlighted as follows. There are frequently some concerns and discussions about the reliability and credibility of the reviews and the independency of the authors. The problem is that all these portals can be manipulated and they can be abused to either write above average reviews or poor reviews about competitors (Bonk, 2009). There have been some cases, where feedbacks contained advertising texts from the certain hotel itself. In some cases there are even cases of blackmailing where hotel guests threaten to write negative feedbacks if the price would not be massively reduced (Puscher 2008). The portals reacted to this development and installed various protection systems such as editorial control of the feedback, no anonymous feedback or to give outliers a lower weight. Overall it can be said that manipulation cannot be avoided completely. Mitigation is also provided by the detailed form of the questionnaires and the often high number of reviews which make it easier to determine extreme outliers.

Assuming an average occupation rate of 70 percent and an average length of stay of about seven days, the entire population within 16 months equates to about 76,000 people. The design of the questionnaire and the extract of the used information resulted in different limitations or simplifications, respectively that had to be considered. The sample used was 100 persons, which is approximately 0.13 percent of the entire population. The sample was non-random and considers only the part of the population which is participating in online-reviewing on TripAdvisor.com. Services were taken as umbrella term without further distinction. There was no separate classification for the food and the restaurants. Individual discounts or last minute prices were not considered; there was rather an average price factor used – based on the certain travel season.

Table 3 User TripAdvisor.com by origin of country

	Canada	USA	UK	Other
Country (%)	65.5	22.5	11.5	0.5

Table 3 shows the distribution of the origin countries of the last 200 respondents. It is obvious that TripAdvisor.com is being used mainly by people in Canada, USA and UK with the Canadian tourists being the biggest group with 67 percent, followed by USA with 23 percent and UK with 12 percent. Based on the sample and the defined problem, several questions can be asked and relationships between variables can be analysed. These are: The relationship between country and overall rating; the relationship between the overall rating and the ratings for cleanliness, location, rooms and service; the relationship between price and value.

## Association between country and degree of satisfaction

The following stacked pillar diagram shows the degree of satisfaction as percentage on base of the origin country of the respondents. A chi-square is useful to figure out if there is any association between these two aspects and this is shown in Tables 4 & 5.

Based on the context the null hypothesis and the alternative hypothesis can be stated:

*Null hypothesis  $H_0$ : There is no relationship between country and grade of satisfaction.*

*Alternative Hypothesis  $H_a$ : There is significant relationship between country and grade of satisfaction.*

The critical value of  $X^2$  on a significance level of five percent and eight degrees of freedom [(5-1)x(3-1)] is 15.05. Because the calculated  $X^2$  is 4.7 and thus less than the tabular value, the null hypothesis cannot be rejected and the alternative hypothesis cannot be approved. That means that there is no significant relationship between the country of a respondent and the grade of satisfaction.

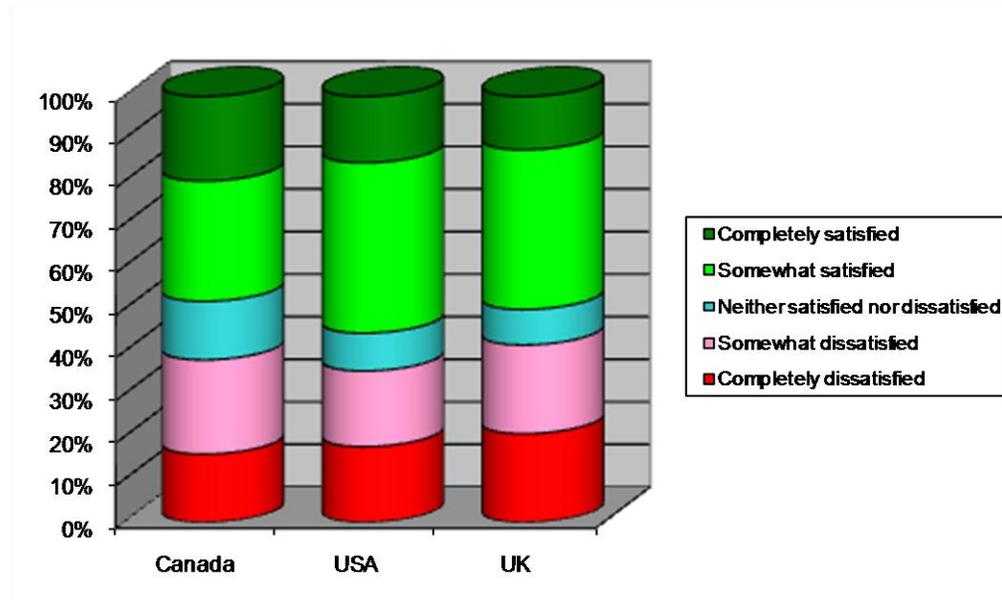


Diagram 1 – Degree of satisfaction based on country

Table 4 – Cross tabulation Country and Rating (Sample size = 200)

			Country			
			Canada	USA	UK	Total
Rating	Completely dissatisfied	Count	21	8	5	34
		% within Country	16.0%	17.4%	21.7%	17.0%
	Somewhat dissatisfied	Count	29	8	5	42
		% within Country	22.1%	17.4%	21.7%	21.0%
	Neither satisfied nor dissatisfied	Count	18	5	1	24
		% within Country	13.7%	10.9%	4.3%	12.0%
	Somewhat satisfied	Count	37	18	9	64
		% within Country	28.2%	39.1%	39.1%	32.0%
	Completely satisfied	Count	26	7	3	36
		% within Country	19.8%	15.2%	13.0%	18.0%
Total	Count		131	46	23	200
	% within Country		100.0%	100.0%	100.0%	100.0%

Table 5 – Results Chi-Square Test ( $X^2$ )

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.688(a)	8	.790
Likelihood Ratio	5.022	8	.755
Linear-by-Linear Association	.085	1	.770
N of Valid Cases	200		

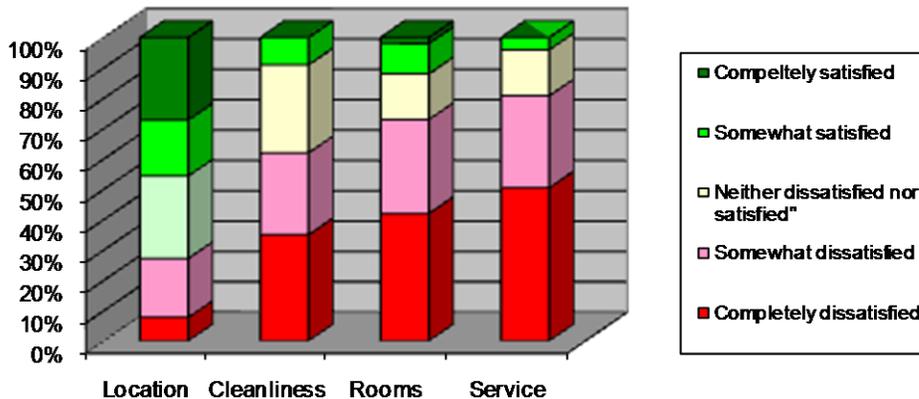
a 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.76.

## The relationship between the overall rating and the aspects cleanliness, location, rooms and service

Diagram 2 shows the percentages of the degree of satisfaction from all respondents of the sample who have given an overall rate equal or less than three. It is obvious that the service, the quality of the rooms and the degree of cleanliness are the most significant aspects whereas the location seems to be a minor issue and to have widely met the expectations.

Diagram 2 – Degree of satisfaction in different aspects of the product

The relationship between the overall rating and the ratings for cleanliness, location, rooms and service was



analysed using multiple regression analysis. It was important to know, which of the components needed the most focus to improve the overall impression of a guest. Multiple regression analysis of relationship between the overall rating and the aspects cleanliness, location, rooms and service are shown in Tables 6-8.

The coefficient of determination  $R^2$  shows that 76 percent of the variation of the overall rate is explained by the variation in the independent variables. All independent variables are positively associated with the dependent variable (positive regression coefficients). Any improvement in one of the independent variables results an improvement in the overall rating. The regression coefficients show the estimated effect of a one-unit increase. For instance, an increase of one point (on a five point scale) is associated with a 0.35 point increase in the overall rate. The standardized coefficient BETA shows that service is the most important aspect, followed by cleanliness and rooms. It is interesting to see if there is any association between the price level and the perceived value of the customer. The resort has five different price levels over the year. A correlation analysis to measure the degree to which the changes in the price level is associated to a change in the perceived value was undertaken and the results are shown in table 9. The coefficient of correlation R shows a value of 0.55. This value usually ranges from  $-1$  to  $+1$ . The closer R is to one of these extremes, the stronger is the degree of association between the two variables. In this case one can state that the association between the average price and the perceived value is rather unimportant.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769(a)	.591	.575	.585

a Predictors: (Constant), Service, Location, Rooms, Cleanliness

Table 7 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	48.052	4	12.013	35.095	.000(a)

Residual	33.203	97	.342		
Total	81.255	101			

a Predictors: (Constant), Service, Location, Rooms, Cleanliness

b Dependent Variable: Overall

Table 8:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.235	.183		1.283	.203
	Cleanliness	.218	.096	.265	2.279	.025
	Location	.014	.050	.020	.283	.778
	Rooms	.179	.080	.233	2.249	.027
	Service	.351	.064	.416	5.466	.000

a Dependent Variable: Overall

Table 9 : Correlation analysis - the relationship between price and value

		Av_Price	Value
Av_Price	Pearson Correlation	1	.055
	Sig. (2-tailed)		.588
	N	103	99
Value	Pearson Correlation	.055	1
	Sig. (2-tailed)	.588	
	N	99	99

## CONCLUSIONS AND RECOMMENDATIONS

The data analysis shows that more than 99 percent of the respondents who use Tripadvisor.com to review the Punte Verde are from Canada, the US and the UK. However, the results show that the origin country of the guest has no or a very small influence on the overall satisfaction rate. Furthermore, even the average price level seems to have no significant influence on the value perception of the customer. The most significant aspects in order to improve the overall satisfaction rate is the service perception followed by cleanliness and room configuration. The location widely meets the expectations and has no influence on poor overall rates. Based on the fact that more than 50 percent of all rates are neutral or positive and the results from the analysis, it can be said that the resort has a large potential to improve its overall rating. The management need to focus on establishing a constant high level in areas of service and cleanliness. Furthermore it needs to further invest into renewing room quality. A further analysis of the qualitative part of the reviews in order to exactly distinguish the priorities of the service improvement could be promising. The qualitative parts also could provide valuable information about additional aspect such as entertainment and activity programs.

## REFERENCES

TripAdvisor (2011 and 2009)) <http://www.tripadvisor.com>

HolidayCheck (2011 and 2009) <http://holidaycheck.com>

Bonk, B, (2009) [http://www.wdr.de/tv/servicezeit/mobil/sendungsbeitraege/2009/0317/02\\_kompakt\\_3.jsp](http://www.wdr.de/tv/servicezeit/mobil/sendungsbeitraege/2009/0317/02_kompakt_3.jsp)

Puscher, F. (2008) <http://www.etl-pichler.com/de/aktuelles-news/23.htm>

Ministry of Tourism (2010); <http://www.godominicanrepublic.com/en/Regions/EastCoast/PuntaCanaBavaro.htm>  
[http://www.weather.com/outlook/travel/businesstraveler/wxclimatology/monthly/graph/DRXX0022?from=month\\_bottomnav\\_business](http://www.weather.com/outlook/travel/businesstraveler/wxclimatology/monthly/graph/DRXX0022?from=month_bottomnav_business) (accessed, February 12th, 2011)

Kubisch, B. (2007); [http://www.carilat.de/karibik/tourismus/bilanz\\_karibik.htm](http://www.carilat.de/karibik/tourismus/bilanz_karibik.htm) (accessed, March 18th, 2009)

Brockmanns, P. (2009) <http://www.domrepworld.com/dominikanische-republik/nachrichten> (accessed, March 18th, 2009)

DOMREPWORLS (2008) <http://www.domrepworld.com/dominikanische-republik/nachrichten> (accessed, March 18th, 2009)

DOMREPWORLS (2008) [http://en.wikipedia.org/wiki/Punta\\_Cana](http://en.wikipedia.org/wiki/Punta_Cana) (accessed, March 18th, 2009)  
Gesine Froese (2007) Dominikanische Republik (Dominican Republic); 5th ed. published by Baedeker; ISBN 3829711646, 9783829711647

Fleischmann, Ulrich; 2005; Dominikanische Republik (Dominican Republic): Santo Domingo- Puerto Plata- Sosua- Punta Cana; 2nd ed.; published by DuMont Reiseverlag; ISBN 3770160770, 9783770160778

# STRATEGIC LEADERSHIP COMPETENCE: A NEW SERVICE DELIVERY PARADIGM

**Nico Schutte, University of Limpopo, South Africa**  
**Titos Khalo, Tshwane University of Technology, South Africa**

## ABSTRACT

*It is contended that with rare exceptions, in the 21st century an organisation's, and in this case the public service productivity, will lie more in its collective intellect – that is, in its collective capacity to gain and utilize competency – rather than in its hard assets such as land, plant and equipment. Thus the most effective public service strategic leadership practices will be the ones through which strategic leaders find ways to become more and more knowledgeable, proficient and communal (competent). Similarly, it is interesting to note that, as long ago as 1530, Niccolò Machiavelli asked these basic questions: How can a complex, modern pluralist society in an era of rapid change, be effectively governed? How can it evolve a unity of action out of a diversity of interests, values and institutions? And how can it derive strength and cohesion from being surrounded by a multitude of competing powers? Similarly, Marquardt (1996:211) puts it very succinctly; “Most successful change efforts (public service to becoming a learning organisation) begin when individuals or groups (such as the public service strategic leaders) within the organisation look seriously at the organisation's ..... performance and realise that a great crisis or opportunity looms”. There is growing evidence that there is a need for a significant departure from conventional approaches and that a leap into a new strategic leadership competence (knowledge, skills and attitude) model for quality service delivery paradigm is necessary. Increasingly this new paradigm highlights the need to further develop the government's strategic leadership competence with a view to achieving improved public service delivery capacity. This article reports on the study of a highly complex and turbulent sector, namely the public service environment, in order to identify the strategic leadership competency (knowledge, skills and attitude) mix variables used, and to assess current strategic leaders' perceptions on the importance of such strategic leadership competency variables for success in public service delivery. The South African Public Service, since the advent of democracy in 1994, is an especially complex and turbulent environment. Therefore, the purpose of this study was, amongst other things, to identify and outline the profile for public service strategic leaders in terms of competency domains, which will make a unique contribution to new knowledge. The competency domains and or taxonomy that will be evaluated and tested is outlined in Bloom's work (Bloom, et al. 1956:19). Bloom and his colleagues deliberately choose the term "taxonomy" for their classification system to emphasise the hierarchical nature of learning. From their research, they concluded that, "there is an unmistakable trend pointing toward a hierarchy of classes of behaviour which, didactic is in accordance with our present tentative classification of these behaviours" The paper focusses on the changing strategic leadership paradigm – from a “former” traditional model through the transition to a “contemporary” strategic leadership competence model “paradigm”. This paradigm is shaped by Bandura's social cognitive theory, Senge's organisational learning theory, international and national leadership trends and events in government. The contribution and advantages of strategic leadership competence for effective and efficient governance are highlighted and the paper concludes with an explanation of strategic leadership competence organisational arrangements necessary to support the new paradigm; Strategic Leadership Competence: a new service delivery paradigm*

## INTRODUCTION

In most organisations worldwide, the magnitude of change is ever increasing. In the midst of these uncertainties, there is an increasing need for public service strategic leaders who can provide structure, meaning and self-assurance within their teams. Competent public service strategic leaders become a sought after thrust in the newly formed public service.

According to the Accelerated and Shared Growth Initiative for South Africa (ASGISA, 2006), for South Africa to realize the objective of building a developmental state, the public service has a critical role to play in delivering the goods and services required to accelerate economic growth, reduce poverty and inequality and improve the lives of all South Africans. An effective state is the most important catalysts which can enable South Africa to reverse the negative legacy of the past reduce inequality and create a truly non-racial and non-sexist democracy in South Africa.

Moreover and in line with international trends, the Government became increasingly aware of the fact that a significant expansion in the capacity and quality of service provision was not possible with traditional leadership delivery approaches. There is growing evidence that there is a need for a significant departure from conventional approaches and that a quantum leap into a new strategic leadership competency paradigm is necessary. Strategic leaders need to develop new ways of thinking or a shift of mind (paradigm shift), which according to Senge (1990) originates from the Greek "meta-noia" meaning a shift of mind). He further postulated that for the Greeks, it meant a fundamental shift or change, or more literally transcendence ("*meta*"— above or beyond, as in "metaphysics") of mind ("noia," from the root "*nous*," of mind). In the early (Gnostic) Christian tradition, it took on a special meaning of awakening shared intuition and direct knowing of the highest, of God. "Metanoia" was probably the key term of such early Christians as John the Baptist. In the Catholic corpus the word Metanoia was eventually translated as "repent." Increasingly this new paradigm highlights the need to further develop the Government's strategic leader's competence with a view to achieving improved delivery capacity.

## **STRATEGIC LEADERSHIP: PRESSURE ON THE “OLD PARADIGM”**

Bourgeois, Duhaime & Stimpert (1999) also highlight the fact that organisations i.e. public service might be challenged by the strategic leadership thinking contained in their leaders mental models that can influence their strategic decision-making and the actions the different institutions and or departments take. As a result, for strategic leaders within the public service to grasp the meaning of "metanoia" is to grasp the deeper meaning of "learning," and or "ability" (organisational and personal), because learning also involves a fundamental shift or movement of mind and or way of thinking. To move from an old to a new paradigm *as the white paper on transformation suggest will requires a transformation process resulting in rapid and radical change in all the facets of the public service as organisation. These changes may be so significant that it bring about a new organisational culture* (Drucker, 1995).

These new relationships may in turn transform both the organisation and its environment, this necessitate the newly appointed strategic leaders to be aware of and have an understanding of the public service as an open system where organisations such as the *public service are influenced by the local transformation situation, and a broader globalization* (Senge, 1990).

## **THE CONCEPT PARADIGM/MENTAL MODEL AND OR INTERPRETIVE SCHEME**

Bourgeois, Duhaime & Stimpert (1999) Senge (1995) define mental models as the deeply inherent assumptions, understandings or representations (interpretive schemes) of the phenomena that influence how we understand the world and how we respond to it. This is supported by Kuhn (1996) who contend that the phrase refers to a set of habits that define a scientific discipline during a particular period of time. Mental models tell us what is and is not important to us, what we like and do not like what we should and should not notice. Mental models include our understanding of how things work and what we expect to happen next. When we encounter something new our minds quickly construct new mental models to help us understand this new phenomenon (Duhaime & Stimpert, 1999).

Thus strategic leaders within the public service [a social group] draw on these shared interpretive schemes to act and thereby help to produce and reproduce a social reality that would reflect their shared assumptions, cultural norms and social rules. Such reality forms the sub-culture of the particular group. Interpretive schemes implicitly

influence individuals' Sense making and actions in organisations by shaping their interpretations of organisational phenomena. The concept of interpretive schemes therefore closely relates to the concepts such as 'mental models' Giddens (1984), 'technological frames' Giddens (1984) and 'paradigms' (Giddens, 1984).

Therefore public service strategic leader's mental models and or interpretive schemes of the situations they encounter determine whether a particular strategic issue or situation will be noticed and or observed, how it will be interpreted and understood, and how they as managers should respond to the situation.

A mental model and or paradigm thus could create a groupthink or mindset challenge, which could lead to so called - cognitive dissonance This is the feeling of uncomfortable tension which comes from holding two conflicting thoughts in the mind at the same time, which cannot be explained by the universally accepted paradigm a shift in thinking usually occurs. In support Kuhn (1996) argues that a paradigm is thrown into a state of crisis, during which time new ideas are tried and tested. Eventually a new paradigm is formed, which gains its own new followers. An intellectual "battle" takes place between the followers of the new paradigm and the old paradigm. With this context as back-ground, it is the contention of this article that the existing paradigm and or mental model of strategic leadership as a position are in a state of crisis and that a new delivery paradigm is emerging – a paradigm in which strategic leadership competencies as delivery mechanism would feature prominently.

## **SERVICE DELIVERY: PRESSURES FOR CHANGE**

Also in South Africa there are major pressures for a renewed focus on the issue of "service delivery". These pressures are directly the result of the far-reaching process of socio-political and economic transformation taking place in South Africa as well as, more indirectly, major rethinking about the nature and role of public sector institutions in many developing and developed countries. Central to this rethinking has been a major re-definition and realignment of the traditional ways in which service provision is managed in the public service. As a result, the public service in South Africa is undergoing radical change. Whatever the case may be, a distinctive feature of public service institutions is that they are expected to be highly professional, thus unify public service values with the values and standards of the profession itself

In Accordance does article 195 explicitly allude to the word principle, which according to the Oxford complete word finder (1993) means "statements or descriptions of what should or should not be done, that describes the rules, parameters or guidelines for performing the task". Consequently would it be important for the public service to become sensitive of the fact that embedded within the stated principles are specific expectations. Expectation on the side of the government in that the appointed public managers (strategic leaders), are able (competent) and willing (motivated) to deliver (perform) said responsibilities as cited by article 195, and expectation on the side of the community that they will receive the promised services as a result of the appointed public managers leadership ability.

With the policy framework in place, the critical issue increasingly be-came the question of service delivery itself. In assessing the current service paradigm, one should keep in mind that the challenges con-fronting the public service in South Africa does not by any means lie only with institutional and managerial issues. The challenges of ser-vice delivery are indeed much more complex and are deep-rooted in the historical, socio-economic, geo-political and other contexts of South Africa.

## **PERSPECTIVES ON PUBLIC SERVICE TRANSFORMATION**

Osborne and Gaebler (1992) argue that a revolutionary restructuring of the public sector is under way — an "American Perestroika." Like the Soviet version, they believe this one is being driven largely by politicians and bureaucrats who, under great fiscal pressure, are introducing market forces into monopolistic government enterprises. They further suggest that governments should: 1) steer, not row (or as Mario Cuomo put it, "it is not government's obligation to provide services, but to see that they're provided"); 2) empower communities to solve their own problems rather than simply deliver services; 3) encourage competition rather

than monopolies; 4) be driven by missions, rather than rules; 5) be results-oriented by funding outcomes rather than inputs; 6) meet the needs of the customer, not the bureaucracy; 7) concentrate on earning money rather than spending it; 8) invest in preventing problems rather than curing crises; 9) decentralize authority; and 10) solve problems by influencing market forces rather than creating public programs.

The “*Perestroika*” which Osborne and Gaebler (1992) refer to was and is also currently evident in the intensity of international and domestic public service reform in relation to the effectiveness and efficiency of public sector services. The effect of this reform was that all well known public management theories was and still is scrutinized especially the Weberian bureaucracy approach were assessed and scrutinized and as result criticized as being slow, ineffective, inefficient, not cost-effective and unresponsive to the public needs. During the mid 1980s and 1990s the neo-liberal ideology dominated the development arena. Capitalism was the dominant economic system, and the democratic form of governance had no significant rival (Hulme & Turner, 1997). This is supported by Hughes (1998) who are of the opinion that there is a need for a new model of public sector management and or leadership, especially in many developed and developing countries as a suitable model for public sector reform and management. This is also supported by the World Bank and other donor agencies that all encouraged New Public Management, and as a result do they all link their donor aid to good governance (accountability), the development of strong central capacity for policy co-ordination, and the development of highly skilled staff to increase efficiency levels (Hughes, 1998).

As earlier stated should the public service’s transformation strategy be part of the overall business strategy this, notion is supported by Mintzberg (1994) who characterized organisational strategy as the pattern of decisions in an organisation that determines and reveals its objectives, purposes, or goals, and produces the principal policies and plans for achieving those goals, and defines the range of business the organisation is to pursue. It becomes evident through Mintzberg’s contention that strategic leadership is of vital importance for any organisation (public service) in order to give strategic guidance towards the implementation of the promised renewed (change) initiatives. Hence, if the senior and or strategic leaders within the organisation are not committed to the intended change efforts, and if they do not possess the necessary competencies to lead it effectively, and if they don’t play their role as change agents, the public service renewal (change) will not be effective.

On the other hand does the learning-organisation paradigm stresses mobilizing different kinds of information to enhance performance. The learning organisation seeks mastery in creating, acquiring, organising, and sharing knowledge and at applying this knowledge to reach solutions and alter behavior (Senge 1990). He further stress the fact that organisational learning depends on the leader’s ability to manage information—the capacity to harness the organisation’s information resources and capabilities to yield organisational effectiveness. The significant for the public service from the above discussions is that it reveals the magnitude of changes within the organisational and or strategic environment, which strategic leaders need to take note of and be prepared for. The relevance for the public service will be to learn from the private sector concerning strategic leadership-related principles in reaction to the said changes, which might assist in increasing the efficiency and effectiveness of the public service. This is supported by Caiden & Sudaram (2004) who maintain that less developed countries such as South Africa have lacked the resources and managerial/leadership capacity to implement complex New Public Management reforms.

## **CHALLENGES AND CONSTRAINTS ASSOCIATED WITH THE OLD PARADIGM**

Rost (1993) notes the importance of studying (strategic) leadership as a relationship rather than simply a list of personal or situational characteristics, and laments the misplaced focus on "the peripheral elements surrounding leadership and its content instead of on the nature of leadership as a process, on leadership viewed as a dynamic relationship". In accordance does Bandura (1999) similarly consider the interaction of persons (strategic leaders) and situations as unidirectional, partially bi-directional, or triadically reciprocal. While unidirectional frameworks emphasize the unique impact of both person and environment, partially bi-directional models add the impact of persons on environments, and vice versa. The triadic model, on the other hand, represents the relationships among the variables to be reciprocal, ongoing, and dependent on circumstances. However Bandura (1999) indicate that the latter of their respective types is the best description of true interactionist thinking.

Sergiovanni (2005) supported this concept stating that “leadership inevitably involves change, and change inevitably involves learning”. Retallick and Fink (2002) further reinforce this concept when concluding that “leading is defined as the framing of meaning and the mobilization of support for a meaningful course of action”. Specific to public service, the strategic leader comprehends that public service reforms need to be pursued under conditions which maximize intensive organisational learning, involving logics of action through external ideas as well as internal ideas (Fullan, 2003).

Therefore, public service strategic leaders who want to lead in a culture of change need to understand that it is an involved activity that resulted in direct impact and interaction with others participating in the change while attending to the creation of and sustaining of a culture of renewal (Fullan, 2003). According to Sergiovanni (2005) do such leaders have the cognitive ability to know and focus on what was critical as well as the who (social competence) i.e. the people who they also cared deeply about, they also take accountability for their work and have the ability to learn from their successes and failures, take calculated risks, and are trustworthy people. He further states that if public strategic leaders are such leaders, they will also advance reciprocal learning that would enable others to contribute to the creation and negotiation of personal and organisational meaning, maximize the potential of the individual and organisation, and this will consequently lead to a shared purpose and or vision. He further pointed out that such strategic leaders create conditions for change by stress capacity building.

The above factors lead to a new, all-encompassing definition by the researcher which serves as the main premise of the study: Leadership is an interactive process involving the leader`s, Cognitive: mental skills (Knowledge) Affective: growth in feelings or emotional areas (Attitude) Psychomotor: manual or physical skills (Skills) to influence and align people through effective communication towards a common vision. The definitions discussed above differ in many ways, illustrating the multitude of factors that affect leadership and the different perspectives from which to view it. Some definitions confine leadership to downward influences only; others emphasise the controlling aspects of leadership and disregard the emotional aspect of leadership. Together, the various definitions discussed above provide a more holistic view of a very complex concept.

This paradigm of finding radical new ways of strategic leadership, how-ever, confronts political and managerial mental models, existing organisational values and cultures, behaviour habits established over years, and bureaucratic inertia. To overcome these and other challenges and constraints in effective strategic leadership in order to deliver effective and efficient service, it will be necessary to address a number of important constraints. As an important agent of organisational culture, logics of action implies that organisational cultures of the parties involved in an organisational relationship are aligned, recognising mutual dependency, and ensuring possibility of exchange relationships. Such alignment of logics of action carries implications for inter- and intra-governmental relationships, since public service departments have a single *raison d’être*, namely optimal service to the public against the background of limited resources. Unaligned logics of action may bring about conflicts in inter- and intra-governmental relations, which will invariably impact on optimal service delivery.

The logics of action construct holds important implications for the roles of the strategic leaders of the Public Service in the establishment of a new competent service delivery culture paradigm vis-à-vis other public service departments; viewed as subcultures of the latter competent holding culture. It needs to be emphasised that every department, while forming a distinct sub-culture, also forms a competent holding culture in its own right in relation to the sub-cultures that form or become established in that particular department. The task of the strategic leadership cadre is, therefore, always to pursue alignment of logics of action among all relationships that may exist or form in the process of the organisation performing its various functions.

## **STABILITY AND TRANSFORMATION: THE PARADIGMATIC PARADOX**

Most organisations today have been influenced by this seventeen century Newtonian perspective of the world, one in which:

organisations are designed to have many machine-like characteristics and functions;  
most events and interactions are predictable and measurable;  
many of our expectations of regularity are met;  
there exist well-defined variables, boundaries, and cause-effect relationships; and  
there are principles, policies, and rules to guide behaviour because most organisations are acquainted with the effective and efficient ways to do things, if not the most excellent ways.

Just as Newton's laws broke down as physics explored ever-smaller elements of matter and ever-wider expanses of the universe, rigid, control-oriented organisations don't work well in a world of instant information, constant change, and global competition.

On the other hand does April, Macdonald and Vriesendorp (2000), Bohm (2002:1-25), Wheatley (1999) present an argument that from quantum mechanics and chaos theory emerge new understandings (schema) of order, disorder, and change, which might be important for leaders (public service) of today to take into account. Individual actions, whether by atoms or people, cannot be easily predicted and controlled. The reasons why are stated as follows:

Nothing exists except in relationship to everything else. It is not things, but the relationships among them that are the key determinants of a well-ordered system we perceive. Order emerges through a web of relationships that make up the whole, not as a result of controls on individual parts.

The empty space between things is filled with fields, invisible material that connects elements together. In organizations, the fields that bind people include vision, shared values, culture, and information. Organisations, like all open systems, grow and change in reaction to disequilibrium, and disorder can be a source of new order.

Thus a paradox is likely to be a key element of a new paradigm for service delivery. In a paradox “everything is its opposite” (Hock, 1994). A central paradox in government transformation is that political and managerial leaders strive to maintain stability or equilibrium, but that transformation requires instability since energy for creative change comes from being off-balance – or, as Peters (1992) states: “you’re only in control when things are out of control”. A state of near-chaos provides special impetus for transformation (see Quinn & Cameron, 1988).

## **TOWARDS A NEW SERVICE DELIVERY PARADIGM: TRANSITIONAL ARRANGEMENTS**

Jantsch cited in Wheatley (1999) pointed out that any living system is "a never resting structure that constantly seeks its own self-renewal". She further stated that description of a system defines a paradox that would be important to note when organisations (public service) think about creating a new paradigm. A living system produces itself; it will change in order to preserve that self. Change is prompted only when an organism decides that changing is the only way to maintain itself. Life is about creation. This ability of life to create itself is captured in a strange-sounding new word, Autopoiesis (from Greek, meaning self-production or self-making). Autopoiesis is life's fundamental process for creating and renewing itself, for growth and change.

However there is another important paradox in living systems. Each organism maintains a clear sense of its individual identity within a larger network of relationships that helps shape its identity. Each being is noticeable as a separate entity, yet it is simultaneously part of a whole system. Bohm (2002) and Wheatley (1999) are of the opinion that humans observe and count separate selves, and pay a great deal of attention to the differences that seem to divide them, in fact the human race survive only as they learn how to participate in a web of relationships. Autopoiesis describes a very different universe, one in which all organisms are capable of creating a "self" through their intimate engagement with all others in their system. This is not a fragile, fragmented world that needs us to hold it together. This is a world rich in processes that support growth and coherence through paradoxes that (public service) leaders need to contemplate.

Thus is it important for public service strategic leaders to take note of what Senge (1990) suggest, the use of ‘systems maps’ – diagrams that show the key elements of systems and how they connect. However,

strategic leaders might often have a problem 'seeing' systems, and it takes work to acquire the basic building blocks of systems theory, and to apply them to an organisation such as the public service. On the other hand, failure to understand system dynamics can lead public service's strategic leaders into sequences of blaming and self-defence point the finger at the enemy who is always out there, and problems are always caused by someone else' (Bolam and Deal, 1997).

April, Macdonald and Vriesendorp (2000) are also of the opinion that leaders (public service) need a different set of skills, which Arnold and Mindell cited in April et al (2000) coined: metaskills. They argue that Meta-cognition can be defined as "an individual's awareness of his or her own cognitive processes, and his or her ability to control these processes by organising, monitoring, and modifying them as a function of environmental factors". They define the metaskills of a leader as the "*skills needed to step back and look at themselves in their broader contexts (family, work, community, the world, the universe) in order to raise their awareness, consciousness and understanding of who they are, why we are here, how we operate and how that affects others and our environment*".

## **SERVICE DELIVERY AND THE CREATION OF "MEANING"**

An important aspect, which the strategic leaders need to understand is that they need to believe in the new government, because the most vivid example of the future-directedness inherent in our experience of meaning, according to Frankl (1970), is that of faith, which he defines as 'an unconditional trust in ultimate meaning'. The experience of faith includes the belief that what they do not understand now, they will understand later. Faith is the belief that everything will make sense in the end, the consolation that 'it will be all right or work out all right' or 'will be worth it all' in the long run.

Hence, public service strategic leaders need to be cognizant of the fact that if they want the public service to induce meaning, meaning cannot be encompassed by a purely rational act, but can be comprehended only by an act of intuitive knowing. This implies an orientation of openness—a readiness or willingness to experience meaning. More than intellectual curiosity is required. There must be an involvement of their total being in the experience of meaning i.e. they believe in the organisation and the greater cause of serving their fellow man. The best example of intuitive knowing (which is also, according to Frankl, the most encompassing framework for an experience of meaning) is that of faith. Frankl (1967) speaks of an 'Uruertrauen zum Dasein', the basic trust in being. 'I believe...' is an act of declared openness to receive evidence of the existence of that which is believed in. The eye of faith sees "transparently, namely, in the light of transcendence". It is the man or woman of faith who alone can in spite of all say yes to life under all conditions and circumstances.

Thus meaning is experienced every day by ordinary men and women and in this case public sector strategic leaders in three principal ways: the first is what they give to the world in terms of their tasks, duties or creations; the second is what they receive or take from the world in terms of their encounters and experiences; and the third is in the stand they take towards their predicaments and sufferings (Frankl 1970).

## **MEANING AND THE SOCIAL LEARNING THEORY**

"Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behaviour is learned observationally through modelling: from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action."(Albert Bandura, Social Learning Theory, 1977).

Social cognitive theory is a recent theory of human behaviour that may have significant potential for influencing strategic leadership activity in today's organisations. It provides a framework that helps to facilitate strategic leadership competence (knowledge, attitude and skills) within established organisations. The theory recognises the impact of the environment on human development while also placing responsibility on the individual to grow from within. It incorporates the primary critical categories of variables influencing

organisational behaviour; that is, cognitive, behavioural, and environmental determinants (Davis & Luthans, 1980).

In short, social cognitive theory posits that the environment, the focal behaviour, and the person (including internal cognitions) reciprocally interact to explain individual actions. The Social Cognitive Theory framework depicts any human phenomenon as being the result of a dynamic process consisting of reciprocal relationships among three categories of factors: the individual's social cognitions, the individual's behaviour, and the social context (Bandura, 1977).

Accordingly the cognitive approach emphasises understanding. A leader has to understand himself, his needs, and his behaviour and also has to understand the environment that includes followers, their needs and behaviours. It is mostly expected from leadership to coming up with plans and ideas that are acceptable to followers and help to achieve the objectives of the group. This is also known as social competence or as Knight and Hughes (1995) argues "The ability to initiate and maintain satisfying relationships especially with peers".

***The steps in this approach can be described as:***

The leader identifies the environmental variables that control his/her behaviour.

The leader spends some time to work with the subordinate to discover the personalized set of environmental contingencies that regulate the subordinate's behaviour.

The leader and subordinate jointly attempt to discover ways in which they can manage their individual behaviour to produce more mutually reinforcing and organisationally productive outcomes.

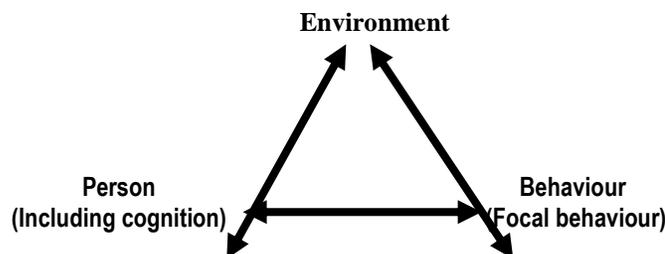
The leader enhances the efficacy of the self and that of subordinates through setting up successful experiences (coaching, mentoring), and give exemplar, positive feedback, persuasion, and encouragement. The increased efficacy will mostly lead to performance improvement. The success of the subordinates can in turn lead to leadership efficacy through the increased confidence in the leader.

Figure 1 (adapted from Bandura, 1977) depicts this relationship. Indeed, some theorists have argued that other explanations of human behaviour are too limiting and, at best, provide only a partial explanation of the complexities of organisational behaviour (Davis & Luthans, 1980).

## THE VALUE OF A LEARNING ORGANISATION PARADIGM IN THE PUBLIC SERVICE

Senge (1990) argues that learning organisations and in this case the public service require a new view of leadership. He sees the traditional view of leaders (as special people who set the direction, make key decisions and energize the troops as deriving from a deeply individualistic and non-systemic worldview. At its centre the traditional view of leadership, 'is based on assumptions of people's powerlessness, their lack of personal vision and inability to master the forces of change, deficits which can be remedied only by a few great leaders' (op. cit.). Against this traditional view he sets a 'new' view of leadership that centres on 'subtler and more important tasks'.

Figure [1]



Senge (1990) proposes: At the heart of a learning organisation is a shift of mind (metanoia) – strategic leaders from seeing themselves as separate from the world to connected to the world, from seeing problems as caused by someone or something "out there" to seeing how their actions create the problems they experience. A learning organisation is a place where strategic leaders and members are continually discovering how they create their reality, and how they can change it. As Archimedes has said, "Give me a lever long enough ... and single-handed I can move the world". The implications of this position, if taken to its logical conclusion, are that our

whole understanding of what “strategic leadership” means and entails must change. If the public service consider, once again, Senge’s work, it would follow that recruitment, training and development might take the form of ‘learningful conversations’, of ‘group dialogues’. The work of the public service strategic leader or manager might become more centrally concerned with aiming to eradicate the boundaries to ‘group learning’ (in as far as this might be possible); to ‘marry up’ organisational and individual aspirations; to reveal and to resolve ‘deeply’ held conflicts, perhaps those residing in individuals ‘mental models’. Hence, the work of the public service’s strategic leaders would be continuously to develop, to organise and to balance the relationships between employees so as to best facilitate generative learning. Furthermore, the learning organisation is pointing towards the need for strategic leaders to discover their own organisational systems and to make these actively clear to members of the organisation in such a way that people are able to see the consequences of their actions. It is thus pointing towards the need for strategic leaders to expand ‘learning horizons’: perhaps even to make people more accountable for their actions.

In this context, an activity such as performance appraisal would involve elucidating the ‘total system’ that any particular employee was involved within. That is to say, identifying where an individual is located within the organisation’s structure, how this position has changed over time, and how it is likely to change in the future. In keeping with Senge’s idea that, while we learn best from experience, the consequences of our actions within organisations are often not visible to us, it might involve explicitly spelling out the consequences (both intended and unintended) of a person’s actions, over time and throughout the organisation – that is to say, *as a part of the total system*. Performance appraisal, to take just one example, would thus be understood to be more of a means to facilitate adaptive learning by enabling people to ‘see the bigger picture’, than a means of controlling the workforce (in any simple sense). The ideas relating to the learning organisation therefore have quite radical implications for the practitioner.

As stated, a fundamental idea involved in the concept of the learning organisation is that of *organisational or team learning*. Academics have been argued that these terms are highly problematic as they might lead people to conceive of the public service as an organisation as having a *real* existence all of its own: of an organisation *itself* having the equivalent of a human ‘mind’ which is capable of ‘learning’. This, in turn, leads us to conceive of ‘organisational learning’ and ‘individual learning’ as two *ontologically* distinct things (that is to say, two things which are, ‘in reality’ distinct, not just ‘conceptually’ distinct). Following on from this conceptualisation, public service strategic leaders are left asking questions such as ‘what is the *relationship between* organisational learning and their individual learning’, a question which is flawed from the outset.

Thus, in short, the terms ‘individual learning’ and ‘organisational learning’ actually refer to ‘two sides of the same coin’; they simply refer to different levels of an ongoing process involving knowledge sharing, knowledge building, knowledge adaptation, and knowledge development as part of a group. It is in this relationship and or connection that the concept of the learning organisation is most similar to that of ‘human capital and or knowledge management’. However, a comparison of these two sets of ideas is somewhat outside of the scope of this research. While the observations developed above cannot be considered to signify a ‘guide to strategy’ as such for public service strategic leaders aiming to make use of the ideas relating to the learning organisation, they are offered here to promote a critical awareness of both the key problems and the potentially valuable contributions of this increasingly popular concept. However Nonaka and Takeuchi (1995) criticised organisational learning theories for failing to recognise *knowledge development* as learning. The metaphor of individual learning is still widely used and what constitutes organisational learning inadequately defined (Weick, 1991). The concept of knowledge creation is underdeveloped in organisational learning models which assume that some artificial intervention is required to implement double-loop learning.

Accordingly for strategic leaders within the public service to grasp the meaning of organisational learning and move towards “metanoia” is to grasp the deeper meaning of “learning,” and or “ability” (organisational and personal), because learning also involves a fundamental shift or movement of mind and or way of thinking. According to Kroon (1995) it will be the tasks of the public service strategic leaders as a team to lead the members effectively in order to provide certain products or services and as such fulfilling particular needs and achieving the stated goals of the organisation. Therefore it is “no more business as usual”.

Building a new world of work and in the process regrouping and rearranging organisations and what they are doing to get on the right track, creating new enthusiasm, energy and believe amongst the people, with a sense of direction and purpose is now at the order of the day (Senge, 1999). This concludes the brief overview of the changing service delivery paradigm, both nationally and internationally.

# **THE NEW PARADIGM: STRATEGIC LEADERSHIP COMPETENCE**

McCormick and Martinko (2004) draw attention to the fact that *for* anyone to be successful in a leadership role, they must “first know something about being a good leader, and also have the skills to carry out the role (core competencies)”. They are also of the opinion that with the exception of cognitive resource theory (Fiedler & Garcia, 1987), none of the contemporary leadership models incorporate leader schema (being previously in such a position), scripts and knowledge structures as an explanatory variable.

Eisenstat & Beer (1994) maintain that if an organisation (public service) wants to achieve its strategic tasks it dependent on three organisational capabilities namely:

Coordination amongst all parts that must work together to accomplish the strategic task. The question that needs to be asked is whether the different business units have the appropriate levels of coordination or teamwork among functions and customers that are needed to accomplish the strategic task? Commitment of individuals and groups to accomplishing the strategic task. Do the key functionaries at all levels have the level of commitment that is necessary to accomplish the strategic task? Do the office bearers of the public service have the necessary technical and managerial competence to accomplish the task? Do they also have the necessary technical and managerial competence to solve problems and coordinate solutions?

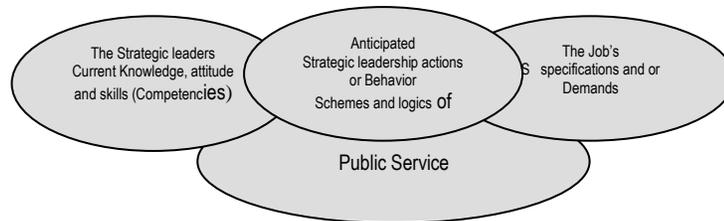
They further argue, that more highly competent office bearers, is not enough, because for the functionaries to integrate their efforts effectively, strategic managerial and interpersonal competencies are needed at the top and lower levels. They also have to develop competencies and methods for prioritizing programmes and allocating resources across projects. Lower-level members might need to develop skills in programme management and group decision-making in order to implement certain projects.

## **SUPPORTING THE NEW PARADIGM: THE NEED FOR STRATEGIC LEADERSHIP COMPETENCE ADJUSTMENTS IN GOVERNMENT**

As discussed earlier transformation from an “old” to “new” delivery paradigm is an incremental process. Public institutions cannot expect officials to change the way they have done things for years, over night. Proper management of the transition of people through the process of change is critical to the success of a new system. There are typically three aspects to the transition of people through transformation, namely the discontinuation of the old way of doing business, migration, and starting the new way of doing business (see Dey, 1999:148).

Given the previous discussion, it is suggested that a public service strategic leadership competencies are linked with his/her individual’s knowledge, attitude and skills that facilitate effective leadership performance. Additionally, the job itself and the environment in which managers are expected to perform also seem to influence the level of leadership performance or effectiveness. Thus, successful alignment between a strategic leader’s competencies, the job as a strategic leader, and the work environment is seen to contribute towards the strategic leadership competencies required to perform effectively. It is suggested that strategic leaders also require social competencies to ensure effective strategic leadership performance. This seems to concur with the performance model proposed by Boyatzis (1982, in Spangenberg, 1990:2) in that strategic leaders are required to consider the social nature of their work environment and their duty of ensuring employee and customer satisfaction to perform effectively. Additionally, public service strategic leaders will need to utilize their individual competencies to ensure that their strategic leadership tasks are effectively accomplished. Public service strategic leaders therefore require social competencies.

It is argued that managerial leaders in their capacity as strategic leaders are responsible for the effective functioning of the organisation and that their unique significance of competence in their role as strategic leaders, shows in fact that by far the most important factor in the successful functioning of any organisation is the match between the level of capability of the organisational strategic leader (and, secondarily, of the CEO's subordinates) and the level of work called for in the strategic leadership role (Jaques and Clement,1994). Consequently does the key to service delivery improvement for the public service lie in the capacity within the organisation for developing and maintaining public service strategic leader's competence. The significance of the competence approach is that it recognises the complex interaction of people, skills and technologies that drives the public service performance and addresses the importance of learning and interdependence in its progression (Scarborough, 1998).



**Figure [2]** (Adapted from Boyatzis, 1982, in Spangenberg, 1990)

## CONCLUSION

Globally there are clear indications that public institutions are going to be lead differently. Developments such as the reinventing government movement and new public management signal the emergence of a new service delivery paradigm. In this new paradigm public institutions will increasingly utilise alternative service delivery approaches and mechanisms to provide services. These approaches and mechanisms will require integrated, functional systems and procedures that are dynamic, flexible, and accountable.

The utilisation of strategic leadership competence in government results in a new implementation “taxonomy” for public service strategic leaders. From this article it should, however, be clear that competency development adjustments need to be made to inculcate a new paradigm and to incorporate competency development to support strategic leaders. The resulting strategic leadership competence paradigm will add significant benefits to both public service and community.

## REFERENCES

- April. K. McDonald. R. Vriesendorp. S. *Rethinking Leadership*. Kenwyn: Cape Town.
- Bandura, A. *Social Learning Theory*. New York: General Learning Press, 1977
- Boal, K.B. & Hooijberg, R. Strategic leadership: Moving on. *Leadership Quarterly*, 11(4) (2001): 515-549.
- Boam, R. and Sparrow, P. (Eds) *Designing and achieving competency*, London: McGraw-Hill, 1992
- Drucker, P. F. The Deadly Sins in Public Administration. *Public Administration Review*, Vol. 40, 1980: pp. 103-106.
- DRUCKER, P. F. *Managing in a time of great change*. New York: Dutton, 1995.
- Gibson, J. L., Ivancevich, J. M. and Donnelly, Jr. J. H. *Organisations: behavior, structure, processes*. (8<sup>th</sup> edition). Burr Ridge, III: Irwin, 1994.
- Harvey, M. G., Speier, C. and Novicevic, M. M. *An innovative global management staffing system: a competency-based Perspective*, *Human Resource Management*, 39(4,(2000)): 381-394.

Hay, J. *Managerial competences or managerial characteristics? Management Education and Development*, 21(4), (1990): 305-15.

Ivancevich, J M. & Matteson, M.T " *Organisational Behaviour and Management*", 4th edition, Irwin, (1996)

Jaques. E. and Clement. S. D. *Executive Leadership. A Practical Guide To Managing Complexity*. Blackwell Publishers; UK, 2000

Senge, P.M., *The Fifth Discipline: The Art and Practice of the Learning Organization*, Currency Doubleday Publishers: New York, 1990

The South African Management Development Institute (SAMDI),. Middle Manager Competency Dictionary.(<http://www.dpsa.gov.za>), 2003

Wheatley. M. *Leadership and the New Science. Discovering Order in a Chaotic World*. Berrett-Koehler Publishing: San Francisco, 1999.

SOUTH AFRICA. Constitution of the Republic of South Africa, 1996. Act 108 of 1996. Pretoria: Government Printer, 1996.

SOUTH AFRICA. Ministry for Public Service and Administration. Green Paper on a conceptual framework for affirmative action and the management of diversity in the public service. Notice 851 of 1997. Pretoria, 1997a

Storey. J. *Leadership in Organisations. Current Issues and Key Trends*. Routledge: New York, 2004.

Swanson. C. R., Territo. L., Taylor. R. W. *Police Administration. Structures, Processes, and Behaviour*. (Fourth edition). Prentice Hall: New Jersey, 1998.

The Oxford Dictionary of Current English, *Oxford University Press*: Oxford, 1984.

Taylor-Bianco A & Schermerhorn Jr. J: Self-regulation, strategic leadership and paradox in organisational change. *Journal of Organisational Change Management*, Vol. 19, No. 4, 2006: pp 457-470

Toffler. A. *Future Shock* (9<sup>th</sup> edition). Random House, 1970

Toffler. A. *The Third Wave . The Classic Study of Tomorrow*. Random House Inc., 1984

Van der Cloff, L. "Leadership lessons from the African Tree". *Leadership & Organisational Development Journal, Emerald Group Publishing Limited*. 41(3), (2003): 257-261.

Van Der Waldt, G. and Du Toit, D.F.P. *Managing for excellence in the public sector*, Juta & Co: Kenwyn, 1997

Weick, K. E. The non-traditional quality of organisational learning. *Organisational Science*, 2 (1), (1991): 116-124.

Yukl, G. *Leadership in Organisations*. Englewood Cliffs, New Jersey: Prentice-Hall, 1981.

Yukl, G. 2002. *Leadership in Organisations*. New Jersey: Prentice-Hall. 5<sup>th</sup> Edition.

Zaccaro, S. J. *Models and Theories of Executive Leadership: A Conceptual/Empirical Review and Integration*, (Washington, D.C.: U.S. Army Research Institute for the Behavioural and Social Sciences), October 1996.

Zwell, M. 2000. *Creating a culture of competence*. John Wiley & Sons, Inc. New York.

# MOBILE PHONES: THE 21<sup>ST</sup> CENTURY ADDICTION?

**Richard Shambare, Robert Rugimbana, and Takesure Zhoua**  
**Tshwane University of Technology, South Africa**

## ABSTRACT

*The mobile phone has become the 21<sup>st</sup> Century icon. It is ubiquitous in the modern world, as an on-the-go talking device, an Internet portal, a social networking platform, a personal organizer, and even a mobile bank. In the information age, the cell phone has become an important social accessory. Since it is relatively easy to use, portable, and affordable, its diffusion continues to surpass that of other ICT technologies. Research increasingly suggests cell phone usage to be addictive, compulsive, and habitual. Students are among the heavy users of mobile technologies, accordingly, a 33-item questionnaire measuring addictive and habitual behaviour was administered to a sample of students. Results indicate that indeed cell phone usage is not only habit-forming, it is also addictive; possibly the biggest non-drug addiction of the 21<sup>st</sup> Century.*

## INTRODUCTION

As the popularity of ICT-driven communication increases, mobile phone usage has been tipped into mainstream culture. This is particularly true for young adults, who increasingly consider mobile phones as part of their being and identity (Hooper & Zhou, 2007; Madrid, 2003). Past studies demonstrate that young adults and students use cell phones for various purposes including Facebook, were students spend at least 3 hours every day on their Facebook accounts using mobile phones (Mvula & Shambare, 2011).

Given the widespread adoption of mobile telephones, many researchers have posited that the use of cellular phones is addictive, compulsive, dependant, and habit-forming (Aoki & Downes, 2003; Hooper & Zhou, 2007; Madrid, 2003). Madrid (2003) particularly asserts that “mobile phone usage is a compulsive and addictive disorder which looks set to become one of the biggest non-drug addictions in the 21<sup>st</sup> Century.” Despite this, very little research attention has focussed on this phenomenon, and even less has empirically tested these claims. It is against this background that this research investigates these claims by testing whether mobile phone usage is indeed addictive, compulsive, and habitual. To achieve this, a mobile phone usage questionnaire developed by Hooper and Zhou (2007) to measure addictive, compulsive, and habitual behaviour was tested on a sample of South African students. Since students usually take the lead in adopting technological innovations including mobile phone usage (Rugimbana, 2007), a student population was considered ideal.

Hooper and Zhou (2007) considers mobile phone usage as having a mobile (cellular) phone and using it to communicate by means of calling or sending text messages commonly known as SMSs. For practical purposes, this definition will be adopted for the purposes of this research. Mobile phone usage is a distinct consumer behaviour, whose implications are potentially valuable to a multiplicity of disciplines including marketing and education. For educators, understanding how and why students use cell phones can provide them with knowledge not only to facilitate learning, but to discover means of embracing the technology into the classroom (Bicen & Cavus, 2010; Carter *et al.*, 2008; Mvula & Shambare, 2011). On the other hand, marketers may gain valuable insight of using mobile phones as a medium for advertising as well as the marketing of mobile phones.

Past research identified numerous types of behaviour associated with mobile phone usage. Therefore, this study concerns itself with the identification of these types of behaviour and the respective underlying motivations of that behaviour. In other words, the objectives of the research are to:

- determine whether the types of behaviour according to Hooper and Zhou (2007) are identifiable in a developed nation's context such as South Africa
- categorise mobile phone usage according to the typologies identified in the latter study, based on the underlying motivations

The remaining sections of the paper are structured as follows. First, the literature pertaining to mobile phone usage is reviewed in the following section. Secondly, the methodology employed to answer the research questions is presented. Results are then presented next. Finally, the paper concludes by citing implications of these findings, as well as suggesting topics for future research.

## LITERATURE REVIEW

To appreciate mobile usage, the study considers a multi-disciplinary review of the literature. Following on from Maslow's motivation model, Hooper & Zhou (2007) posit that human behaviour can be viewed as the actual performance of behavioural intentions driven by certain underlying motives. This view appears to be consistent with adoption theories such as Ajzen's (1991) Theory of Planned Behaviour, Davis' (1989) Technology Acceptance Model. Basically these models propose that product attributes (e.g. relative advantage, perceived ease of use, or perceived usefulness) influence behavioural intention, which in turn initiate behaviour (Taylor & Todd, 1995).

### Motivation of mobile phone usage

Although mobile phones were initially used as communication devices, today they are a 21<sup>st</sup> Century icon that performs multiple roles (Garcia-Montes *et al.*, 2006). Mobile phones can represent a bank if used in mobile banking (Jayamaha, 2008), a camera, personal organiser, a calculator, and a social networking device (Bicen & Cavus, 2010). Aoki and Downes (2003) further argue that a mobile phone is no longer a phone linked to a space but rather a phone linked exclusively to an individual (Boyd & Ellison, 2008; Mvula & Shambare, 2011). In the following sections, some of the more common motivations for mobile phone usage are discussed.

**Social interaction:** Mobile phones are used for social interaction. Adopters use them to stay in touch with friends and family (Aoki & Downes, 2003).

**Dependency:** Following adoption, users become more comfortable using cell phones. Rogers (1995) identifies this as 'commitment' to using an innovation. In other words, as adopters begin using mobile phones regularly they become part of the users' lives to such an extent that they feel lost without them (Hooper & Zhou, 2007). Mobile phones become such a necessity that they feel disconnected and lost if they do not have their mobile phone in their possession (Aoki & Downes, 2003).

**Image and identity:** Mobile phones may also be considered as status symbols (Taylor & Harper, 2003). Mvula and Shambare (2011) confirm this latter position; they indicate that South African students adopt mobile phones to use on Facebook, simply because their friends use cell phones for Facebook. Hence, Wilska's (2003) findings propose mobile phone usage as being addictive, trendy, and impulsive.

### Behaviour associated with mobile phone usage

From these motives, the literature posits six types of behaviour associated with mobile phone usage. These are habitual, addictive, mandatory, voluntary, dependent, and compulsive behaviour (Hanley & Wilhelm, 1992; Hooper & Zhou, 2007; Madrid, 2003; O'Guinn & Faber, 1989), and are discussed in detail in the following sections.

#### Addictive behaviour

Hanley and Wilhelm (1992) define addictive behaviour as any activity, substance, object, or behaviour that has become the major focus of a person's life to the exclusion of other activities, or that has begun to harm

the individual or others physically, mentally, or socially. Addictive behaviours in is usually considered a means of improving feelings of low self-esteem and powerlessness (O'Guinn & Faber, 1989).

## **Compulsive behaviour**

O'Guinn and Faber (1989) affirm that compulsive behaviour is repetitive behaviour; it is typically very difficult to stop and often results in harmful economic or societal consequences.

## **Dependent behaviour**

Dependent behaviour is different from addiction, in that it is often motivated by the attached importance of a social norm (Hooper & Zhou, 2007). In this context, it is not addiction of mobile phone usage, but the attached importance of communication.

## **Habitual behaviour**

Many behaviours that people perform regularly can be characterized as habits, since they are performed with little mental awareness (Biel *et al.*, 2005). These are initiated by environmental cues in a given situation which call for individuals to act. The cues send signals to an established habit which corresponds to behaviour in a given situation.

## **Voluntary behaviour**

Unlike habitual and addictive behaviour, voluntary behaviour is reasoned behaviour which is driven by specific motivations.

## **Mandatory behaviour**

Mandatory behaviour is defined as behaviour needing to be done, followed, or complied with, usually because of being officially required (Aoki & Downes, 2003) or being parentally mandated. In terms of motivation, mandatory behaviour is usually driven or prompted by environmental consequences (Aoki & Downes, 2003).

## **Research Objectives**

To address research objective, the following research question was formulated:

**RQ:** *What types of behaviour are associated with mobile phone usage?*

## **RESEARCH DESIGN**

A survey method was used to collect data from students in Pretoria, using non-probabilistic sampling methods (Kerlinger & Lee, 2000). Four undergraduate students, trained as research assistants administered the instrument to participants.

## **Sampling and sample size**

Non-probabilistic sampling technique was utilised, and to ensure a more representative sample consisting of students at all study levels, both high school and university students were utilised (Calder *et al.*, 1981). While these two groups may appear to represent two separate populations, past studies (e.g., Livingstone, 2008) focusing on young consumers tend to combine consumers under 35 years old as one population group. Therefore, the choice for including the entire spectrum of students stems from the latter views. Research

assistants were positioned at strategic locations, near schools and libraries, where they approached students to participate in the study. Table 1 illustrates the participants' demographic characteristics.

**Table 1: Demographic Profile**

Demographic Characteristics		Per cent (%)
<i>Gender</i>	Male	29
	Female	71
<i>Education level</i>	High School	42
	University Diploma/ Degree	26
	Postgraduate	32
<i>Cell phones owned</i>	One	64
	Two	28
	Three or more	8
<i>Cell phone experience</i>	< 1 year	7
	1 – 3 years	15
	3 – 5 years	10
	5+ years	68

Respondents' ages ranged from 14 to 38 years, yielding a mean age of 20.67 years with a standard deviation of 2.94 years. The K-S Normality test was not significant ( $D = 1.279$ ,  $p = 0.076$ ), suggesting that the sample followed a normal distribution.

## Data Collection

In total, 180 self-completion questionnaires were distributed to willing participants. Of these, 104 questionnaires were returned but only 93 were usable, representing a response rate of about 52 per cent. The remaining 11 instruments had too many missing values to be useful.

## Questionnaire

To measure mobile phone usage patterns, Hooper & Zhou's (2007) mobile phone usage scale (MPUS) was adapted and used to collect primary data. In keeping with the research objective of establishing whether cell phone usage was indeed addictive (Aoki & Downes, 2003; Madrid, 2003), the questionnaire used by Hooper and Zhou (2007) was considered most appropriate, as the previous study also considered a sample of students. A pilot test was conducted with 10 undergraduate students to ensure that content of questionnaire would be comprehensible to the target respondents (Dwivedi, Choudrie, & Brinkman, 2006).

## RESULTS

This research question and research objectives sought to identify the types of behaviour associated with mobile phone usage. It was also important to determine whether students exhibited one type of behaviour over another or perhaps a set of behaviour types over others. The mobile phone usage scale (MPUS) was used to answer this question. Factor analysis was performed on the MPUS. According to Hooper and Zhou (2007), the MPUS contains 6 behaviour typologies, each represented by the 6 subscales: habitual, mandatory, dependant, addictive, compulsive, and voluntary. These items are supposed to load independently in 6 factors or behaviour typologies.

Tests to determine the suitability of factor analysis were all satisfactory ( $KMO = 0.831$ ; Bartlett's Test of Sphericity  $X^2 = 845.195$ ;  $df = 153$ ;  $p < 0.000$ ). Subsequently factor analysis, with a principal component

analysis (PCA) as an extraction method was performed. A three-factor solution was extracted. Dependency behaviour items loaded in Factor 1, habitual behaviour items loaded in Factor 2, and addictive behaviour items loaded in Factor 3 (Table 2).

**Table 2: Three-factor solution of mobile usage responses**

	<b>Factor 1</b> Dependant	<b>Factor 2</b> Habitual	<b>Factor 3</b> Addictive	<b>Communalities</b>
D5	0.840			0.721
M1	0.803			0.777
D1	0.783			0.687
D2	0.781			0.715
D3	0.765			0.712
D4	0.754			0.657
H3		0.828		0.727
H2		0.762		0.657
H1		0.722		0.584
H5		0.712		0.548
H4		0.695		0.629
A3			0.751	0.620
A2			0.737	0.629
C1			0.726	0.640
A1			0.633	0.454
A4			0.598	0.482
Eigenvalues	6.954	2.214	1.713	(Total)
percentage of variance	26.065	18.209	16.181	60.455
Cronbach's alpha ( $\alpha$ )	0.915	0.832	0.788	

Table 4 illustrates that the three-factor solution accounts for about 60 per cent of the variance. Subsequent tests for internal consistency of items in all three factors yielded satisfactory results, as all factors had Cronbach's alphas in excess of the 0.7 cut-off (Field, 2009; Ozer & Gunluk, 2010).

## DISCUSSION AND CONCLUSIONS

This research sought to establish the types of behaviour according identifiable in mobile phone usage. A secondary objective was to assess how students in a resource-poor context compare to those in a resource-rich country. Following in, researchers attempted to categorise mobile phone usage according to the typologies commonly identified in the literature. While earlier studies posit six typologies, this study found support for only three: dependency, habitual, and addictive behaviour. These results suggest that mobile phone usage is dependency-forming, habitual, and addictive. For instance, such dependant behaviour is exemplified with the overwhelming response to questions like: "I often feel upset to think that they might be missing calls or messages." The reliability of each the factors: dependency, habitual, and addictive behaviour was 0.915, 0.832, and 0.788, respectively. These are comparable to those found by Hooper and Zhou (2007), which were 0.842, 0.793, and 0.880, respectively. The high reliability loadings of these factors indicate that the three different types of behaviour are in themselves distinct constructs. Future research could consider looking at this constructs utilising a different sample of mobile users.

## REFERENCES

Ajzen, I, 1991. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, (50):179-211.

- Aoki, K., & Downes, E. J., (2003): An analysis of young people's use of and attitudes toward cell phones, *Telematics and Informatics*, 20 (4): 349-364.
- Biel, A., Dahlstrand, U., & Grankvist, G., (2005): Habitual and value-guided purchase behaviour, *AMBIO*, 34 (4): 360.
- Blenford, A., (2007): 3G mobiles change social habits. BBC News [Online]. Available from: <http://news.bbc.co.uk/2/hi/technology/4833426.stm>.
- Boyd, D.M. & Ellison, N.B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13 (1): 210-230.
- Carter, H.L., Foulger, T.S., & Ewbank, A.D. (2008). Have You Googled Your Teacher Lately? Teachers' Use of Social Networking Sites. *The Phi Delta Kappan*, 89 (9): 681-685
- Calder, B.J., Phillips, L.W., & Tybout, A.M. (1981). Designing Research for Application. *The Journal of Consumer Research*, 8 (2), 197-207.
- Davis, Fred D., 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, *MIS Quarterly*, 13 (September): 319-339.
- Dulewicz, V., Higgs, M., & Slaski, M. (2003). Measuring emotional intelligence: content, construct and criterion-related validity. *Journal of Managerial Psychology*, 18 (5), 405-420.
- Dwivedi, Y.K., Choudrie, V., & Brinkman, W. (2006). Development of a survey instrument to examine consumer adoption of broadband. *Industrial Management & Data Systems*, 106 (5), 700-718.
- Field, A. (2009). *Discovering Statistics using SPSS*, 3<sup>rd</sup> Edition. Sage: Thousand Oaks, California.
- Garcia-Montes, J. M., Caballero-Munoz, D., & Perez-Alvarez, M., (2006): Changes in the self resulting from the use of mobile phones, *Media, Culture & Society*, 28 (1): 67-82.
- Hanley, A., & Wilhelm, M. S., (1992): Compulsive buying: an exploration into self-esteem and money attitudes. *Journal of Economic Psychology*, 13: 5-18.
- Hooper, V. & Zhou, Y. (2007). *Addictive, dependent, compulsive? A study of mobile phone usage*. Conference Proceedings of the 20<sup>th</sup> Bled eConference eMergence: Merging and Emerging Technologies, Processes, and Institutions held in Bled, Slovenia, June 4 – 6.
- Jayamaha, R. (2008). *The Impact of IT in the Banking Sector*. Colombo
- Kerlinger, F.N. & Lee, H.B. (2000). *Foundations of Behavioral Research*, 4<sup>th</sup> ed. Sydney. Harcourt College Publishers.
- Lee, M. and Cunningham, L.F. (2001). A cost/benefit approach to understanding service loyalty, *Journal of Services Marketing*, 15 (2), 113-130.
- Leedy, P.D. & Ormrod. J.E. (2005). *Practical research: planning and design*. 8th ed. New Jersey: Kevin.
- Livingstone, S (2008). Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. *New media & society*, 10 (3): 393-411
- Madrid, (2003): Mobile phones becoming a major addiction [Online]. Available from: <http://www.smh.com.au/articles/2003/12/10/1070732250532.html?from=storyrhs>

McKinnon, J. (1988). Reliability and Validity in Field Research: Some Strategies and Tactics. *Accounting, Auditing, and Accountability*, 1 (1), 34-54.

Mvula, A. & Shambare, R. (2011). Students' perceptions of facebook as an instructional medium. 13<sup>th</sup> Annual GBATA Conference Proceedings, Istanbul, Turkey

O'Guinn, T. C., & Faber, R. J., (1989): Compulsive Buying: A Phenomenological Exploration. *Journal of Consumer Research*, 16 (2): 147.

Ozer, G. & Gunluk, M. (2010). The effects of discrimination perception and job satisfaction on Turkish public accountants' turnover intention. *African Journal of Business Management*, 4 (8), 1500-1509.

Rogers, E. (1995). *Diffusion of Innovations*. Free Press: New York

Rugimbana, R. (2007). Generation Y: How cultural values can be used to predict their choice of electronic financial services. *Journal of Financial Services Marketing*, 11 (4), 301-313.

Taylor, S. & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12 (1995): 137-155.

Wilska, T.-A., (2003). Mobile phone use as part of young people's consumption styles. *Journal of Consumer Policy*, 26 (4).

# **TALENT MANAGEMENT AND EMPLOYEE ENGAGEMENT IN THE INFORMATION INFUSED WORLD: A THEORETICAL ORIENTATION**

**Harshika Sharma, Holborn College, UK  
Ann Ozuem, Roehampton University, UK**

## **ABSTRACT**

*Contemporary organisations are increasingly placing emphasis on talent management and employee engagement. Extant conceptual issues related to talent management and employee engagement are polarised by divergent views, creating a number of implications for academics and practitioners alike. The primary goals of this paper are to synthesise the underlying theories of talent management and to refocus academics and practitioners on the implicit and explicit benefits of management of talent and employee engagement in the global workforce.*

## **INTRODUCTION**

The term 'talent management' carries different meanings to different people (Cheloha and Swain, 2005; Jackson and Schuler, 1990; Kesler, 2002). To some, it means the management of "high-worth individuals or the talented." Whilst to others it is generally about how talent is managed on the assumption that all people have talent which should be identified, developed and liberated. This view is associated with competency-based human resource management practices. Talent management decisions are often driven by a set of organisational core competencies as well as position-specific competencies. There exists a wide range of extant theories related to talent management, both amongst academics and practitioners. However, there is dearth of theoretical orientation linking talent management and employee engagement. The current study aims to conceptually bridge the gap between talent management and employee engagement in an information infused world.

## **UNDERSTANDING TALENT MANAGEMENT**

So many different definitions of talent management exist that it is difficult to confer and compare across organisations. Lewis and Heckman (2006) conducted a review of the literature and concluded that there were several distinct streams of definitions and various degrees to which organisations have utilized each of them. One definition simply replaces the term 'human resources' with 'talent management' (Cohn et al, 2005; Conger and Fulmer, 2003; Garger, 1999). Talent management is a collection of human resource functions and practices like recruitment, selection, development and succession planning (Byham, 2001; Heinen and O'Neill, 2004; Olsen, 2000). The term can also include any area related to organisational development as well as employee relations. However, talent management is seen as an improved version of the former 'personnel' moniker which positively invests and manages employees as assets of organisations.

Talent management considers the internal pool of resources as it focuses on human resource and succession planning (Cheloha and Swain, 2005). Jackson and Schuler (1990) define it as an architecture where a set of processes are designed to ensure there is an adequate supply of employees for jobs within an organisation. It is all about having the right resources available at the right time for the right job (Kesler, 2002). Many organisations consider talent management as an over-arching recruitment tool that utilizes technology to assist in identifying the correct resources.

A third definition focuses on managing talent according to performance and views it as an “undifferentiated good” that emerges from humanistic and demographic perceptions (Buckingham and Vosburgh, 2001). This generic perspective of talent management does not focus on specific positions or boundaries. Critical to this stream of thought is the ability to manage people to their highest potential towards high performance organisation. It includes the development of people and managing the process of human resources. This requires cooperation and communication amongst managers at all levels (McCauley and Wakefield, 2006; Redford, 2005). Whilst all of these individual definitions have some credibility, the term ‘talent management’ in the 21st century needs to encompass these diverse concepts together into a more powerful concept.

Many organisations are making conscious efforts to manage talent. “The future of talent management may be about embracing and leveraging connectedness” (Frank and Taylor, 2004). It appears that organisations are increasingly embracing this concept. In fact, it has become a tactical necessity for many organisations. Talent management is in fact a part of the overall strategy of organisations. Many organisations are adopting models that help them compete with the best available resources for maximum organisational effectiveness (Ashton and Morton, 2005). Based on an analysis of these various interpretations, it is proposed that the concept of talent management may need to take on a more holistic approach. Talent management is defined by combining many of the above attributes into a "whole" model viewed in terms of a strategy.

According to Ashton and Morton (2005), talent management is imperative and has become an integral part of organisational planning. It is simply more than putting people in the right job at the right time. This view purports that since there is no single definition, talent management must be fluid and flexible and must adapt according to changes in business strategy. It is a driver within the organisation’s strategy that provides a connection to the performance of the human resources. Talent management in the 21<sup>st</sup> century must be more strategic and broad based in order to drive performance and manage human talent (McCauley and Wakefield, 2006). Organisations will only survive if talent management is aligned within the business strategy.

A 21<sup>st</sup> century concept of talent management must be a holistic concept. The various attributes combined within the model suggest that talent management must:

- 1) involve the integration of human resources across all departments and levels
- 2) be supported by cooperation from management
- 3) be facilitative in nature
- 4) be aligned with the overall business strategy
- 5) be upbeat in terms of future prospect
- 6) be an improved process that develops and manages talent and,
- 7) depend on a culture that fosters connectedness among employees and managers.

Talent management is a holistic concept where all the tenets are an outgrowth from the basic premise of talented human resources at the core of organisational effectiveness. When talent management becomes a core competence, it significantly improves strategy execution and operational excellence. This approach improves the performance and the potential of people who in turn impact on organisations.

Based on a review of these various interpretations, it is proposed that the concept of talent management may need to take on more of a holistic approach. Talent management is defined by combining many of the above attributes into a "whole" model viewed in terms of a strategy.

## **HOLISTIC APPROACH**

Talent management is not a human resource or organisational developmental initiative. It is something that is integrated within organisational strategy. It provides the framework for driving strategy throughout the company and at all levels. An organisation cannot simply implement one facet of talent management but must combine these in order to build a complete concept and strategy. By combining all talent management contexts together, talent management enables an organisation to "grow" from a holistic perspective. In order to develop a successful talent management strategy, employees need to feel "connected" or engaged with their jobs and

organisations. Effective talent management policies and practices that demonstrate commitment to human capital result in more engaged employees and lower turnover (McCauley and Wakefield, 2006).

<b>HR Talent Management</b>	-It is a set of typical HR practices -Replaces the term HR with Talent Management	(Byham,2001; Heinen and O'Neill, 2004; Olsen, 2000)
<b>Concept of Talent Pool</b>	-Set of processes designed to ensure the supply meets the demands of employees -Related to human resource planning - Right people at the right time in the right job	(Cheloha and Swain, 2005; Jackson and Schuler, 1990; Kesler, 2002)
<b>Generic talent management</b>	-Manages talent according to performance -Manages talent from both humanistic and demographic perception	(Buckingham and Vosburg.,2001; McCauley and Wakefield, 2006; Redford, 2005; Rothwell and Poduch, 2004)
<b>Holistic Approach</b>	-Integrates human resources and systems - Aligns talent with business strategy -Facilitative in nature like organisation development	

Table 1: Talent Management Definitions

## EMPLOYEE ENGAGEMENT: A STRATEGIC PRIORITY

“The challenge today is not just retaining talented people, but fully engaging them, capturing their minds and hearts at each stage of their work lives.” The concept of ‘employee engagement’ (EE) is rapidly gaining popularity, use and importance in the workplace. Research and consultancy firms, led by the high-profile Gallup Organisation are increasingly focusing their efforts on surveys of employee engagement that aim to improve levels of engagement. This is because corporate results have reportedly demonstrated a strong link between some conceptualisations of engagement, worker performance and business outcomes (The Gallup Organisation, 2004; ISR, 2005). Engagement is also increasingly examined in the business and psychological literature, as researchers struggle to catch up with its wave of popularity in the corporate world. While there is great interest and importance placed on the concept of engagement, there is also great confusion in the literature as to what exactly engagement is as a concept, and how it is to be defined and measured. Indeed, engagement has been defined, operationalised and measured in many diverse ways.

Engagement may in fact be a global concept, as it seems to be based on a combination of job satisfaction, job involvement, organisational commitment and intention to stay. It is important to continually understand and foster EE in the workplace’ (Lanphear, 2004).

The term ‘employee engagement’ has become a focus for many organisations. Employee engagement definitions (like talent management definitions) stems more from practice than from empirical findings. A review of the literature, particularly Melcrum’s (2005) study in Britain, proposes differing definitions of employee engagement (Dalal et al, 2008; Robinson et al, 2004; Saks, 2006). Research reflects that there has been heightened interest in the study of employee engagement in the recent past. Smythe (2007) deems that employee engagement is an incoherent concept with inadequate empirical support to generate interest for study. Successful talent management depends upon the engagement of the human resources. If employees feel “connected” to their job and organisation, the performance and effectiveness of organisation will increase (Lockwood, 2006).

The possibility of increasing effectiveness through a talent management strategy that is integrated with engagement could be the key to sustainable and appropriate talent for an organisation. In general, practitioners define engagement as employee commitment and a connection to the job and organisation (Gallup Study, 2006). Employees who are motivated help to drive the organisational strategy. Such employees have a “willingness” to

go an extra mile and perform beyond the call of duty to contribute to the success of the company. Kahn (1990) looks at engagement from a cognitive, emotional and physical connection of an employee to their work role. Engagement according to the author is measured through attentiveness, connection, integration and focus. Rothbard (2001) and Salanova et al (2005) add motivation and absorption to the concept which brings a more holistic view. It is important to point out that Saks (2006) views engagement differently from organisational commitment. He suggests that it is not an attitude but it is evaluated in terms of how well the individual is attentive and absorbed in the performance of their role. May et al (2004) conclude that engagement is concerned with how the individual performs during the job. It entails the active use of emotions and behaviours. Maslach et al (2001) characterise engagement as involvement, efficacy and rigour which is the opposite of burnout.

The antithesis of being engaged is to be disengaged which also has a connection to the term "burnout." Burnout is a syndrome of emotional exhaustion, depersonalisation and a reduced sense of accomplishment (Leiter and Maslach, 1988). It is the feeling of being emotionally overextended and drained by one's contact with other people. Kahn (1990) notes that when individuals are disengaged, they withdraw physically, cognitively or emotionally. The Gallup study (2006) classifies disengaged employees as "not-engaged" and "actively disengaged." Un-engaged employees have essentially "checked out." and their approach to work lacks passion. Actively disengaged employees are not just unhappy at work; they are acting out their unhappiness. Thus, burnout can be viewed as the opposite of engagement.

The role of defining engagement is the ability to identify when people are disengaged (Maslach and Leiter, 1997). It helps to determine the factors that are important to identify areas to improve engagement. Overall, in the academic literature, employee engagement has been consistently defined as a distinct and unique construct that consists of cognitive, emotional, and behavioural components that are associated with individual role performance. Practitioner definitions tend to overlap into other constructs such as job involvement and commitment. The academic definition is more precise, but in general, they both attempt to measure the alignment and motivation of an employee's effort towards the job and the goals of an organisation.

Engagement is then defined when the job is challenging and meaningful and when adequate resources are provided to individuals. Engagement occurs when managers provide a supportive environment. These cognitive, physical and emotional attributes all contribute to engagement. Talent management practices and policies that are focused on human capital result in more engaged employees and lower turnover (Driving Performance and Retention Through Employee Engagement, 2004). Subsequently, talent management has a large impact on employee productivity and employee retention. According to a Corporate Leadership Council study, employees who are committed perform 20% better and are 87% less likely to resign (*ibid.*). Lockwood (2006) suggests effective engagement fosters an environment of stimulation, development, support, contribution and recognition. This aligns directly with talent management. Those organisations that include talent management in their overall strategy will fare better than those that do not. This involves translating corporate goals into workforce needs, linking people to profit and effectively managing talent (Farley, 2005). Talent management needs to be a regular and consistent consideration of any organisation.

<b>Practitioner</b>	<ul style="list-style-type: none"> <li>• Engaged with passion, connection, commitment towards the job and organisation</li> <li>• Job satisfaction</li> <li>• Sense of contribution</li> </ul>	Employee Engagement Report: Gallup study 2009, Global workforce study, 2009
<b>Academic</b>	<ul style="list-style-type: none"> <li>• Engaged employees express themselves physically, cognitively and emotionally</li> <li>• Attention and absorptions</li> <li>• Involvement</li> <li>• A fulfilling state of mind characterised by vigour and dedication</li> </ul>	Kahn, 1990; Maslach, et al., 2001; D.R. May, et al., 2004; Rothbard, 2001; Salanova, et al., 2005

<b>Combined Approach</b>	<ul style="list-style-type: none"> <li>• Challenging and meaningful job</li> <li>• Resourceful</li> <li>• Perceived support from organisation and supervisor</li> <li>• Rewarded and recognized</li> <li>• Committed to organisation</li> </ul>	
--------------------------	---	--

Table 2: Employee Engagement: Different Perspectives

## CAREER ANCHORS

Talent management has taken different forms over the years and is not only concerned with finding ‘the best’ talent but also with developing the individual. Schein (1978) examined the development of the individual throughout the career cycle and developed the concept of career anchors. These are defined as the area of self concept that a person would not give up if forced to make a choice (Schein, 1978). They organise and constrain career decisions.

A career anchor has three components as follows:

1. Self-perceived talents and capabilities,
2. Self-perceived motivation,
3. Self-perceived outlook and values.

The concept emphasises the interaction between capabilities, motivation and outlook and values into "self concept".

Five career anchors for competence originally identified by Schein (1978) are:

1. Functional competence,
2. Administrative competence,
3. Sovereignty,
4. Security,
5. Entrepreneurial skill.

Three additional anchors were identified by Schein (1996)

1. Service,
2. Challenge,
3. Lifestyle.
- 4.

In the 1970s, it was evident where individuals stood with respect to their career anchors. However, in the 1980s, Schein (1996) found that the changing environment that existed within organisations pushed people to adjust and this resulted in the emergence of three additional anchors. With rapid technological and economical change people had to become more self-reliant. In addition, these factors played a role in the development of individuals within the organisation. As firms provide development and opportunities, individuals must assess their own career anchors to determine how to best increase productivity and engagement. Schein (1996) questions the extent to which, "individual career occupants have to plan and budget for their own learning, or will organisations take on some of this burden because it will ultimately be to their advantage." Schein (1996) not only advocates for greater employee participation, (especially with his research on career anchors) but also imposes on organisations a need to do better design work and to develop roles through open-systems planning. He envisaged that organisational culture and climate are key factors to changing this direction and human resource strategy will become decentralised into organisations in order to become integrated with the overall corporate activity. He acknowledged that talent can be developed in the individual but that the culture or climate must also be appropriate for this to occur.

## TALENT MANAGEMENT AND EMPLOYEE ENGAGEMENT

“The policies and practices of talent management that exhibit commitment to human capital result in an engaged workforce and lower turnover” (Gallup Report, 2004). “Talent management along with employee engagement can make or break the bottom line” (Lockwood, 2006). Engaged employees perform 20% better and are 87% more likely to be engaged. An important construct for employee engagement is linked to retention of the talent pool as an outcome of the talent management process (Bhatnagar, 2007). Engagement has been found

to be beneficial for the organisation as well as for the employees. So having an engaged workforce is a win-win situation. The manager plays a vital role as he/she facilitates employee engagement to both the job and the organisation. The value and accuracy of communication by senior management helps to create a more engaged workforce. Building employee engagement is an ongoing process. Effectual employee engagement promotes an environment of motivation, development, contribution and recognition (Lockwood, 2006). He concludes that the key factor that count when building engaged talent is ultimately the culture within the organisation.

Organisations need to reinvent their approaches to talent management in order to sustain increased business results in an increasingly competitive business landscape. Due to the shift in paradigm, increased participation from the executive level is viewed important. Rothwell and Poduch (2004) are of the opinion that most executives think of talent planning as "executive placement planning for senior-level backups". Furthermore, talent planning is proactive and attempts to ensure that internal talent and leadership development should be considered simultaneously while making business decisions. Culture and communications within an organisation must also be integrated. The holistic concept of talent management encompasses transforming corporate objectives into the needs of the workforce, linking employees to yield effective business performance (Farley, 2005). The executive level management have to refine how human resources are built-in wider organisational strategies. Only those organisations that learn to master talent management function will outgrow others with superior outcomes.

## **TALENT MANAGEMENT STRATEGY**

In the evolving global economy, for sustained business results, organisations will have to redefine their approach to talent management that effectively influences employee engagement. Many managers understand and even categorize that capable and enthused employees are assets to any organisation (Barlett and Ghoshal, 2002). Organisations advance when there is a "flexible, dedicated and greatly enthused pool of talent with a powerful sense of motivation concerning their service" (Smythe, 2007). Yet, following a decade of reengineering and decentralising, employees are more worn out than empowered and more pessimistic than optimistic. Little attention has been given to issues like employee capability and motivation. "Somewhere between theory and practice, precious human capital is being misused, wasted or lost" (Bartlett and Ghoshal, 2002),

In this state of rapid change, organisations should continuously change in order to sustain. Talent management strategy is an integral constituent of driving incessant changeover in the organisation. As intricacy and transformation drive organisations, managing talent will require a shift from an art to a decision science. Gone are the days of the "gut instinct" management style. Today's business leaders are closely gauging decision-making techniques to run their organisations successfully with an engaged workforce. According to Davis and Stephenson (2006), scientific management will develop into an indispensable tool to not only gain a competitive edge but also to simply stay in the game. It should come as no covert that employees are the ultimate source of continued competitive lead since conventional basis associated to financial capital and economies of scale have been destabilised by globalisation.

Pfeffer (1995) suggests that if organisations are going to vie in today's economy, it is important to develop employees with the right skills and potential. When organisational leaders possess the wealth of data of its talent pool, the finest talent management decisions can be easily made (Farley, 2005). The talent management outlook must be altered. Often management focus on financial capital as the decisive strategic resource to be managed. However, they fail to realise that it is human capital that needs to be viewed as the strategic resource. Schaufeli and Bakker (2004) found that engaged employees are more strongly attached to their organisations and therefore are less likely to leave the organisation. Engaging employee is imperative to the successful retention of talented employees (Bhatnagar, 2007).

Talent management is a strategy and not a HR initiative. It supports all strategic and cultural objectives and represents management commitment that is revealed in their activities and resolutions. This enables organisations to develop and engage key employees to meet the evolving business landscape. However, without commitment from the top management, talent management will fail. The passion for commitment must come from the top and must seep into the culture. According to Ready and Conger (2007) the dynamism of a company's talent management process comes from the three defining characteristics of commitment,

engagement, and accountability. Fostering commitment begins with the new hire and continues throughout the career. Engagement reflects the degree to which company leaders show their commitment to talent management

Figure 1 below proposes a holistic concept of talent management. A talent management strategy includes performance development, open climate, communication, continuous workplace improvement and rewards and recognitions. This holistic concept should be supported by the top management and embraced by all managers. Through this strategy, employee engagement can be secured in order to positively affect overall organisation strategy. Employee engagement is only attained when there is management support, interesting work, coaching supervisors, and personal development opportunities, a sense of contribution and reward and recognition. If talent management is not part of the organisation-strategy then it is doomed for failure. Talent management is both a combination Of organisational goals and effort.

The talent management model is supported by the holistic dimensions and definitions of both talent management and engagement. From both the theoretical and practitioner’s viewpoint this model is significant. Though the holistic model is inherently complex it is promising from a conceptual construct.

According to Barney (1991), it is vital to find and develop the resources in an organisation which helps in generating implicit organisational knowledge. Based upon the data, human resources must be cautiously selected (Boudreau and Ramstad, 1997). The organisation must also provide an appropriate culture and environment for learning and development in order to sustain and move the firm forward (Lado and Wilson, 1994). It is the human capital that will implement the HR/OD strategy that integrates with the overall organizational strategy.



**Fig 1. Talent Management Model**

By managing human capital and aligning it with employees' values and what the company can offer, the organisation can successfully accomplish its goals (Lawler and Worley, 2006).

If the above talent management model architecture is identified and confirmed as a core mechanism of a talent management strategy, organisations can successfully move ahead. Organisations must value human capital as their strategic resource and manage human resources effectively. When organisations positively invest in their valuable assets, they become the decisive source of differentiation providing growth and success to the organisation. Organisational change will occur but strategic talent management has to be developed to enhance employee engagement that results in improved performance for both the employee and the organisation.

With a proper talent management strategy, human capital can be affirmed as the number one strategic resource in an organisation. This strategy improves employee engagement that in turn increases organisational success. The review of literature has provided contemporary definitions of talent management and employee engagement. A talent management model has been outlined that provides the framework for defining a more definitive building block that bridges talent management and employee engagement.

## CONCLUSION AND IMPLICATIONS

Often, 'developed' theory is not adequately explored. The above talent management model is based upon extant literature and earlier theories that embrace both talent management and engagement strategies. Viewed from a practitioner's perspective, the affect on practice weighs sanguinely. The time constraint on the part of practitioner makes talent management theory a luxury. This limitation necessitates practitioners to apply a strategy and aim for quick positive results. The talent management model demonstrates that it can be positively applied in an organisation. For practitioners, the holistic model may seem complex but when implemented, it is worth the effort to find an increase in employee engagement and the results align to the general organisational goals. The talent management model applies to employees, professionals in human resource management and leaders of an organisation.

From an employee perspective, a talent management strategy that promotes an open climate, clear communication and an environment of learning and improvement will engage employees on a higher level to support the company's mission and goals. Employees will feel fulfilled and also receive personal as well as career development that will enhance their skills and knowledge. In other words Talent Management focuses on enhancing the potential of employees by developing their capacities. Capacities are the basic DNA of an organisation and also of individual potential. Employee development encourages employee engagement which is essential to an efficient workplace. Strategic talent management improves the skills and talents of employees and increases the performance of the organisation. Employees enjoy the feeling of personal growth and satisfaction that comes from the opportunity to develop their skills. Employee development can have a dramatic effect on the level of employee retention. Simply put, engaged employees, given the opportunity for personal and professional growth, are more likely to stay with the organisation. Commitment to the organisation improves with engagement and the employee will find more opportunities within the company.

Human resource professionals now have a model that has been explored with "real case" data. Exploring what actually works through a field study approach provides confirmation of theories and strategies that have successfully been applied. It offers a framework to build a company-specific talent management strategy that helps in managing talent to find out how to hire the right people, how to keep promises, how to maintain a healthy work environment, how to recognise merits, how to provide learning opportunities and how to shield employees from high work pressures, among others. Highly demanding business environments make it imperative for organisations to build competence in the form of superior intellectual capital. Through strategic talent management HR professionals can gain competitiveness in the long run. Therefore it is the duty and responsibility of the HR professionals, also known as Human Capital Stewards to manage the human capital as well as the knowledge capital and become not only HR professional but also knowledge facilitators.

In essence strategic talent management helps the HR professional to nurture a talented workforce, which can win the war in the business field. Talent has to be spotted, carefully nurtured and, most importantly, preserved. The new mantra is the right person for the right job. It is not necessary for HR professionals to try to guess what might work for an organisation. In addition, confirmation of the theory provides HR professionals the opportunity to successfully contribute to the overall company strategy.

Finally, the leadership of any organisation will benefit from this holistic talent management model as it explains the various dimensions that contribute to both the success of a manager and organisational strategy. The senior leadership routinely discusses human capital as a top source of competitive advantage. But moving business leaders from talking the talk to walking the walk remains a challenge. It is a critical as talent management programs need to be driven from the top to ensure lasting success. Business leaders have the opportunity to define core elements of any strategic human capital initiative. From defining high level business objectives and cascading them down through the ranks to identifying critical roles and competencies that will

end up defining the very nature of the talent culture, senior leadership plays a fundamental role. But the business leader needs operational processes and technologies to transform vision to reality. This forms an integrated talent management platform that is vital in delivering a unified view into talent data and processes.

It identifies the attributes important for an employee to be engaged. Through these constructs, leaders can identify ways to build trust, promote positive supervisory skills, and provide challenging work that includes development aspects for all employees. These are the areas where senior level management need to ensure that they have programs in place to educate supervisors and provide support towards overall goals. Practitioners can view this model through a new paradigm. Talent management is not just about recruiting, retaining and deploying employees. It is a strategy to contribute to the overall organisational goals with positive outcomes by utilising the most valuable resources. It may mean that changes have to occur through this paradigm shift, but with a talent management strategy, change can be accelerated with positive outcomes.

## **FUTURE RESEARCH DIRECTION**

This study provides the foundation for further testing and exploration of holistic concept of talent management with other organisations as well. This research draws together theoretical and practical implications and attempts to bridge the gap between theory and practice. For scholars, the research confirms that talent management positively impacts employee engagement and for practitioners, the research provides a model with which to create a talent management strategy. This research can be used as a base to be applied to other organisations and explored in other types of industries as well as in larger groups. This research could also stimulate further theory. The model could be tested in a service unit to review and test the impact on engagement on organisational effectiveness. Further research could be conducted to find if there is increase in productivity after the implementation of a talent management strategy. Further research could explore how rewards and recognition relate to talent management and engagement. Further research could be conducted to gauge the level of employee engagement and the different variables that influence the degree of engagement. Each of these dimensions could be studied individually in terms of their effect on talent management strategies and employee engagement.

## **REFERENCES**

- Ashton, C. and Morton, L., (2005). Managing Talent for Competitive Advantage. *Strategic Human Resources Review*, 4(5), pp. 28-31.
- Barlett, C. A. and Ghoshal, S., (2002). Building Competitive Advantage through People. *Sloan Management Review*, 43(2), pp. 34-41.
- Barney, J.,(1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 77(1), pp. 99-120.
- Bhatnagar, J., (2007). Talent Management Strategy of Employee Engagement in Indian ITES Employees: Key to Retention. *Employee Relations*, 29, pp. 640-663.
- Boudreau, J.W. and Ramstad, P.M., (2007). *Beyond HR: The New Science of Human Capital*. Massachusetts: Harvard Business School Press.
- Buckingham, M., and Vosburgh, R. M., (2001). The 21st Century Human Resources Function: It's the talent, stupid. *Human Resource Planning*, 24(4), pp. 17-23.
- Byham, W. C.,( 2001). Are Leaders Born or Made? *Workspan*, 44(12), 56-60.
- Cheloha, R. and Swain, J., (2005). Talent Management System Key to Effective Succession Planning. *Canadian HR Reporter*, 18(17), pp. 5-7.

- Cohn, J. M. Khurana, R. and Reeves, L.,(2005). Growing Talent as if your Business depended on it. *Harvard Business Review*, 83(10), pp. 63-70.
- Conger, J. A., and Fulmer, R. M., (2003). Developing your Leadership Pipeline. *Harvard Business Review*, 81(12), pp. 76-84.
- Dalal, R.S. Brummel, B.J. Wee, S. and Thomas, L.L., (2008). Defining Employee Engagement for Productive Research and Practice. *Industrial and Organisational Psychology*, 1, pp. 52-55.
- Farley, C., (2005). HR's Role in Talent Management and Driving Business Results. *Employment Relations Today*, 32(1), pp. 55-61.
- Frank, F, D. Finnegan R. F. and Taylor, C.F., (2004). The Race for Talent: Retaining and Engaging Workers in the 21<sup>st</sup> century, HR, *Human Resource Planning*, 27(3), pp.12-25.
- Gallup Study., (2006). Engaged Employees inspire Company Innovation
- Garger, E. M., (1999). Holding on to High Performers: A strategic Approach to Retention. *Compensation and Benefits Management*, 15(4), pp. 10-17.
- Heinen, J. S. and O'Neill, C., (2004). Managing Talent to Maximize Performance. *Employment Relations Today*, 31, pp. 67-82.
- Jackson, S. E. and Schuler, R. S., (1990). Human Resource Planning: Challenges for Industrial/Organisational Psychologists. *American Psychologist*, 45(2), pp. 223-239.
- Kahn, W. A., (1990). Psychological Conditions of Personal Engagement and Disengagement at work. *Academy of Management Journal*, 33, pp. 692-724.
- Kesler, G. C., (2002). Why the Leadership Bench Never Gets Deeper: Ten Insights About Executive Talent Development. *Human Resource Planning*, 25, pp. 32-34.
- Lado, A. A. and Wilson, M. C.,(1994). Human Resource Systems and Sustained Competitive Advantage: A Competency-Based Perspective. *Academy of Management Review*, 19(A), pp. 699-727.
- Lawler, E. E. III, and Worley, C. D., (2006). *Built to Change: How to Achieve Sustained Organisational Effectiveness*. San Francisco: Wiley and Sons.
- Leiter, M. and Maslach, C., (1988). The Impact of Interpersonal Environment on Burnout and Organisational Commitment. *Journal of Organisational Behavior*, 9, pp. 297-308.
- Lewis, R. E. and Heckman, R. J., (2006). Talent Management: A Critical Review. *Human Resource Management Review*, 16(2), 139-154.
- Lockwood, N. R., (2006). Talent Management Driver for Organisational Success. *HR Magazine*, 51(6), pp. 1-11.
- Maslach, C. Schaufeli, W. B. and Leiter, M., (2001). Job Burnout. *Annual Review of Psychology*, 52, pp. 397-422.
- May, D. R. Gilson, R. L. and Harter, L. M., (2004). The Psychological conditions of Meaningfulness, Safety and Availability and the Engagement of the Humanspirit at work. *Journal of Occupational and Organisational Psychology*, 77, pp.11-37

- McCauley, C. and Wakefield, M., (2006). Talent Management in the 21st Century: Help your company find, develop and keep its strongest workers. *The Journal for Quality and Participation*, 29(4), pp. 4-7.
- Olsen, R., (2000). Harnessing the Internet with Human Capital Management. *Workspan*, 43(11), pp. 24-27.
- Pfeffer, J., (1995). Producing Sustainable Competitive Advantage through the Effective Management of people. *Academy Of Management Executive*, 9(1).
- Redford, K., (2005). Shedding Light on Talent Tactics. *Personnel Today*, September, pp. 20-22.
- Robinson, D. Perryman, S. and Hayday, S., (2004). *The Drivers of Employee Engagement*. Brighton: Institute for Employment Studies
- Rothbard, N. P., (2001). Enriching or Depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly*, 46, pp. 655-684.
- Rothwell, W. J. and Poduch, S., (2004). Introducing Technical (not managerial) Succession Planning. *Public Personnel Management*, 33(4), pp. 405-419.
- Saks, A. M., (2006). Antecedents and Consequences of Employee Engagement. *Journal of Managerial Psychology*, 21(7), pp. 600-619
- Salanova, M. Agut, S. and Peiro, J. M., (2005). Linking Organisational Resources and Work Engagement to Employee Performance and Customer Loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90(6), pp. 1217-1227.
- Schaufeli, W. and Bakker, A., (2004). Job Demands, Job Resources, and their Relationship with Burnout: A Multi-Sample Study. *Journal of Organisational Behaviour*, 25, pp. 293-315.
- Schein, E., (1978). *Career Dynamics: Matching Individual and Organisation Needs*. Reading: Addison-Wesley.
- Schein, E., (1996). Career Anchors Revisited: Implications for Career Development in the 21st Century. *Academy of Management Executive*, 10(4), pp. 80-88.
- Schein, E. H., (1990). Organisational Culture. *American Psychologist*, 45(2), pp. 109-119.
- Smythe, J., (2007). Employee Engagement-its Real Essence and how it helped to Transform a Top-Four UK bank. *Human Resource Management International Digest*, 15, pp. 11-13.
- The Gallup Organisation, (2004). [www.gallup.com](http://www.gallup.com).

# **A CROSS-CULTURAL INVESTIGATION OF CONSUMER FRUGALITY: THE CASE OF THE UNITED STATES AND CHINA**

**Elaine Sherman, Hofstra University, USA  
Leon G. Schiffman, St. John's University, USA  
Yong Zhang, Hofstra University, USA**

## **ABSTRACT**

*This study investigates an important consumer trait: frugality, in a cross-cultural setting. Data were collected in the United States and China to examine possible differences in this important consumer predisposition. Results indicate that contrary to popular belief, consumers in China exhibited a lower tendency to withhold spending than consumers in the United States. Results also suggest that the more frugal American consumers were happier than their Chinese counterparts. Both theoretical and practical explanations are offered, and implications are discussed.*

## **INTRODUCTION**

Since 2008, many of the developed countries have experienced downturns in the form of a global recession. But, by the end of 2010, the recession was showing signs of easing-up. In gravitating to the current research, we wondered whether there was a possible shift in values toward spending among young adult Americans. We were also interested in contrasting young adult American consumers spending outlook or orientation with those of their Chinese counterparts. More specifically, we were interest in examining whether young adult Chinese consumers were still holding on to their country's historical tendency to be conservative or frugal when it comes to consumer spending, or alternatively whether they have shifted to a more consumption-oriented perspective, one historically associated with Western culture, particularly that of the United States. Finally, we did not rule out the possibility that because of the economic conditions in the United States compared to China, that there was the possibility of a shift in spending outlooks; that is, that the young adult American consumers were adapting a more frugal spending orientation, whereas the young adult Chinese consumers were transitioning to a consumption or spending-orientation.

In the United States, as well as many other economically developed countries, there has been in recent years an economic upheaval, with countries suffering the effects of a severe financial downturn that has affected many consumers. This unsettling economic climate has also affected consumption behavior and values. In coping with these events, many consumers have adjusted by adopting a more frugal perspective toward their consumption activities. Nevertheless, more recently there are some indications that these economies are experiencing some economic recovery. For example, in the United States, the Commerce Department in January 2011 released figures indicating that the Gross Domestic Product i.e., GDP) grew at an annual rate of 3.2 percent in the fourth quarter, up from 2.6 percent in the previous period (Rampell, 2011). In addition, in the beginning of 2011, consumer confidence continued to rise, the American stock market experienced sharp increases, and retail sales were better than in the previous two years. However, one of the paramount questions at this time is what if anything has been the lingering impact of consecutive years of declining spending on a post recessionary environment (Berk, Cheddar Christina, 2010). A particularly important issue is whether there has been even a more "permanent" impact on many American consumers by their experience with cutbacks in consumer spending, and whether such cutbacks in spending have made them more cautious and selective consumers.

Furthermore, we wondered whether these recent consumer experiences have impacted their core values and made them more appreciative of “thriftiness” as an “ongoing-way-of-life.” Also, a concern for the business community is that while spending may have increased, many consumers in the United States and in other parts of the world may have changed their buying patterns and become more focused on continuing to get better value and other expressions of “thriftiness,” that are associated with a kind of recessionary-related behavior. The changes suggest a more “frugal” consumer may be emerging. These changes also have implications for marketers interested in world markets. Given the rise of globalism and the importance of foreign markets for expanding business, the pressure to understand the consumption behaviors of specific international target markets is likely to be quite important with respect to the challenges associated with future market growth.

During the same period, China has been experiencing a different dynamic challenge, one associated with its rapid growth. Many of China's 1.3 billion consumers are embracing new economic consumption habits or consuming orientations. China is still a country of extremes. Many in urban areas have seen incomes growing about 10% annually, while those in rural areas have only seen a 1% increase in annual income. This discrepancy is making for a sharp divide between these two segments of China's population. In addition, within the cities, there are large differences in income. There is a small affluent class (8 million households) and a rising middle class (25 to 30 million households). These two groups are drivers of a growth for consumption of many consumer product categories (Boston Consulting Group and Wharton, 2009). These groups are also often acquiring products not only for consumption but status. Thus, popular products like designer clothing, mobile phones and other visible products are often being sought out as expressions of “conspicuous consumption.” With this growing market, it is important for marketers and researchers to understand the changing attitudes of Chinese consumers.

In an effort to explore the nature and extent of recent changes in attitudes towards spending of both American and Chinese consumers, our research examines possible shifts in values toward spending among young adult Americans, and contrasting their outlooks to young adult Chinese. Thus, a primary purpose of our research is to examine whether young adult Chinese consumers are holding on to their country's historical tendency to be conservative or frugal when it comes to consumer spending, or alternatively whether they have shifted to a more consumption-oriented perspective, historically associated with Western culture, particularly that of the United States. Finally, we did not rule out the possibility that because of the economic conditions in the United States compared to China, there is a possibility of a shift in spending outlook among young adult American consumers. Specifically, we wondered whether young adult American consumers have adapted a more frugal spending outlook, in contrast to young adult Chinese consumers who appear to be transitioning to a spending orientation.

Another important interest of our research is to explore whether the values of frugality and be consumption-oriented affect the direction and extent of happiness of the young adult Chinese and American consumers. More specifically, we wished to examine the relationship between being frugality (spending less) and the extent of happiness (more or less happiness); as well as the relationship of not being frugal (spending more) and happiness. Again, it was the purpose of our research to investigate these two questions.

## **RESEARCH DESIGN AND METHODOLOGY**

This section is divided into a discussion of three elements of our research: (1) the two countries to be studied, (2) the two samples of respondents, and (3) the variables to be examined.

### **Two Countries to Be Studied**

For this research, data were collected in the United States and China, in a period between mid-2009 and near the end of 2010. Our goal was to examine possible differences and similarities between young adult American and Chinese consumers; that is, those between 18 and 29 years of age, in terms of their current outlook

toward spending or more precisely their extent of frugality and how this may be associated with subjective happiness.

These two countries were selected to assess the likely cross-cultural differences between young adult Chinese and Americans with respect to the dynamic changing attitudes and behavior in China, and the United States. Moreover, we anticipated that these two countries differed in terms their political and economic outlooks with regard to materialism, conspicuous consumption and frugality. Therefore, it was our intent to explore the dynamics of consumption, frugality, and consumer happiness, within the context of these two very important countries.

## Cultures of Individualism and Collectivism

It is well established that countries and their cultures have been found to differ in terms of their positions on a continuum of “individualism” to “collectivism” (Hofstede 1980). For instance, in the case of the United States, individuals has been characterized as seeking independent relationships to one another (i.e., individualism), and individual goals take precedence over group goals (Hofstede 1980). In contrast, in China, the population is more likely to have an interdependent relationship with each other (i.e., collectivism).

More specifically, in our research we decided to contrast the United States and China. Specifically, China has often been characterized as a country with a *collectivistic culture*; whereas, the United States has been characterized as a country with a particularly strong *individualistic culture*. As such, Chinese society has historically focused on social interests and collective actions, and de-emphasized personal goals and accomplishments (Oh 1976; Li 1978). In contrast, in Chinese society, harmony and conformity not only tend to govern interpersonal relations, but these qualities also enjoy social and cultural approval (Hsu 1981). In comparison, the United States is ostensibly a country known for its “rugged individualism.” The concept of individualism is the belief that each person is an entity separate from the group; and, as such, the individual is endowed with “natural rights” (Spence 1985). In sharp contrast to cultures that are characterized by harmony, conformity and interdependency, the Americans view rugged individualism as a desirable trait worth striving for. They embrace the belief that an individual is not only self-sufficient as a matter of fact, but that he or she must strive toward it as an “ideal.” Still further, American values such as individual achievement orientation and encouragement for the attainment of material gains and prosperity are rooted in individualism. Evidence suggests that differences along this dimension of culture account for major differences in consumption values and behavior. For instance, in the case of Chinese school children, Chan (2006) found that early on in their life, children were taught the importance of saving. Indeed, lessons in elementary school textbooks put a strong emphasis on being “thrift” and “frugality.” Chinese students were taught that there were “private goods” and that there were “public goods;” and further that all material goods were the results of human labor. Attention was also given to the notion that goods should be used properly. Wasting goods was portrayed as a “sin.”

When it comes to spending or saving, one might speculate that the Chinese outlook reflects the traditional Chinese value of a long-term orientation or preference for savings, and delayed gratification. This value orientation is historically important values. It has been supported by researchers and scholars who suggest that “the Confucian Consumers” of China does not seek to spend and are predisposed to saving a much great proportion of their earnings, than those in other societies, such as the United States (Roubini 2010). As the Chinese have experienced an emerging rise of materialism and conspicuous consumption during the past decade (Podoshen, Li, and Zhang 2010), it has to some extent begun to shatter the traditional image of the “Confucian Consumers.” Over the last decade, there has been an increase in the new-higher income classes in China, a thirst for branded status material goods, and the attraction of conspicuous products that are influencing Chinese citizens who seek higher incomes and money to acquire a variety of new possessions. Previous research has also indicated that young urban adolescents in China are prone to being more materialistic as they are exposed to advertising and success models that stress materialism (Chan 2006).

In contrast, recently, Booz, Allen & Hamilton (2110) reported results of a study of how young adult Americans have adapted to the changing economic conditions of the 2008 recession. In this research, we have sought to explore these shifts and see if they are reflected in terms of an established measure of “consumer frugality.” Frugal behavior is now considered to be “trendy” by many American shoppers, and accordingly(Booz

Allen & Hamilton (2010): “In this changed environment, marketers need to develop deeper insights into shopper attitudes and behaviors in order to better align their product, pricing, and marketing communications strategies.

Their recent study indicates the consumers are changing their behavior. For instance, approximately two-thirds of the consumers that they interviewed, reported that they now consider saving to be more important than spending, and that they frequently used shopper’s coupons. In addition, more than half of the consumers indicated that they would rather get the best price than the best brand. Still further, more than half of consumers suggested that have reduced their discretionary spending (e.g., 53 percent reduced their expenditure on consumer electronics, apparel, and media and entertainment, some 51 percent). When the survey asked how they expected these attitudinal changes to be reflected in future plans, some 64 percent of consumers indicate that will continue such behavior (e.g., shop at a different store with lower prices). So as far as they can see, a frugal shopping orientation is in their future.

## The Sample

Our overall sample consisted of 596 male and female university students. There were 342 student-respondents drawn from universities in northern China and 251 American student-respondents drawn from two universities in northeastern United States. The respondents ranged in age between 18 and 29. As already noted, one of the reasons for selecting this age sample was that in China there are differences in consumption patterns between age groups in the Chinese market. Young urban Chinese have been influenced by changing economic decrees by the government that supports various economic reforms and a new emphasis on globalization. Young adults were raised with these new views as many of their parents changed and strived towards success and materialism (Podoshen, Li and Zhang, 2010). For this reason, the age grouping from 18 to 29 appears to be right on the mark for our current study.

## The Questionnaire and Variables Examined

The same questionnaire (except for languages) was administered in China in mid-2009 and in the United States in mid-2010.

Our research focuses on the following research questions:

1. Whether the increased sense of wealth and the desire for consumption are leading young adult Chinese consumers to be less frugal than the corresponding sample of young adult American consumers?
2. Whether the increased sense of wealth and the desire for consumption are leading young adult Chinese consumers to be happier than the corresponding sample of young adult American consumers?
3. Whether the reduced sense of wealth and historical desire for consumption are leading young adult American consumers to be more frugal than the corresponding sample of young Chinese consumers?
4. Whether the reduced sense of wealth and historical desire for consumption are leading young adult American consumers to feel less happy than the corresponding sample of young adult Chinese consumers.

For the research consider in this paper, we need to describe two variables that we have examined, namely: (1) consumer frugality and (2) subjective happiness.

## Measuring Consumer Frugality

The concept of consumer frugality has not been widely studied by researchers in the field of marketing. The term “frugality” frequently brings to mind images of a cheap or miserly individual, one who spends little and saves just for the sake of saving. However, as a general consumption propensity, it is not “pure” deprivation of consumption, but also reflects certain immediate sacrifices in the consumption of goods and services in order to afford future consumption. Therefore, frugality is defined as a “consumer lifestyle trait characterized by the

degree to which consumers are both restrained in acquiring and in resourcefully using economic goods and services to achieve longer-term goals” (Lastovicka, et al. 1999).

To gauge consumer frugality we selected a measure of frugality consisting of eight items designed to secure respondents’ consumption beliefs and lifestyle (see Lastovicka et al. 1999). These items were measured on a six-point Likert-type scale.

## Measuring Subjective Happiness Scale

The study of happiness has attracted many researchers in the past several decades (e.g., Lyubomirsky and Lepper 1999). Happiness has been a focus of human life since ancient times. Perhaps, the pursuit of happiness has been one of the most salient and enduring human predispositions of any culture. The study of happiness has attracted many researchers in the past decades (see Lyubomirsky and Lepper 1999, for a review). Recently, Blanchflower and Oswald (2011) have reviewed the findings of international surveys of self-reported happiness which focused on the United States and Europe. One of the conclusions of the research review is that happiness is related in many of the studies to education and income, yet national income increases has not resulted in higher national happiness. In China, the subject of happiness and its links with a growing economy have recently been examined. It seems that the legislature; that is, the National Peoples/Congress, has decreed that increasing happiness is as important as increasing GDP. Thus the idea of promoting happiness has become an important goal. (“Don’t Worry, Be Happy...,” March 17, 2011).

To measure happiness, we selected the Subjective Happiness Scale (SHS) by Lyubomirsky and Lepper (1999). The original measure, when introduced was characterized by "a high internal consistency, a unitary structure with stability over time and across 14 different samples." In addition, "when examining its construct validity it was to correlate highly with other happiness measures and moderately with constructs theoretically and empirically related to happiness and well-being." Evidence of discriminate validity was further obtained "from very low correlations with theoretically unrelated constructs, such as academic success and stressful events" (Lyubomirsky and Lepper, 1999). The measure was employed to gauge the degree of happiness felt by the respondents. In our research the measure served as the dependent variable. A composite score was calculated by taking the average of the items in each of the two scales. Certain items in the subjective happiness scale were reverse-coded. Such composite scores were used in the testing of research questions. Scale reliability was also assessed, and both scales demonstrated highly satisfactory internal consistency with the subjective happiness Scale's Cronbach's alpha of 0.81 and the frugality scale's Cronbach's alpha of 0.82. The independent variables, the independent variables used in the analysis are the two countries (i.e., United States and China).

## THE RESULTS

The findings of our research are presented in terms of the two independent variables: frugality and subjective happiness.

### Frugality

Analysis of variance procedures were employed to analyze the data on frugality. The dependent variable was the Frugality Scale, and the Country was the independent variable. The results reveal that there is a significant country main effect ( $F_{(1, 589)} = 16.2, p < .000$ , means: 4.32 (United States) vs. 4.06 (China). The United States sample is shown to be more frugal than their Chinese counterpart.

### Subjective Happiness

Similarly, analysis of variance was used to analyze the data on subjective happiness measures. The dependent variable was the Subjective Happiness Scale and the independent variable was Country (U.S. and China). There is a highly significant Country main effect ( $F_{(1, 592)} = 49.68, p < .000$ , means: 5.07 (for the United States) vs. 4.48 (China)), and U.S. sample is happier than the Chinese samples.

The results suggest, contrary to prior history and what might be expected, that the young adult consumers in China were less likely to be frugal and to be less likely to withhold spending than the young adult consumers in the American sample. Exploring the issue of subjective happiness, the more frugal American consumers were happier than their Chinese counterparts.

## **DISCUSSION**

These results suggest that unlike some of the previous generations of Chinese consumers, who would be likely to be characterized as “frugal,” current young adult college-educated Chinese consumers are different. Their attitudes toward spending seem to be similar to what we would expect of young people in the United States in pre-2008 recessionary times, as well as possibly in other post-industrial countries. Marketers, targeting young adult Chinese consumers need to be aware of these changing attitudes and predispositions towards buying goods and services and spending money. However, a caveat of the current study is that the ability and desire for more goods and services does not necessarily mean that these consumers are happier. A deeper analysis of these findings can have many implications for future directions of marketing in China. In addition, the findings suggest that young adult Americans who are frugal are also happier than their Chinese counterparts, who appear to be significantly less frugal and less happy. It is difficult to speculate “why” the young American’s are happier with their new found frugality. One possibility is that maybe some young Americans have found that a period of frugality has surprised them, and that they indeed have experienced greater happiness with a less possession-full lifestyle.

## **CONCLUSION AND FUTURE RESEARCH**

If sustained over time, for American consumers, this shift in outlook and related behavior may lead to a shift in other related core values. For instance, we may see a corresponding long range increase in their embracing of a greater commitment to “thriftiness,” as a popular lifestyle orientation. This could mean a dramatic shift in orientation for American businesses; as they try to adjust to consumers’ changing values. Accordingly, Booz Allen & Hamilton (2010) recently released a study that indicates that American consumers are continuing to economize and have cut spending on both discretionary and essentials.

Again, if this outcome is sustained, there are implications for world markets. Given the rise of globalism and the concurrent importance of foreign markets to the overall business environment, the pressure to understand the consumption behavior of target markets is even more important than ever. Not only do marketers need to understand how consumers wish to spend their money, but they also need to understand how consumers are likely to hold back on their spending (i.e., their tendency to act “frugally”). This undoubtedly has significant implications for the need to develop effective strategies that lead to the creation of products, services, and promotion strategies that are more sensitive to satisfying consumers’ shifting consumption-related preferences.

For China and Chinese consumers, the research suggests that marketers of goods and services are likely to target the young adult Chinese consumer with products and service that match their increased taste for high quality and status brands of consumer goods and services. While the Chinese are currently turning more to consumption to respond to their changing culture and its emphasis on become a market leader in many diverse industries, it is still possible that the current “love affair” with consuming will eventually cool down and a more rewarding balance between the past and the current environment will be achieved.

Finally, our findings provide a fertile ground for additional research to more fully examine the dimensions and relationship between frugality and happiness. For instance, it would be interesting to further explore in future cross-cultural research a comparison of adult Chinese consumers with consumers drawn from other rapidly developing countries, such as India, Brazil, and selected other Asian and European countries.

## **REFERENCES**

Berk, Cheddar Christina, (2010), “Post-Recession Consumer is a Tougher Sell,”  
<http://www.cnn.com/id/37221926>

Blanchflower, D.G. and Oswald, A.J (2011) "International Happiness: An Introduction and Review," *Academy of Management Perspectives*, 25, 6-22.

Boston Consulting Group, *Selling in China*, Special Report, 2009,  
<http://knowledge.wharton.upenn.edu/papers/download/BCGChinaReport3.pdf>

Chan, Kara (2006) "Consumer Socialization of Chinese Children in Schools: Analysis of Consumption Values in Textbooks," *Journal of Consumer Marketing*, 23, 125–132.

"Don't Worry, Be Happy: The Government Introduces the Country's New Mantra," *The Economist*,  
[www.economist.com/18388884](http://www.economist.com/18388884), March 17, 2011.

Egol, Matthew, et al., "The New Consumer Frugality Adapted to the Enduring Shift in U.S. Consumer Spending and Behavior," (March 23, 2011, at [http://www.booz.com/media/uploads/The\\_New\\_Consumer\\_Frugality.pdf](http://www.booz.com/media/uploads/The_New_Consumer_Frugality.pdf)

Hofstede, Greet (1980), *Culture's Consequences: International Differences in Work-Related Values*, Sage Publications, Newbury, Cal., 1980.

Hsu, F. L. K. (1981) *American and Chinese: Passage to Differences*. Honolulu: University of Hawaii Press.

Lastovicka, John L., Lance A. Bettencourt, Renee Shaw Higher, Ronald J. Kountze (1999) "Lifestyle of the Tight and Frugal: Theory and Measurement," *Journal of Consumer Research*, 26 (June), 85-98.

Li, Dun J. (1978) "The Ageless Chinese," New York: Charles Scribners.

Lyubomirsky, Sonja and Heidi S. Lepper (1999), "A Measure of Subjective Happiness: Preliminary Reliability and Construct Validation," *Social Indicators Research*, 46, 137-155.

Oh, Tai K., (1976) Theory Y in the People's Republic of China. *California Management Review*, (19): 77-84.

Podoshen, Jeffrey S., Lu Li and Junfeng Zhang (2010) "Materialism and Conspicuous Consumption in China: A Cross-cultural Examination," *International Journal of Consumer Studies*, 35, 17-25.

Rampell, Catherine (January 29, 2011) "U.S. Economic Growth Bounces Back to Rate Seen Before Recession," *New York Times*, B1.

Roubini, Nouriel (2011), "The Confucian Consumer: Seven Reasons Why the Chinese Save, when They Really Should be Spending," *Newsweek*, January 17, <http://www.newsweek.com/2011/01/18/the-confucian-consumer.print.html>

Spence, Janet (1985) "Achievement American Style: the Rewards and Costs of Individualism," *American Psychologist*, 40(12): 1285-95.

# **COMPARING THE COMPETITIVENESS BETWEEN BRAZILIAN AND EUROPEAN FOOTBALL (SOCCER) (G-5) –INTERPRETATIONS AND SUGGESTIONS**

**Cláudio Vicente di Gioia F. Silva, Walter Gassenferth,  
Luiz Alberto Nascimento Filho and Maria Augusta Soares Machado,  
Faculdades IBMEC/RJ, Brasil**

## **ABSTRACT**

*World sport has been seen as a growing industry, generating revenues of roughly US\$ 1 trillion a year. Playing a major role in this industry, football (soccer) is accountable for an annual turnover of approximately US\$ 250 billion – Brazil's share being approximately 1% of that amount. The growing marketing and globalization of football has brought up new topics such as: the risks associated with competitiveness; the need for professional management; creating corporate teams; sports strategies and marketing; accounting; accountability.. This paper aims at: i) understanding the risks associated with the competitiveness of football leagues; ii) comparing the competitive balance in the five largest European football markets (Germany, Spain, France, England and Italy) in relation with Brazilian football and; iii) interpreting these results in view of the literature concerning sports administration.*

## **INTRODUCTION**

The concern of this paper is turned to the balance among the teams competing for the Brazilian national football championship. In that context, the more balanced the teams are, the greater the uncertainty about the results of a match (and consequently of the championship as a whole) will be. Lack of balance means not to maximize the amount of fans going to the stadiums or watching the matches on TV due to the predictability of the result. Thus, the teams and sport leagues would start incurring the risk of long-term loss of spectators, with a risk of dominance by some teams while others would go bankrupt.

Considering this broad discussion on the competitiveness in football industry, this paper gives a priority to the study of the risks of some teams concentrating wins and titles, in contrast to their opponents, which characterizes a dominance of the former over the latter and impairing the success of the championships in the long run. This paper also addresses the change in championship model as was adopted by Brazilian teams in 2003 in an attempt to “copy” the European national championships, which use the point system. The conclusions hereby, despite the short time for comparison, are also related to the selection of that system.

The main objective of this paper is comparing and interpreting the levels of competitiveness between Brazilian and European football, more specifically among the five biggest football centers in the world (England, Spain, Germany, France and Italy). The interpretation of the results will be related to the risk of dominance by some teams, bankruptcy by others, and reduced number of fans in the long term. The characteristics of the structure and management of the Brazilian football, which might influence the results achieved as well as the current point-system championship model that follows the patterns of European national championships, are also analyzed.

Table 1 illustrates the object and subject of this research, as based on Tachizawa (2002), carrying the type of organization and defined topic.

**Table 1 – Type of organization and defined topic**

Subject: Sport Administration		
Object: Football Industry		
Title: Comparing the Competitiveness between Brazilian and European Football (Soccer) (G-5) – Interpretations and Suggestions		
Subject and Object	Type of organization	Defined topic
Quantitative Research on Sport Administration	Brazilian football teams competing in the major league	Comparing the competitiveness (balance) of the five biggest European championships with the Brazilian championship and interpreting the results

This paper makes use of secondary data and championship results disclosed by the football associations of the studied countries. It is limited to a comparison of the levels of competitiveness and sports balance in Brazil and in the five biggest football centers in Europe, namely: Italy, Germany, Spain, England and France.

## THE FOOTBALL INDUSTRY

World sport has been seen as a growing industry, generating revenues of roughly US\$ 1 trillion a year. Playing a major role in this industry, football (soccer) is accountable for an annual turnover of approximately US\$ 250 billion – Brazil’s share being approximately 1% of that amount.

One way to understand the football industry lies in the typology proposed in Figure 1, which is based on Westerbeek and Smith (2003, p.89). It suggests that the sport industry is divided into three main segments, as described by Ducrey et al. (2003):

- Sporting Goods – Manufacturers of equipment, sports materials, licensed products. Examples include: Nike, Adidas and Reebok.
- Consulting – Firms providing services such as consulting, management, sport medicine, amongst others. Examples include: IMG and Octagon.
- Sports Services – Organizations offering the sport as their end product. This segment can be divided into three categories, as follows:
  - The Event – Organizations that generate revenue, either directly or indirectly, from the spectators. In this category, the athletes are professional and examples of participating entities include the teams and Leagues.
  - Participants – Entities providing opportunities for people to engage in sporting activities, at a non-professional level, such as amateur teams, gymnasiums and sports communities.
  - Hybrid – Organizations provide a mix of the above-mentioned categories: the event and the participants. Examples include those government agencies developing mass participation and promoting athletes who could stand out at an elite level.

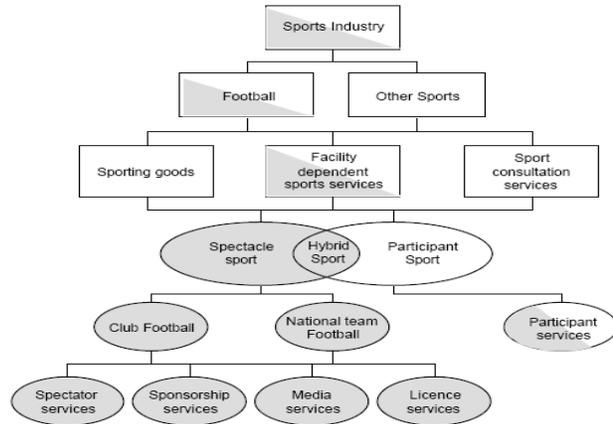
Another view of the football industry is found in Leoncini (2001) and is based on Aidar et al. (2000), which divides the structure of football as follows: i) Producer Market; ii) Consumer Market; iii) Intermediate Market (Resale and Industrial). That perspective is demonstrated in Figure 2, below.

According to this viewpoint of Aidar et al (2000), the football fans are the consumer market, who have a direct commercial relation via box office or merchandising with the Producer Market represented by the football associations. This consumer market also consumes from the Intermediate Resale Market (TV and licensed companies) and from the Intermediate Industrial Market (sports marketing companies). Lastly, the Intermediate Resale Market and the Intermediate Industrial Market interact with the Producer Market by selling broadcast rights and marketing operations, respectively.

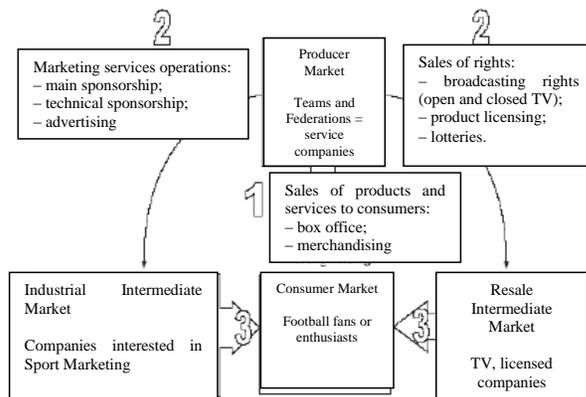
The organization of the producer market follows a world hierarchy, whereby FIFA (International Federation of Association Football) is the maximum authority in football and below it come the confederations,

which accountable for football in their respective continents, as is the case of CONMEBOL (South-American Football Confederation) and UEFA (Union of European Football Associations).

**Figure 1 – The Structure of the Football Industry (Westerbeek and Smith, 2003). Adapted by the author.**

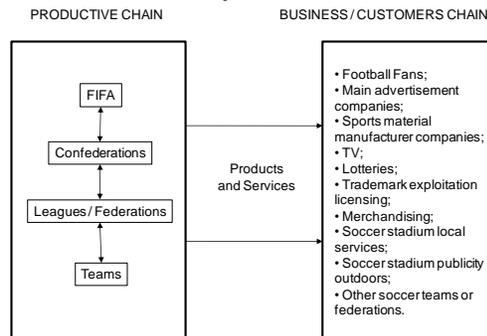


**Figure 2: The structure of Football**



Following that hierarchy, there are the national federations or confederations such as CBF (Brazilian Football Confederation), the sports leagues and the state federations, such as FERJ (Rio de Janeiro State federation), and then come the teams.

**Figure 3: The Football Industry: Production Chain and Customers**



In England, there is also an attempt to classify the consumer market, the football fan, into: i) virtual fans (who do not go to the stadium); ii) local fans, who attend the matches at the stadiums in their region; iii) followers, who follow the team to other regions; iv) Family Supporters, who go to the stadium with another

family member; and v) Corporate Supporters, those who go to the stadium and require special treatment in the cabins and VIP areas. (Leoncini, 2001).

One of the peculiarities of this end consumer in football is that, differently from ordinary merchandise, his/her relationship with the team is lasting, despite the service it provides not being one of the best, like for example: no titles, discomfort and insecurity in the stadiums. As studied by Taylor (1998), this is an emotional relationship converted into a commercial relationship, the description of which is described in one of the best known cases in football, the team Manchester United. Since the team had a higher reputation than the other English teams, it was a leader in terms of the average public attending its matches even when it failed to win titles (Szymansky 1995). In Brazil, the football teams manage to narrow the relationship with the fans even being relegated to the second division in the league, as is the case of Botafogo, in Rio de Janeiro, or even down to the third division, like Fluminense, also in Rio.

That customer-team relationship suggests that football demand is inflexible in relation to price (Szymansky; Kuypers, 1999). Nonetheless, in Brazil, such inflexibility appears to be discussable as the teams fail to achieve better revenues at the box offices due to price increase. One factor that might contribute to such inflexibility is that football is competitor in the entertainment industry, which provides the society with other alternatives (such as the cinema, theater, music shows, and other sports), and the Brazilian society has demonstrated some dissatisfaction with the level of the service provided in the sports events. That fact demonstrates as a strategic error in running the business, as described by Porter (1998, p.26), that: "Many managers concentrate exclusively on their direct antagonists in the fight for market share and go unnoticed that they too are competing against their customers and suppliers for bargain power. Meanwhile, they also neglect the attention to the newcomers or fail to recognize the subtle threat of substituting products." Still regarding end customers, according to Ducrey et al. (2003), the most important factors for the fans are as follows:

- The quality of the match – This has to do with aspects of the show, entertainment, the pleasure to watch the matches and the quality of the visiting teams.
- Uncertainty, or unpredictability of the result (of the match or championship) – Regarding the uncertainty of a match, generally, the tighter the result expected for a match, the more that match is attracting to the fans. As to the result of a championship, understanding goes that the average attendance is influenced by the dispute and that the higher the competitive balance, more teams have a chance to win the title. Consequently, the fans consume more as a response to such fierce competition, thus increasing the commercial activities related to the championship and the teams.
- The success of that fan's team – There is a level of satisfaction in those fans which is achieved by the team's good performance. Teams that constantly lose are less attractive to the public.

Michael Porter (1986) asserts that, in order to reach a defensible position in the market, the companies can use three types of generic strategies to always lead some sort of market. One such strategy proposes leadership of one market niche, if it is not possible to lead the market as a whole, by total cost or by product differentiation. Therefore, the incentive to leadership and the possibility to it ensure greater competitiveness in the industry. According to the championship models of the major European centers, there is an option to lead niches – one example refers to the intermediate leaders that qualify for a the UEFA Cup or for the Champions Cup – or to lead the championship as a whole or the lower block in the standing, which ensures the team to remain in the first division championship for another year. That model, which encourages niche leaderships, makes the tournament more attracting even for the fans of those teams that cannot lead the championship as a whole. Another perspective on the structure of football shows that the performance of a team can be understood by the characteristics of the industry (structure and behavior) and by that team's strategy (Leoncini, 2001). This analysis was performed by Szymansky & Kuypers (1999), who identified critical factors that could explain the logic of the football business, namely: i) Sport Performance – the team's performance in the championship; ii) Operating Profit – The difference between the revenues generated by the team and its overall expenses before Income Tax; iii) Salary Expenditures – The expenditures on salaries, especially those of the technical department (players, coaches, trainers, etc.); iv) The Result from Player Transfer – the financial income from the operations in the players market.

Despite a proven relation between performance in the field and financial performance does not exist, such factors would indeed making up the basis for two relationships studied in the definition of a football team's

strategic management scope, namely: i) salary expenditures x performance in the field; ii) performance in the field x generated revenues (Leoncini, 2001).

According to Dell’Osso and Symanski (1991), salary expenditures might have a direct relationship with the performance in the field. However, the expenditures on high wages also represent a threat to the financial balance of the teams, thus making that equation more difficult to be solved. An aggravating factor is that one team may invest in great players for a short-term performance, win titles and yet have losses in the end of the fiscal period. In Europe, specifically in the English football, the concern with that threat of the high wages is visible in the administration reports of the teams, as is the case of the 2003 annual report of Liverpool : “As we see it, the team continues to exercise careful control over the costs related to the wages paid to the players”. (Authors’ Translation)

Lastly, it is possible to analyze the football industry through its sources of revenue, as per Leoncini (2001), whereby the most common commercial relationships for Italian/English leagues and teams can be classified on the basis of the following types of revenue: i) the relationship with TV (transmission rights); ii) the relationship with the main sponsor; iii) the relationship with the Lotteries; iv) the relationship with the fan (box office/merchandising); v) the relationship with the technical sponsor; vi) the relationship with merchandise producing companies (operating the brand via licensing / advertising signs); vii) the relationship with other teams / federations (trade of players).

This paper makes use of the classification of the revenue sources described in the reports of the richest teams in the world in terms of revenue by DELOITTE & TOUCHE, namely: i) Commercial, which is divided into a) Merchandising and Licensing; b) Sponsorship and Supply of sport material; ii) Box office; iii) The Media. The comparative analysis between the sources of revenue of European teams and the Brazilian teams is included in section 3.2.4 on Brazilian football.

## METHODOLOGY

The research on competitive balance was firstly conducted on the basis of what the literature on industrial economics and the economic regulation presents as industrial concentration measures. These are measures demonstrate, ex-post, what can be regarded as a dominating position or even, in terms of regulation, as a market power a company holds in view of its competitors. Such industrial concentration measures include the concentration ratios and especially the Herfindahl-Hirschmann Index (HHI) as an indicator that is also used in the analyses of the concentration actions by economic regulation agencies such as the US Federal Trade Commission.

Concerning the specific research on competitive balance, the work of Oughton & Michie (2004) summarizes the main techniques used in sports leagues. Such measures are listed in Table 2 of the Appendix to this paper. In the specific case of the competitive balance in football, item “b” of Table 2 shows the different papers addressing this sport which are classified in accordance with the objectives of the research, such as: i) long-term dominance, ii) seasonal; iii) match.

In the analyses of the papers on the balance in football and sport leagues, the HHI is observed to be used both for long-term dominance concerns and seasonally, which is in accordance with the delimitation of the proposed study. Thus, in view of the acceptance of this indicator as a measure of concentration as well as in the publications about sports leagues and football, this paper is intended for calculating the results of the five largest European football markets (Germany, Spain, France, England and Italy), having the HHI as a measure of analysis.

The time period to be studied is ten years, considering the difficulties to obtain the figures for the Brazilian Championship before that period of time due to the different formats the teams used. In this setting, two problems become relevant for the research and are presented below and solved in section presenting the two calculations to be used.

- i) The changes in the championship model for the Major League (‘A’ Series) of the Brazilian Championship

ii)

Before 2003, the model adopted in the Brazilian Championship was known as qualifying phase model. After (and including) 2003, the point system model was selected. Thus, like in 2002, for example, the first eight teams of the first phase of the tournament would qualify for the second phase. This means that a given team could have more points, or better performance, throughout the championship and not be the champion, since the advantages achieved in the first phase could be lost in the second phase. Moreover, some teams (those classifying for the next phase) ended up playing more matches than others (which would not classify), thus impairing the calculations.

ii) The amount of teams competing in the championships

Both in Europe and in Brazil there are cases whereby the amount of competing teams varies from year to year within the historical sequence to be studied. Also, the number of teams that vie in the tournament varies from country to country.

These problems are solved below in the demonstration of the two types of calculations.

• **Calculation 1: HHI – Oughton & Michie (2004) Model – Seasonal**

This calculation is used in papers such as that of Oughton & Michie (2004), and also used by Depkin (1999), by calculating the HHI on the classification table and the performance in percentage for each team. For demonstration purposes, the table below describes the HHI, for the example of the maximum unbalance possible, for 20 teams.

The calculation is done on the performance of each team in the championship and by the sums of the squares of that performance, as per the formula below, whereby Si is the performance of each team in relation to the potential maximum points total:

$$HHI = \sum_{i=1}^n s_i^2$$

**Table 2: Teams Performances and Maximum HHI**

TEAMS	MATCHES	WINS	PPG	TOTAL	MAXIMUM	PERFORMANCE (%)	(PERFORMANCE) <sup>2</sup>
1	38	38	3	114	114	100%	1.000
2	38	36	3	108	114	95%	0.898
3	38	34	3	102	114	89%	0.801
4	38	32	3	96	114	84%	0.709
5	38	30	3	90	114	79%	0.623
6	38	28	3	84	114	74%	0.543
7	38	26	3	78	114	68%	0.468
8	38	24	3	72	114	63%	0.399
9	38	22	3	66	114	58%	0.335
10	38	20	3	60	114	53%	0.277
11	38	18	3	54	114	47%	0.224
12	38	16	3	48	114	42%	0.177
13	38	14	3	42	114	37%	0.136
14	38	12	3	36	114	32%	0.100
15	38	10	3	30	114	26%	0.069
16	38	8	3	24	114	21%	0.044
17	38	6	3	18	114	16%	0.025
18	38	4	3	12	114	11%	0.011
19	38	2	3	6	114	5%	0.003
20	38	0	3	0	114	0%	0.000
						BASIS	6.842
						HHI (MAXIMUM)	0.068

PPG – Points per game

The table below shows that maximum and minimum HHI in accordance with the number of teams competing in the championship. Thus, in the case of a 20-team championship, if the HHI calculation reaches, for instance, “0.4789” in a given year, it means that for that particular year the HHI is 70% from the maximum HHI, that is, from the maximum unbalance, which in that case would be “0.0684”. Thus, problem “ii” above, with relation to the number of teams competing in the championship, would be solved since using a percentage of the maximum HHI would act as a standard setter is independent from the number of teams.

This way, it will be possible to calculate, for the five largest European championships and for the Brazilian championship, a history for those ten years in relation to the maximum HHI and a trend curve, thus allowing for comparing the Brazilian competitive balance in relation to the other championships.

Moreover, in order to avoid problems regarding the amount of matches to be played, in the case of Brazil, for the years in which the championship did not follow the points system (before 2003), data corresponding only to the first phase (the qualifying phase) will be used.

**Table 3: Maximum and Minimum HHI.**

TEAMS	MATCHES *	MAX HHI	MIN HHI
18	17 or 34	0.0684	0.0222
20	19 or 38	0.0684	0.0222
22	21 or 42	0.0751	0.0244
24	23 or 46	0.0817	0.0267
25	24 or 48	0.0851	0.0278
26	25 or 50	0.0884	0.0289
28	27 or 54	0.0951	0.0311

\* For calculating the HHI Max, it does not matter whether the format is for one shift (one leg) or double shift (two legs).

Yet, despite being one of the best indicators for comparison, using such data means assuming problem “1” presented above, whereby the champion may not have the best performance of all teams in the tournament, in the case of the Brazilian championship before 2003. This problem shall be offset in calculation “2” herein.

- Calculation 2: Model of Dell’Osso. F & Symanski, S (1991)

This paper also uses the measure proposed by Dell’Osso. F & Symanski, S (1991), included in the paper ‘Who Are the Champions?’, as a simple calculation to supplement the previous analysis by granting 1, 2 and 3 points for first, second and third places in the championship, respectively, and by verifying the concentration of the same teams in the first positions in the championship, thus representing a long-term dominance.

This methodology shall be complemented by using the HHI in order for us to demonstrate the concentration of such teams in the first positions of the tournaments over a period of time, in this case, ten years. This methodology is based on Gerrad (2004) and Eckard (2001) for long-term dominance. Also, for this calculation, the figures achieved with the maximum HHI are compared. In that case, the “Maximum HHI” represents the maximum concentration of times in the first three positions, representing the most unbalance possible, as shown next.

The comparison of this “maximum HHI” (example 1) will be made against another more balanced situation (example 2). In example 2, the historical HHI for the ten-year period studied accounts for only 32% of the Maximum HHI, which would represent the maximum unbalance.

**Example 1:**

COUNTRY	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI MAX
Team A	3	3	3	3	3	3	3	3	3	3	30	50%	2500
Team B	2	2	2	2	2	2	2	2	2	2	20	33%	1111
Team C	1	1	1	1	1	1	1	1	1	1	10	17%	278
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>3889</b>

Champion: 3 points; Vice Champion: 2 points; Third place: 1 point.

**Example 2:**

COUNTRY	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI
Team A	3	3	3	2	2	2	1	1	1	1	19	32%	1003
Team B	2	2	2	1	1	1	0	0	0	0	9	15%	225
Team C	1	1	1	0	0	0	0	0	0	0	3	5%	25
Team D	0	0	0	3	3	3	2	2	2	2	17	28%	803
Team E	0	0	0	0	0	0	3	3	3	3	12	20%	400
<b>TOTAL</b>											<b>60</b>	<b>52%</b>	<b>1253</b>

HHI MAX	% HHI MAX
<b>3389</b>	<b>32.21%</b>

Champion: 3 points; Vice Champion: 2 points; Third place: 1 point.

This way, it will be possible to calculate this figure for the five largest European championships and for the Brazilian championship around a figure that analyzes the concentration difference of the same teams in the

first divisions. This becomes an effective measure of long-term dominance. Moreover, complementing calculation “1” proposed above, this becomes a way to solve problem “1”, in such a way that the first places in the final classification are those acting as the basis for comparison..

## RESULTS

The results for the studies are demonstrated as per the two calculations described in the methodology. The first of them is based on the model of Oughton & Michie (2004) and on other works such as that of Depkin (1999) for determining the seasonal competitive balance. The second is based on authors such as Dell’Osso, F & Symanski, S (1991), Gerrad (2004) and Eckard (2001) for long-term dominance. The interpretations on the results and the comments about other sports and about future researches are presented next.

### a. SEASONAL CALCULATION

The seasonal calculation considered the annual classification for each championship for the 10-year period. Firstly, the data for each country are presented – such data being calculated on a yearly basis and compared with the maximum unbalance possible for the number of teams competing in the tournament. These data are presented as a table in section a.1.

Next, the graphs with the curves are presented. Firstly, the graphs are related to that maximum unbalance and, secondly, they are related to the trend curve in logarithms of the previous graph. These data are presented in section a.2.

#### a.1 Tables.

Brazilian Championship				H INDEX			
Season	teams	matches	Max	Min	Brazilian Index	% Max Unbal. Brazil	
2005	22	42	0.0751	0.0244	0.0487	64.9%	
2004	24	48	0.0817	0.0267	0.0508	62.1%	
2003	24	48	0.0817	0.0267	0.0524	64.2%	
2002	26	25	0.0884	0.0289	0.0582	65.9%	
2001	28	27	0.0951	0.0311	0.0632	66.5%	
2000	25	24	0.0851	0.0278	0.0552	64.9%	
1999	22	21	0.0751	0.0222	0.0471	62.8%	
1998	24	23	0.0817	0.0267	0.0534	65.4%	
1997	26	25	0.0884	0.0289	0.0561	63.4%	
1996	24	23	0.0817	0.0267	0.0529	64.7%	

English Championship				H INDEX			
Season	teams	matches	Max	Min	England Index	% Max Unbal. Eng.	
2005 / 06	20	38	0.0684	0.0222	0.0485	70.9%	
2004 / 05	20	38	0.0684	0.0222	0.0451	65.9%	
2003 / 04	20	38	0.0684	0.0222	0.0443	64.8%	
2002 / 03	20	38	0.0684	0.0222	0.0458	67.0%	
2001 / 02	20	38	0.0684	0.0222	0.0456	66.7%	
2000 / 01	20	38	0.0684	0.0222	0.0444	64.9%	
1999 / 00	20	38	0.0684	0.0222	0.0460	67.3%	
1998 / 99	20	38	0.0684	0.0222	0.0433	63.3%	
1997 / 98	20	38	0.0684	0.0222	0.0443	64.7%	
1996 / 97	20	38	0.0684	0.0222	0.0422	61.6%	

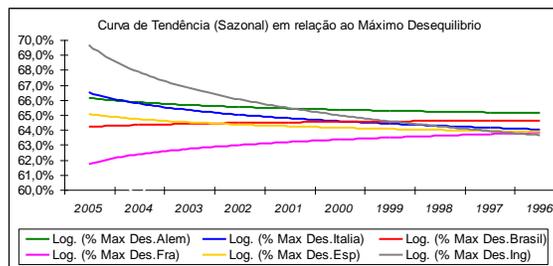
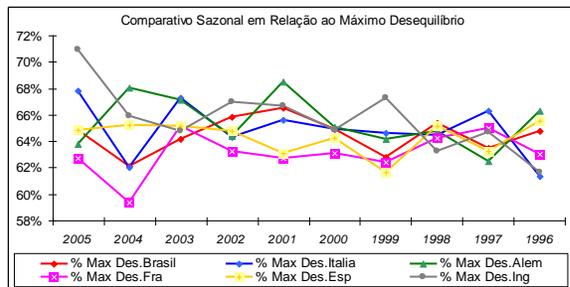
Italian Championship				H INDEX			
Season	teams	matches	Max	Min	Italian Index	% Max Unbal. Italy	
2005 / 06	20	38	0.0684	0.0222	0.0464	67.8%	
2004 / 05	20	38	0.0684	0.0222	0.0425	62.1%	
2003 / 04	18	34	0.0618	0.0200	0.0416	67.3%	
2002 / 03	18	34	0.0618	0.0200	0.0397	64.3%	
2001 / 02	18	34	0.0618	0.0200	0.0405	65.6%	
2000 / 01	18	34	0.0618	0.0200	0.0401	64.9%	
1999 / 00	18	34	0.0618	0.0200	0.0399	64.6%	
1998 / 99	18	34	0.0618	0.0200	0.0398	64.5%	
1997 / 98	18	34	0.0618	0.0200	0.0409	66.3%	
1996 / 97	18	34	0.0618	0.0200	0.0379	61.3%	

Spanish Championship				H INDEX			
Season	teams	matches	Max	Min	Spain Index	% Max Unbal. Spain	
2005 / 06	20	38	0.0684	0.0222	0.0444	64.8%	
2004 / 05	20	38	0.0684	0.0222	0.0446	65.2%	
2003 / 04	20	38	0.0684	0.0222	0.0446	65.1%	
2002 / 03	20	38	0.0684	0.0222	0.0443	64.7%	
2001 / 02	20	38	0.0684	0.0222	0.0432	63.1%	
2000 / 01	20	38	0.0684	0.0222	0.0440	64.3%	
1999 / 00	20	38	0.0684	0.0222	0.0422	61.6%	
1998 / 99	20	38	0.0684	0.0222	0.0446	65.1%	
1997 / 98	20	38	0.0684	0.0222	0.0433	63.3%	
1996 / 97	22	42	0.0751	0.0244	0.0492	65.5%	

German Championship				H INDEX			
Season	teams	matches	Max	Min	Germany Index	% Max Unbal. Germany	
2005 / 06	18	34	0.0618	0.0200	0.0394	63.8%	
2004 / 05	18	34	0.0618	0.0200	0.0420	68.0%	
2003 / 04	18	34	0.0618	0.0200	0.0415	67.1%	
2002 / 03	18	34	0.0618	0.0200	0.0398	64.4%	
2001 / 02	18	34	0.0618	0.0200	0.0423	68.5%	
2000 / 01	18	34	0.0618	0.0200	0.0402	65.1%	
1999 / 00	18	34	0.0618	0.0200	0.0397	64.2%	
1998 / 99	18	34	0.0618	0.0200	0.0400	64.8%	
1997 / 98	18	34	0.0618	0.0200	0.0386	62.5%	
1996 / 97	18	34	0.0618	0.0200	0.0410	66.3%	

French Championship				H INDEX			
Season	teams	matches	Max	Min	France Index	% Max Unbal. France	
2005 / 06	20	38	0.0684	0.0222	0.0429	62.7%	
2004 / 05	20	38	0.0684	0.0222	0.0406	59.4%	
2003 / 04	20	38	0.0684	0.0222	0.0446	65.1%	
2002 / 03	20	38	0.0684	0.0222	0.0433	63.2%	
2001 / 02	18	34	0.0618	0.0200	0.0388	62.7%	
2000 / 01	18	34	0.0618	0.0200	0.0390	63.1%	
1999 / 00	18	34	0.0618	0.0200	0.0386	62.4%	
1998 / 99	18	34	0.0618	0.0200	0.0397	64.2%	
1997 / 98	18	34	0.0618	0.0200	0.0401	65.0%	
1996 / 97	20	38	0.0684	0.0222	0.0431	63.0%	

#### a.2 Graphs.



## b. DOMINANCE CALCULATION

The dominance calculation considered the final positions of the yearly classifications. From them, the concentration of the same teams in leading positions (first, second and third place) was calculated by using the HHI concentration indicator for the 10-year period and through a comparison amongst the various national championships.

The tables below show the calculations by National Championship and, next, a table is presented in order of unbalance, which summarizes the data presented.

### b.1 Tables.

BRAZIL	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
Corinthians	3			2			3	3			11	18%	336.1	
Santos		3	2	3				1			9	15%	225.0	
Cruzeiro			3			1		2			6	10%	100.0	
Vasco						3			3		6	10%	100.0	
Atlético PR		2			3						5	8%	69.4	
Grêmio				1						3	4	7%	44.4	
S.Caetano					2	2					4	7%	44.4	
São Paulo		1	1				1				3	5%	25.0	
Atlético MG							2			1	3	5%	25.0	
Internacional	2								1		3	5%	25.0	
Palmeiras									2		2	3%	11.1	
Portuguesa										2	2	3%	11.1	
Fluminense					1						1	2%	2.8	
Goiás	1										1	2%	2.8	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>1022.1</b>	<b>26%</b>

ENGLAND	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
Chelsea	3	3	2					1			9	15%	225.0	
Manchester	2	1	1	3	1	3	3	3	2	3	22	37%	1344.4	
Arsenal		2	3	2	3	2	2	2	3	1	20	33%	1111.1	
Liverpool	1				2	1			1		5	8%	69.4	
Leeds							1				1	2%	2.8	
New Castle				1						2	3	5%	25.0	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>2777.7</b>	<b>71%</b>

SPAIN	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
Barcelona	3	3	2				2	3	3	2	18	30%	900.0	
Valencia	1		3		3		1				8	13%	177.8	
Real Madrid	2	2		3	1	3		2		3	16	27%	711.1	
Deportivo			1	1	2	2	3				9	15%	225.0	
Villareal		1									1	2%	2.8	
Real Sociedad				2					1		3	5%	25.0	
Mallorca						1		1			2	3%	11.1	
Atletico Bilbao									2		2	3%	11.1	
Sevilla										1	1	2%	2.8	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>2066.7</b>	<b>53%</b>

ITALY	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
Juventus	3	3	1	3	3	2	2		3	3	23	38%	1469.4	
Milan	2	2	3	1			1	3			12	20%	400.0	
Roma			2		2	3					7	12%	136.1	
Lazio						1	3	2			6	10%	100.0	
Inter Milano	1	1		2	1				2	1	8	13%	177.8	
Fiorentina								1			1	2%	2.8	
Udinese									1		1	2%	2.8	
Parma										2	2	3%	11.1	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>2300</b>	<b>59%</b>

GERMANY	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
Bayern München	3	3	2	3	1	3	3	3	2	3	26	43%	1877.8	
Werder Bremen	2	1	3								6	10%	100.0	
Borussia				1	3	1				1	6	10%	100.0	
Kaiserslautern									3		3	5%	25.0	
Hamburg	1						1				2	3%	11.1	
Schalke 04		2				2					4	7%	44.4	
Bayer Leverkusen			1		2		2	2	1	2	10	17%	277.8	
Stuttgart				2							2	3%	11.1	
Hertha Berlin								1			1	2%	2.8	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>2450</b>	<b>63%</b>

FRANCE	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	TOTAL	%	HHI	% HHI MAX
O. Lyonnais	3	3	3	3	3	2	1	1			19	32%	1002.8	
Monaco		1	1	2			3		1	3	11	18%	336.1	
Nantes						3				1	4	7%	44.4	
Bordeaux	2							3			5	8%	69.4	
Lens					2				3		5	8%	69.4	
Lille	1	2				1					4	7%	44.4	
Paris S.Germain			2				2			2	6	10%	100.0	
Marseille				1				2			3	5%	25.0	
Auxerre					1						1	2%	2.8	
Metz									2		2	3%	11.1	
<b>TOTAL</b>											<b>60</b>	<b>100%</b>	<b>1705.4</b>	<b>44%</b>

## b.2 Grouped Table

The table below groups the results shown above in maximum unbalance order, from the long-term dominance viewpoint. Thus, the English Championship, over the past ten years, has the highest unbalance index, represented by the concentration of the same teams in the first three positions in the final standing.

COUNTRY	% HHI MAX
England	71%
Germany	63%
Italy	59%
Spain	53%
France	44%
Brazil	26%

## CONCLUSIONS AND RECOMMENDATIONS

In order to avoid dominance by some teams, and the consequent bankruptcy of others, thus bringing about serious losses to a very profitable business such as the football industry, the balance of forces among the teams competing in the Brazilian championship should be pursued, in spite of the data favoring Brazil, as presented in the table grouped in the results of this paper. By comparing the levels of competitiveness between the Brazilian championship and the championships of the five biggest world football centers (England, Spain, Germany, France and Italy), and by interpreting the results, it can be inferred that:

1. The change in championship model as adopted by the teams in Brazil in 2003, which involves the point system format with options for classification to other football cups, has been leveraging the balance amongst the competing teams;
2. Repatriating high-renowned veteran players, on moderate-cost wages, represents an attempt in Brazil to improve the quality of each match. This factor (the quality of the match) is one of the three most important factors, along with result uncertainty and unpredictability and team success, in order to keep the end customers, the followers, in the stadiums.

These arrangements are making the matches in Brazilian football less predictable and more attracting, thus bringing more fans to the stadiums and increasing the number of viewers of the matches broadcasted on TV, consequently increasing the revenue of the football industry, which comprises the sales of merchandise; consulting, especially sports medicine consulting; and the sports services, like the matches and sports activities provided for the population as a whole.

On the other hand, a recommendation based upon this study should be made in order to enhance the financial balance and the balance of forces amongst the teams vying in the Brazilian championship: Selling tickets for the championship matches in advance, by means of payment booklets that allow for an easier way for the stadium-goers to pay for their tickets, also represents an example provided by the main European

championships of converting emotional relationship into commercial relationship, which should be followed in Brazil since the Brazilian demand does not seem to be as inflexible regarding ticket prices as verified by Szymansky and Kuypers (1999) in European football.

## REFERENCES

- BIKKER, J. & K. HAAF (2001) Measures of Competition and concentration: A review of the literature. De Nederlandsche Bank, Amsterdam, NL.
- \_\_\_\_\_ (2002) Competition, concentration and their relationship: An empirical analysis of the banking industry. *Journal of Banking & Finance* 26, 2191-2214.
- Boaventura, J.M.G; Fischmann, A.A. Estudo dos Conceitos sobre o conteúdo da estratégia: uma ilustração no campo da tecnologia da informação. FEA, USP
- CHAMBERLIN, E. H. (1933) *The Theory of Monopolistic Competition*. Cambridge, Mass, Harvard University
- Christensen, K, H. *Estratégia Corporativa: Gerenciando um Conjunto de Negócios*. In Fahey & Randall. MBA Curso Prático de Estratégia, 1999.
- Chetty, Sylvie; Hunt, C, Colin (2004) A Strategic Approach to Globalization: A traditional versus a “Born Global” Approach. *Journal of International Marketing*. Vol.12 No.1, pp. 57-81. Fraser, J; Oppenheim, J. (1997) What’s new about globalization? *Mckinsey Quartely*, 2, p.168-179
- Johnson, G; Scholes, K (1999) *Exploring Corporate Strategy: Text and Cases*. 5th Ed. N. York, Prentice – Hall.
- Levitt, T (1983) The Globalization of markets. *Harvard Business Review*, Jun, p.92-102
- Hitt, Michael; Ireland, D; Hoskisson, R, E (2003) *Administração Estratégica: competitividade e globalização*. São Paulo, Pioneira Thompson
- Hofer, C, W; Schendel, D: *Strategy Formulation: Analytical Concepts*. Saint Paul: West Publishing Co, 1978
- Mintzberg, H; Quinn, J. *O Processo da Estratégia*. 3a. edição. Porto Alegre: Bookman, 2001.
- Mintzberg, H; Ahlstrand, B e Lampel, J. *Safári de Estratégia*. Porto Alegre: Bookman, 2000
- Relatório Final do Plano de Modernização do Futebol Brasileiro. R.Janeiro : FGV e CBF, 2000.
- ROBINSON, J (1933) *The Economics of Imperfect Competition*. Londres, Macmillan Press.
- SCHUMPETER, J (1911). *Teoria do Desenvolvimento Econômico*. Trad.port. S.Paulo: Ed. Abril Cultural, col. “Os Economistas”, 1982.
- \_\_\_\_\_ (1942). *Capitalismo, Socialismo e Democracia*. Trad, port. Rio de Janeiro: Zahar Ed, 1984.
- SHY, O (1995) *Industrial Organization*. Cambridge MA: Mit Press
- SRAFFA, P (1926) The Laws of Rreturns under Competitive Condition. *Economic Journal*, 36 (2): 535-50
- TACHIZAWA, T. *Metodologia de pesquisa aplicada à administração: a internet como instrumento de pesquisa*. Rio de Janeiro : Pontal, 2002.
- VERGARA, S. *Projetos e relatórios de pesquisa em administração*. 5a edição, São Paulo: Ed. Atlas, 2004.

# **INTERORGANIZATIONAL CO-OPERATION IN COMPANY MANAGEMENT**

**Alla N. Sterligova, Nina M. Vladimirova**  
**Higher School of Economics State University, Russia**

## **ABSTRACT**

*Differentiation and integration are typical processes for the modern management. The article describes the system of modern management. It defines the place of processes in the structure of the management object. The author characterizes processes as the object of management and presents the integration trends of management. The study of management integration mechanisms has allowed to draw conclusions about the presence of four levels of performance integration (interorganizational, interfunctional, functional, operational). As was proved in conducted surveys every integration levels yields consistent results. To implement the interorganizational co-operation, it is required to perform dedicated preparatory work, since an organisation controlled at the interfunctional level cannot naturally evolve to the interorganizational level.*

## **PERFORMANCE AND PROCESS IN MANAGEMENT**

At present management undergoes a rapid growth. Performance management is one of its modern areas. In a broad sense performance is any employment or job which includes expedient change and transformation of the surrounding world. Performance includes a purpose, means, result and the process itself. In the sphere of management definitions of performance and its management are vague. We can refer to R. Williams (2003), who generalizes materials of numerous foreign researches in his publications. He does not provide a definition of the concept "performance" and states that «it is rather difficult to give its definition» and that «there is no general definition of performance management for all professionals in this sphere». The definition of performance is presented by various models of its perception as control systems of performance and as the system integrating firm's management areas.

Process is a close concept to performance. Modern specialists understand this term as the above mentioned components of performance. Recorded in ISO 9000:2000 the definition states: «Process is a stable, purposeful set of interconnected types of performance which transforms inputs into outputs that are valuable for consumers by a certain technology». Here processes include performance, rather than the reverse, as it follows from a classical definition of performance.

As the problem of management integration in a firm constitutes a subject of performance management, it is expedient to use the concept "performance" in the context of integration processes. A concept "process" as a more general one is used in discussing all questions connected with management, including its separate directions.

## **OBJECTIVE MANAGEMENT DIFFERENTIATION**

Management is quite diverse nowadays. There have been constant attempts to systemize its types. Using the cybernetic model of management system, there has been an attempt to reveal logic of development of modern management, identification of its types and their interrelation. The subject and management object and also contents of job's firms (purpose, technology, style and national and cultural features of management) served as criteria for the research.

The conducted analysis has shown that the variety of management types (284 types in this research) is connected first of all with a variety of areas of application and features of realisation of managerial processes and also the fact that differentiation of management has an objective character. It has been revealed that differentiation of management goes in several interconnected directions. The direction «Management Object» has the most developed and stable structure.

Historically the first management object was process. Another group of management objects is various "subjects" which as well as processes require detailed elaboration as management objects. First of all management subjects should be divided into material and non-material ones. In the framework of material subjects the most important is the distinction between animate and inanimate objects. Animate subjects of management represent human resources (separate persons and groups of persons).

There is a spectrum of modern management types for separate persons: personified management, self-management, clients management, etc. Groups of persons are objects of management in general management, social management, personnel administration, team management and so forth. Inanimate objects are presented in modern management practice by objects of labour, implements, other property, supporting resources (financial and informative). Especially it is necessary to note rapid differentiation of objects of this level in the framework of information resources: they control databases, data, site contents, address lists, computers' desktops, information life cycles, memory, networks and so forth. It is obvious that soon this list would extend and that the same would happen with all resources that apply innovative technology of the future.

The spectrum of types of management directed on non-material subjects is quite broad. The types of management connected with human resources develops most dynamically, e.g. conflict management, health management, management of stress, anger, ideas, talents. A general tendency is to approach to individuals, positive influence on potential executors and supervisors. Other non-material objects of management are purposes, safety, etc.

Thus, the management object has a structured hierarchy where the process and the subject as well as objects of management are the factors of a two-dimensional space. The third dimension of the management object introduces the scale of management objects. Management can be directed on separate objects (self-management, etc.) or on groups of objects (corporate management, firm management), and also on interconnected objects (industries, territories, systems of various character and nature).

Processes as objects of management in turn have quite a complicated structure. We can single out deterministic and stochastic processes by their character. Management focused on controlling stochastic processes operates probabilistic approach to analysis, forecasting and activity planning. It is typical for instance for investment management, management of creditsdeadlines of projects unlike for instance scientific management, operational management, firmal management, management of taxes and duties, time management, etc.

In the late 60s – early 70s the attention was drawn to processes connected with interactions at various levels that led to development of new types of management such as interfunctional, interfirmal, interbranch management, management of partner relationships, interaction of projects, customer relations, interactions with public authorities, etc.

From the beginning of the last century management of processes had a division by industries in many respects justified by technological features of separate processes. At present this tradition has remained in many respects: specialists speak about business management as a whole or about management of its development (strategic management), change management, management of researches, developmental works, purchase, production, distribution, management of marketing, sales, electronic trade or (in the framework of a providing subsystem of an operating system) about management of documents circulation, warehousing, insurance, logistics, training, acquisition of licenses, etc.

The third subgroup of management objects are objects in which it's difficult to separate a subject and a process from each other. Herein a subject as an management object in its state is connected with development of

a process; therefore, management of a process connected with a subject becomes an integral part of a type of management. For example, such types of management are management of staff, labor force, labour, human resources, focus groups. While working with so called inanimate objects there is the same rigid interrelation. For example, it affects work with material resources: integrated management (quality), logistics, material management, management of inventory, waste, resources, etc. The similar situation is with financial resources: trust management, management of accounts receivable, cash assets, salaries, expenses, investment portfolio, circulating capital, costs, project cost, etc. We can talk about the link of processes and information resources and also with implements.

Non-material subjects as objects of management are also often inseparable from processes that are connected with them. Management of detection and correction of errors, time management, management of knowledge etc., deal with such questions.

A broad spectrum of objects of management consists of inseparable processes, material and non-material subjects. These are all social and economic systems, and consequently, firms, enterprises, associations, public bodies. Such objects are considered in administrative management, public administration, innovative management, corporate management, firm management, management.

## **TOPICALITY OF MANAGEMENT INTEGRATION**

Practice of detailed elaboration of management object and influence on management of a differentiation of labour, purposes, styles and national and cultural features of management highlights issues of management integration in various directions.

The concept "integration" is used in several areas of knowledge and each of them specifies its unique significance. Integration is an extremely used term in modern science and management. The theme of integration of management is one of the most popular. The overwhelming majority of specialised scientific literature at least once addressed this theme in the last five years. As a whole it is told that management integration is considered from different approaches. Integration is described as consolidation of activity's types, complex realisation of functions and administrative interactions, interaction of participants of distribution process (including sellers and buyers), availability of general information and communication systems, construction of organizational relations (including rationalization of system's organization) and also a process of inclusion and involvement of new elements, field of activities or separate functions into an activity.

Diversity of understanding of integration involves various types of integration in economics and management. Main types of integration are: economic, horizontal and vertical (ascending) integrations, combined integration, progressive (direct) integration, progressive and regressive integrations, conventional integration, circular integration, through, short-term and long-term integration, conglomeratic integration. The description of evolution of management integration is offered in foreign literature (Stevens (1889); Christopher (2006) et. al.)

As the conducted research has shown, management integration is led both in the direction of uniting its various components and in the direction of analysis and synthesis of management objects. The interrelation of the following directions of differentiation was found during the research: object – object, object – subject, object – management technology, object – management objective, subject – national and cultural features of management, management style – national and cultural features of management.

The interrelation of management types on the following directions is noted in the process of management: management subject influences the choice and realisation of technology, style and management objective; management technology tests the influence of separate components, and also the style and national and cultural management features; national and cultural features of management affect the choice of management's objective.

Formation of management types includes groups that are consolidating various levels of objects of management, namely: a process and a particular type of activity; a process as the management object and an

animate object as the management object (Self Management, etc.); a mixed management object (a subject and a process) and industry (municipal management, etc.); a mixed management object (subject-process) and group of objects of the criterion of a scale (Corporate Management, Firm Management, etc.); a mixed management object (subject-process) and territory of scale's criterion (management of a regional economy, etc.).

Integration of management caused by a deepening professional management differentiation requires the research of management integration's mechanisms.

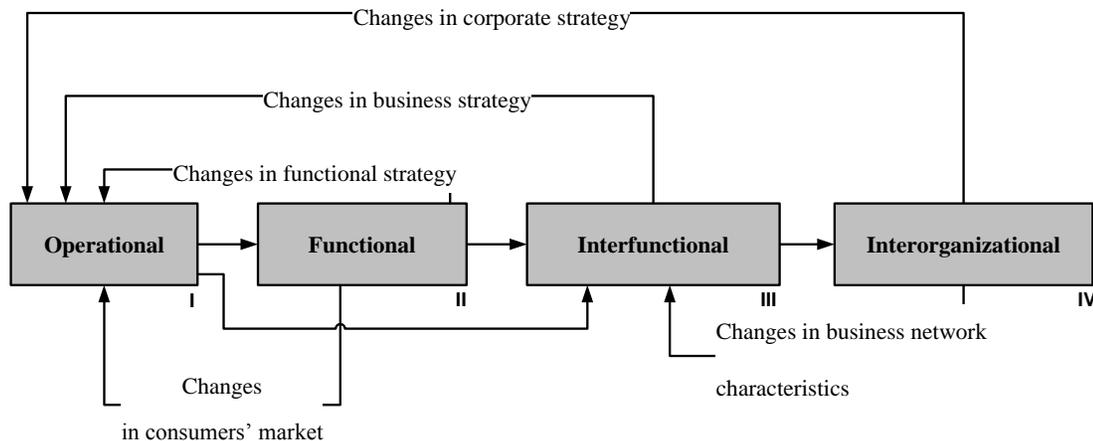
## WORKING HYPOTHESIS OF RESEARCH

Ignoring the geographical aspect of integration and generalizing the results of research performed by other authors, it should be concluded that performance integration displays four levels. The first three levels (operational, functional and interfunctional) can be defined as internal integration of activity within the framework of a separate enterprises. The last interenterprise level represents external integration (Figure 1).

Successful interfunctional interaction within the framework of individual enterprises lays the basis for successful interorganizational integration. Effectiveness of interfunctional interactions has to do with maturity of functional operation. Efficient control of individual functional areas is based on a clearly spelled-out operational level of activity integration (Johnson (1999); Craighead (2007)). Depending on the considered performance level, one can speak about control of operations, functional areas, interfunctional and interorganizational interactions. Process approach to control allows functional network of business-processes of an enterprise to be ensured without distinguishing between the functional and interfunctional levels of activity. The conducted research was based on availability of the above-mentioned activity integration levels in the control experience of each enterprise.

The research hypothesis is that implementing different performance integration levels yields consistent results.

**Figure 1. Interaction of levels of activity integration.**



The research hypothesis is that implementing different performance integration levels yields consistent results.

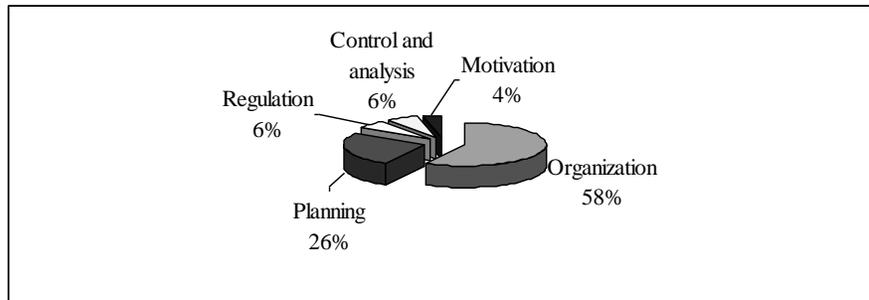
We conducted a poll of organisations' employees working in Russia to check the working hypothesis of our research based on the Higher School of Economics (HSE) and the International Logistics Centre of HSE. About 500 people took part in the polling. The volume of the research was estimated by the accumulation of consistent results of the performance level integration.

# INTERORGANIZATIONAL CO-OPERATION AS A LEVEL OF PERFORMANCE INTEGRATION

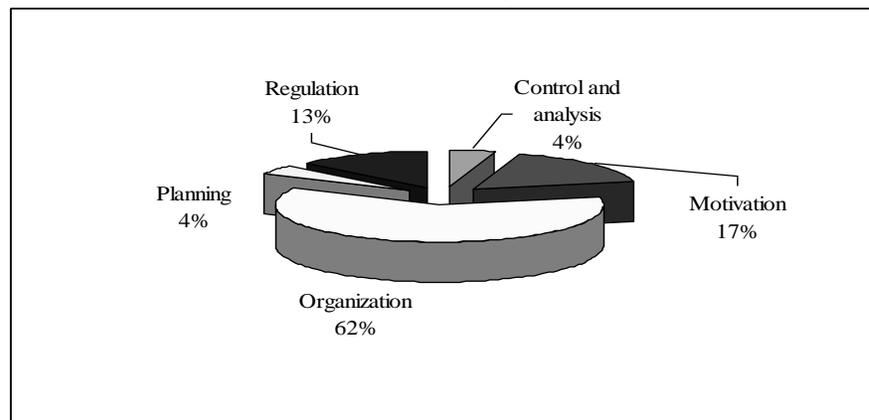
On the interorganizational level experts mentioned most often integration security with suppliers and customers, and savings of costs and expenses. These are main positive results of considering operation of organisations in business networks. The second place is «Strategically directed management» which reveals the main difference of interorganizational co-operation from other levels of performance directed primarily to the internal business environment. Consequently, they do not realize strategic opportunities of organisations to the full in business environment including network competition. The third place – «Client oriented approach». The structure of other positive results of interorganizational co-operation is rather diverse and describes both external and internal management environment.

In functional-administrative sphere the function "Organisation" has the greatest percentages both in positive results and negative results of interorganizational co-operation (58% and 62% accordingly (Figure 2). Organisation of managerial processes and realizing business in time and space, forecasting and planning of these processes in business networks are obviously strategically directed.

**Figure 2. Influence of Positive (a) and Negative Results (b) of Interorganizational Co-operation on Management Quality**



**a)**



**b)**

In professional sphere management has most positive results judging by their percentages(57%). Special attention to management in interorganizational level is logically connected with the leading function "Organisation". Operational performance has the greatest percentages of negative results (40%). This is recurrence of operational integration and it focuses attention on the process approach to organisation's management in network competition.

In the process sphere the prevailing attention in positive results' assessment of interorganizational co-operation is in the realization stage (45%), defects assessment (unlike other previously considered levels of integration) - the preparation stage (61%).

Only 29% of negative results of interfunctional integration influence the selected positive results of interorganizational co-operation. It fundamentally distinguishes interorganizational co-operation from other levels where the majority of negative results of lower levels is influenced completely or partly by positive results of higher levels. Thus, network competitiveness requires the organisation's management to have radically new knowledge, experience and skills. Yet interorganizational co-operation is insufficiently spread in Russian business' practice. Therefore, it is little developed and that, possibly, can explain such a small number of the mentioned negative results. Possibly in the future this level's feature of interaction will be studied in greater detail.

One of the negative results of interorganizational interaction most often pointed by experts is the fact that this level needs a detailed study of operational, functional and interfunctional levels of integration. In fact, this statement does not have any negative connotation. The fact that operational, functional and interfunctional levels of integration were not studied in detail resulted in inability of managers to notice positive results of interorganizational co-operation (primarily of strategic character in network competition). As the overwhelming majority of Russian organisations are in such situation, they are viewed as a drawback.

To implement the interorganizational co-operation, it is required to perform dedicated preparatory work, since an organisation controlled at the interfunctional level cannot naturally evolve to the interorganizational level, that requires further investigation.

## REFERENCES

Craighead C. W., Blackhurst J., Rungtusanatham M. J., Handfield R.B. "The Severity of Supply Chain Disruptions: Design Characteristics and Mitigation Capabilities", *Decision Sciences*, Vol. 38, No. 1 (2007): 131–156.

Christopher M. *Logistics and Supply Chain Management: Creating Value-Adding Networks*. Financial Times Prentice Hall, 2005.

Johnson, J. C., Wood, D. F., Wardlow, D. L. and Murphy, P.R. Jr. *Contemporary Logistics*. Upper Saddle River, New Jersey: Prentice Hall, Inc., 1999

Sterligova A. "Comparative Analysis of Results of Integrating an Activity as a Subject of Enterprise Control", *Evolution and Revolution in the Global Knowledge Economy: Enhancing Innovation Competitiveness Worldwide: Global Business and Technology Association. Tenth International Conference Madrid, Spain July 8 – 12, 2008. Reading Book*. (2008): 1045-1051.

Stevens G.C. "Integrating the supply chain", *International Journal of Physical Distribution and Materials Management.*, Vol. 19. No18 (1989).

Williams R.S. *Managing Employee Performance: Design and Implementation in Organizations*. – S.- Pb.: Piter, 2003 (in Russian).

# **ENDURING SUCCESS: WHAT EFFECT DOES BUSINESS FIRM SIZE, INDUSTRY OR TYPE OF OWNERSHIP HAVE ON LONGEVITY?**

**Vicki R. TenHaken, Katelyn Rumsey and Alison Meshkin Sale  
Hope College, USA**

## **ABSTRACT**

*ABSTRACT: Some companies have managed to overcome economic challenges, massive changes in technology, globalization and other socio-cultural transformations to not only survive, but thrive over an extended period of time. Are there certain industries to which these companies belong that are more conducive to long-term survival? Does private ownership or firm size make a difference in a business's ability to survive over the long term? The authors have built a data base of U.S. companies over 100 years old and compare these company profiles to U.S. businesses overall in an attempt to answer these questions.*

## **INTRODUCTION**

A fundamental objective of the firm, though often unstated, is survival. Returning investment to shareholders and meeting customer needs are both means to this end. Companies focus on profitability, but the underlying reason for making a profit is to continue to operate the business. However, most firms do not “live” as long as they could. A study by Royal Dutch Shell described in *The Living Company* (de Gues, 1997) calculated the average life expectancy of a large multinational corporation at forty to fifty years. A study by Hewitt Associates indicates the average life span of companies today is twelve to fifteen years (Hewitt, 2004). de Gues suggests that the natural life span of a corporation could be as long as two hundred to three hundred years. When evaluating company performance in terms of years of existence versus potential longevity, the implication is that most firms are failures.

Why be concerned about corporate longevity? Besides the fact that there is something unnatural in the high corporate mortality rate (no living species endures such a large gap between its maximum life expectancy and its average realization), few other institutions - such as churches or universities - seem to have the abysmal demographics of the corporate life form. As de Gues says in *The Living Company* (1997), the damage that results from the early demise of otherwise successful companies is not merely a matter of shifts in the *FORTUNE 500* list: “Work lives, communities, and economies are all affected, even devastated, by premature corporate deaths.” It is not just the owners or investors in a company that profit from an organization’s survival, but employees, customers, suppliers, and communities all benefit as well.

What enables some companies to defy the odds to continue operating for a century or more while others succumb to an early death? Are there certain industries where it is easier to overcome economic challenges and adapt to changes in socio-cultural and technology trends? Is size or form of business ownership a factor in whether a company survives over a long period of time?

Previous research on long-lived companies (Collins and Porras, 1994; de Gues, 1997; Grossman and Jennings, 2002; Stadler, 2011) has focused on large, publicly-traded firms. Collins and Porras’ *Built to Last* studied American companies (though many were not yet 100 years old); de Gues’ study at Shell profiled international companies of a size similar to Shell that were over 200 years old; Grossman and Jennings focused on 15 large, publicly-traded industrial firms with 100 years (or more) of consecutive dividends; Stadler looked

exclusively at large European companies over 100 years old. The work of Japanese professors Iwasaki and Kanda on *shinise*, or very old Japanese companies, included small-to-medium size organizations, but all the companies were privately-held (Iwasaki, Kanda: 1996).

Though these studies of long-lived companies came to slightly different conclusions, there were some common factors identified by all or several of them. Following are the shared results found in these studies that cross geography, size and ownership differences:

1. The presence of a strong core ideology, corporate culture and values (Collins and Porras, de Gues, Grossman and Jennings, Iwasaki and Kanda, and Stadler)
2. The ability to drive for change while protecting these core values (Collins and Porras, Iwasaki and Kanda, de Gues, Grossman and Jennings, Stadler)
3. Conservative business practices (de Gues, Grossman and Jennings, Stadler)

## OBJECTIVE

Since the only previous research on old companies in the United States (Collins and Porras; Grossman and Jennings) was based on a few large, publicly-traded firms many of which were not yet 100 years old, the authors of this paper decided to build a data base of U.S. firms over one hundred years old: small and large, public and private. The intent is to see if old companies tend to be larger or smaller than the average U.S. firm or if they cluster into certain industries. The Japanese research (Iwasaki and Kanda) and case studies of several 100-year-old Midwestern U.S. companies (TenHaken and Cohen, 2007) seem to indicate that business strategies of staying small and private are keys to longevity. Many of the companies in these studies also appear to cluster into retail and service industries. Since most of the old U.S. companies interviewed by TenHaken and Cohen were privately-held firms (in fact, family-owned), perhaps one way companies survive over such a long time period is by staying private. Often this limits access to capital and thus growth, which could lead to the old companies being smaller, on average, than other firms. Also, it is possible that certain industries lend themselves to longevity because of the particular industry dynamics and external influence factors: many of the case study firms were in the retail or service industries where personal customer relationships were very important in business success.

Hypothesis #1: Maintaining private ownership is one way companies survive over a long period of time; therefore, the percentage of privately-owned companies over 100 years old will be higher than in the overall U.S. business population.

Hypothesis #2: If old companies are, in fact, more likely to be privately-owned, this could limit access to capital and thus growth, so a greater percentage of companies over 100 years old are small to medium size enterprises than in the overall U.S. business population.

Hypothesis #3: Companies over 100 years old will cluster in certain industries because some industries are more affected by factors such economic fluctuation, technology change and globalization.

Hypothesis #4: Because building close relationships with customers and employees is a key factor in a business's sustainability, the industries into which old companies cluster will be retail and service-oriented industry categories.

## METHODOLOGY

The authors of this paper chose one hundred years as a defining point for long-lived companies because by then the firm has survived changes in ownership (several generations if a family-owned company), as well as the many significant economic and environmental challenges of depression, world war, advances in technology, globalization, etc. The focus of this study is surviving *control* firms. Companies were not included if they were bought out by other organizations, even if a local facility continued to operate as a branch business or subsidiary. When a company becomes just one part of another organization, it was considered too changed to qualify for this study. Both private and publicly-owned companies are included. No restrictions were placed on size. Not-for-

profit organizations, such as hospitals or educational institutions, and family farms were not included in this research.

Some states compile lists of companies by founding date or have “century clubs,” easing the process of data collection. For most states, however, the process of collecting the information for this data base was an arduous task. Using several different sources, the authors were able to develop a data base consisting of over 400 U.S. companies more than 100 years old. This data base was then analyzed on a number of different factors and compared with United States Census data for all U.S. companies.

## COMPANY PROFILES

Our data base of 100-year-old U.S. companies is sorted by industry, size and type of ownership. We identify the percentage of companies in this data base that meet the general criteria of a Small to Medium Size Enterprise, or SME. For the purposes of this study, we are working with a definition of an SME as any business establishment with less than 500 employees. However, because we expected a number of the old companies to be very small, we also break down the SMEs into “very small,” with less than 20 employees; “small” with 20 to 99 employees; and “medium,” with 100 to 499 employees.

The data base of old companies is also sorted by type of ownership – those that are privately held and those that are publicly-traded.

To see whether certain industries lend themselves to longevity, either because of internal industry dynamics or external influence factors (such as being less affected by changes in socio-cultural or technological trends, or more dependent on relationships making them less vulnerable to global competition) we compare the industry break-down of the old companies data base to the data in the U.S. Bureau of Labor Statistics North American Industry Classification System (NAICS).

## FINDINGS

The following table shows the percentage of companies in this data base that could be classified as small to medium size enterprises (SME) compared to that of the U.S. business population at large:

**Table 1.**

<b>COMPANY BREAK-DOWN BY SIZE</b>		
<b>Number of Employees</b>	<b>% of U.S. Businesses</b>	<b>% of Old Companies</b>
Under 20	85.95	14.15
20-99 employees	11.66	16.10
100-499 employees	02.14	13.66
All SMEs	99.75	43.90
500 + employees	00.25	56.10

In Table 2 the percentage of companies in this data base that are public or privately-owned is compared to that of all U.S. business.

**Table 2.**

<b>COMPANY BREAK-DOWN BY OWNERSHIP</b>		
<b>Type of Ownership</b>	<b>% of U.S. Businesses</b>	<b>% of Old Companies</b>
Publicly-owned	0.21	37.56
Privately-owned	99.79	62.44

The information in Table 3 breaks down the century-old companies by industry classification and compares this with the overall percentage of U.S. companies in these industries:

**Table 3.**

<b>COMPANY BREAK-DOWN BY INDUSTRY</b>		
<b>Industry</b>	<b>% of U.S. Businesses</b>	<b>% of Old Companies</b>
Mining	00.29	03.17
Utilities	00.24	03.17
Construction	10.05	01.46
Manufacturing	04.08	41.95
Wholesale	05.99	04.63
Retail	15.57	12.44
Transportation	03.02	01.22
Information	01.95	05.85
Finance & insurance	06.97	17.80
Real estate	05.23	00.49
Professional services	11.81	03.41
Management services	*	00.49
Administration services	05.30	00.00
Educational services	00.85	00.00
Health care	10.80	00.24
Arts & entertainment	01.72	00.49
Accommodation & food services	08.69	01.71
Other services	07.46	01.46

## **DISCUSSION OF FINDINGS**

The percent of long-lived companies that are privately-owned compared to the percentage of privately-owned U.S. businesses overall is difficult to accurately assess. Out of the total entities registered as “companies” in the United States, approximately 15,000 are public (Wall-Street.com, 2010). Using the 2007 Economic Census Summary data from the U.S. Census Bureau, the total number of U.S. companies is 7.214 million meaning that 00.21 percent of companies are publicly-held and 99.79 percent are privately-owned. The difficulty in using these numbers as an accurate comparison with the numbers from the old companies’ data base is that the Census Bureau statistics likely include a large number of individuals reporting business income from activities that we would not consider a “company” in this research. Studies focused on old privately-held firms (Iwasaki and Kanda; *Family Business*) show that these companies, regardless of geography, believe strongly that staying private is key to their success.

We see this same data reliability issue in the U.S. data of SMEs where over 85 percent of businesses “employ” less than 20 people: it is difficult to know how many of these are single-persons operating side-line businesses of some sort that could not be considered a true company for this analysis. Add to this the fact that we know our list of companies over 100 years old is missing many very small, local businesses (those with less than 20 employees), and we are left with certain categories where it would be erroneous to draw any conclusions from comparison data. If we remove the “Under 20” group from both the Census data and our old companies data base, we perhaps will have a more accurate comparison of company size.

**Table 4.**

<b>COMPANY BREAK-DOWN BY SIZE LESS COMPANIES &lt;20</b>
---

Number of Employees	% of U.S. Businesses	% of Old Companies
20-99 employees	83.00	18.75
100-499 employees	15.25	15.91
SMEs (20-500)	98.20	34.66
500 + employees	01.80	63.34

Though the “medium-size” category of companies with 100-499 employees now has a very similar percentage in each group (15.25 percent for all companies and 15.91 percent for old companies), overall we still see that a far greater percentage of 100-year-old companies are large (63.34 percent of old companies have over 500 employees, compared with only 1.8 percent of all companies.)

The areas where comparisons are believed to be quite accurate are in the breakdown by industry. There are industries in which old companies show a higher representation than in the general U.S. business population. Out of the 18 industry categories, old companies show a higher representation in six. These are: Mining, Utilities, Manufacturing, Information, Finance & Insurance, and Management Services. Of these industry categories, the most significant difference shows up in Mining, Utilities, and Manufacturing where the percentage of old companies is ten times greater.

The industry categories where the percentage of old companies and the percentage of U.S. companies overall is closest are Wholesale (5.99 percent for U.S. businesses and 4.63 percent for old companies) and Retail (15.57 percent for U.S. businesses and 12.44 percent for old companies).

Looking back at our hypotheses at the beginning of this research (that old companies tend to be smaller than the average U.S. firm, that they cluster into certain industries and that they survive by staying private), we find that only one of these are supported with the information compiled for this data base: U.S. companies over 100 years old do tend to cluster in certain industries – Manufacturing, in particular. The authors admit that they expected (because of capital requirements, technology changes and global competition) to find that manufacturing businesses would have a more difficult time surviving over a long period of time. Because of government regulation, including a history of protection from competition, it is understandable that Utilities would be an industry noted for firm longevity. It was thought that old businesses would cluster in the retail and service industries, but this was not the case. In a recent study of nearly 500 Japanese *shinise* by Makoto Kanda, the industry breakdown was 37 percent Wholesale, 34 percent Manufacturing, 12 percent Retail, 12 percent Construction and 5 percent Services. The Retail category shows the closest match between the two countries, both at 12 percent and Construction the largest difference (12 percent in Japan compared with 1.47 percent in the U.S.).

Regarding the public vs. private and company size hypotheses, though the data is somewhat more difficult to draw accurate conclusions from, it is fairly safe to say that the hypotheses cannot be supported: In fact, the percentage of old companies that are public is far larger than the percentage of overall U.S. companies, and companies that have survived over 100 years skew large (over 500 employees) rather than small or medium-size.

**Hypothesis #1:** Maintaining private ownership is one way companies survive over a long period of time; therefore, the percentage of companies over 100 years old will be higher than in the overall U.S. business population. *Not proven. In fact, even allowing for some inaccuracies in the data base regarding small businesses, the percentage of old companies that are publicly owned is far higher than in the general U.S. business population.*

**Hypothesis #2:** Because continued survival is more important to long-lived companies than growth, a greater percentage of companies over 100 years old are small to medium size enterprises than in the overall U.S. business population. *Not proven. Except for the medium-size category (100-499 employees) in which percentages for both old companies and the general business population were similar, a greater percentage of old companies appear to be large.*

Hypothesis #3: Companies over 100 years old will cluster in certain industries because some industries are more affected by factors such economic fluctuation, technology change and globalization. *True. Old companies do have a much higher representation in six out of the 18 industry classifications, with the percentage of old companies in three of them significantly higher than in the general business population.*

Hypothesis #4: Because building close relationships with customers is a key factor in a business's sustainability, the industries into which old companies cluster will be retail and service-oriented industry categories. *Not proven. Though the percentage of old companies in the retail industry was close to that in the general population, it was not higher. This could be because a number of very small, local retail businesses have not been identified in this data base, but even so, it does not appear that old companies have a greater retail focus. There was a clear concentration of old companies in the Finance & Insurance industry, which is service-oriented, but the concentration in Manufacturing, Mining and Utilities was far greater.*

Managerial implications from this study that could have value for businesses throughout the world that desire to sustain operations long into the future include the following: If you are currently a privately-owned firm and need to raise capital to grow, going public is *not* a "death sentence." It is possible to live a long corporate life whether public or private, large or small. (Having a strong corporate culture/core value set seems to be more important than size or type of ownership.) Also, if you are in the Mining, Utilities, Manufacturing, Information, Finance & Insurance, Management Services, Wholesale or Retail industries, there do not appear to be factors at play that might make long term survival more difficult.

## **FURTHER STUDY**

As noted in the introduction, most previous research on the topic of corporate longevity strategies and practices has focused on a few very large, publicly-owned companies. Now that this data base consisting of companies of all sizes has been compiled, a survey of a sample of companies from this data base could uncover whether there are any common strategies or corporate behaviors that enable a business's longevity regardless of size.

## **REFERENCES**

- Avery, G. *Leadership for Sustainable Futures*. Edward Elgar Publishing, Inc.: Northampton, MA, 2005.
- Collins, J. and Porras, J., *Built to Last: Successful Habits of Visionary Companies*. HarperCollins Publishers, Inc: New York, NY, 1994.
- de Geus, A. *The Living Company*. Harvard Business School Press: Boston MA, 1997.
- Grossman, L. and Jennings, M., *Building A Business Through Good Times and Bad: Lessons from 15 Companies, Each with a Century of Dividends*. Quorum Books: Westport, CT, 2002.
- Kristie, L., *America's oldest family businesses: Pride, ingenuity and endurance*, Family Business Magazine, 2010
- Hewitt Quarterly Asia Pacific*, "Business Basics: People & Performance," 2004.
- Iwasaki, N. and Kanda, M., Sustainability of the Japanese Old Established Companies. *Economic Institute of Seijo University* 132 (1996): 160-130.
- Kanda, M., *Wisdoms of Shinise: Strength for living over hundreds of years*. Unpublished results of two surveys, 2010
- OHara, W.T. *Centuries of Success*. Adams Media: Canada, 2004.

Stadler, C., *Enduring Success: What We Can Learn from the History of Outstanding Corporations*. Stanford University Press: Palo Alto, CA, 2011.

TenHaken, V. and Cohen, E., "Survival Behaviors of 100-Year-Old West Michigan Retail and Service Companies," *Journal of Business & Economics Research*, Vol. 5: No. 8, August 2007.

U.S. Census Bureau, "2007 Economic Census, Comparative Statistics for United States, Summary Statistics by 2002 NAICS"; Table 740, published March 2009

U.S. Census Bureau, "County Business Patterns"; Table 742: *Establishments, Employees, and Payroll by Employment-Size Class: 1990 to 2006*

[www.Wall-Street.com](http://www.Wall-Street.com), "Financial Information Online for Public Companies," Major Lists and Directories, 2010

Lexis/Nexis and Business & Company Resource Center were used to obtain company information for the data base

# **MAKING SENSE OF RISK AND RISK PREVENTION IN ONLINE ENVIRONMENTS: A THEORETICAL PERSPECTIVE**

**David Tenjo, London School of Commerce, United Kingdom  
Wilson Ozuem, University of Gloucestershire, United Kingdom**

## **ABSTRACT**

*Generally speaking, electronic markets facilitate the exchange of information, goods, services, and payments associated with market transactions (Bakos 1998). The advent of Internet technology challenges the ways in which we seek to manage openness and visibility in the market space. Such a paradigm shift has consequences as a new modality of commercial transaction. Theoretical grounded understanding is needed to expand our insights into risk and risk prevention to inform effective marketing practices in the evolving marketplace. The underlying goals of this paper are to review extant conceptual issues related to online risk, and develop an agenda needed for future research.*

## **INTRODUCTION**

It is not an exaggeration to assert that risk is one of most heavily research issues in computer-mediated marketing environments (CMMEs) and the concept of online risk has gained considerable attention ( Risk is one of the main drivers of e-commerce). This concept can be broadly defined as "the chance of a vulnerability being exploited" (Universal Postal Union, 2009). When speaking of risk in e-commerce, some scholars refer to the uncertainty that something will go wrong on the system which will cause it not to deliver the expected performance. Risk may refer to aspects such as the likelihood that the system may crash, the likelihood that the business will not succeed, or the chance that users will experience breaches to their private information. For example, Qin (2009) states that the security and reliability problems can be divided into several categories, which are the categories of risk: They are data loss, virus attacks, error operations, hardware failure, system breakage, insufficient security configuration, security problems of the communication protocols, and other problems, such as application software, and imperfect service programs (p. 135). Smith (2004: 35) identifies many kinds of sources of risk involved in e-commerce transactions, they are: network penetration, poor authentication procedures, unauthorized access by an authorized individual, malware, software failure, and hardware failure. Risk in e-commerce can also be classified as different types of uncertainty that the software will work as it is expected (Gosh and Swaminatha, 2001). According to those views, risks are seen as the threats that create uncertainty in e-commerce systems.

The study of risk as a scientific concept was initiated during the third decade of the 20<sup>th</sup> century in studies of financial analysis and economics; however, it was in the 1960s where the concept started being applied to shopping and the use of technology (Mariani and Zappalà, 2006: 208). With the introduction of the internet as a very important channel for commercial transactions, the study of risk took a higher importance.

Risk can also be identified as any uncertainty that consumers face regarding the outcomes of their online transactions. Katos (2010) identifies two different kinds of risk in e-commerce, which are: product risk and transaction risk. Product risk refers to the uncertainty that the goods or services that are purchased will meet their expected properties. On the other hand, transaction risk refers to the likelihood that some adverse event will

take place as a result of the transaction process (Chang, Cheung and Lai, 2005). Authentication risk, seen as the insecurity that the parties involved in the transaction are actually who they say they are; privacy risk, understood as the likelihood that private information will be stolen; security risk, which refers to the uncertainty that the transmitted data will be safe when it is passed over, and non-repudiation, which means that there is an uncertainty that the communication existent is indeed between the two parties involved only (Katos, 2010). This research focused on risk seen as all the uncertainties faced by online customers existent as a result of their online transactions, or their intention to perform online transactions. It can be the likelihood that breaches to their private information will occur, the probability or financial losses due to contracts not complied with, or the likelihood that the products or services purchased does not satisfy the promised characteristics.

Customer risk perception plays a very important role in the importance of risk in online environments. Forsythe and Shi (2003: 869) identify risk perception in online environments as “the subjectively determined expectation of loss by an internet shopper in contemplating a particular online purchase”. Mariani and Zappalà (2006), identified the evolution of the study of risk perception as starting with with Bauer (1960) who revealed that consumers appraise shopping behaviour as risky one when consumption choices have uncertain consequences as to potential gains or losses. Subsequently, Cox and Rich (1964) pointed out that risk perception has an effect on the decision to purchase or not at a distance and which product to purchase. Concurrently to that, Cunningham (1967) asserted that risk derives from the probability and consequences of negative events. The four most prevalent types of perceived risk in online commerce are product performance risk, psychological risk, financial risk, and the risk of loss of time/convenience (Mariani and Zappalà, 2006: 210). These types of risk shape the way in which risk itself influences customers’ decisions when performing online transactions.

## **CONCEPTUALIZATION OF RISK IN ONLINE ENVIRONMENTS**

E-commerce security as a science and a discipline involves the study of issues that affect the integrity and reliability of systems, and issues that represent risks to the safety, security, and privacy of individuals who use the system. Many scholars have tried to determine exactly what it is that e-commerce security is concerned with. Schmidt et al. (Schmidt et al., 2009: 47), state that e-commerce security is concerned with building the trust necessary between the parts involved in an online transaction in order to make it a successful one. Such trust can be built by creating safeguards that prevent computer attacks. As such, Marchany and Tront (2002) state that e-commerce security strategies handle two main issues, they are: protecting the security of the business network and all of its components, and ensuring transaction security between customers and businesses. According to Gosh (Gosh, 1998: 9), studying security in e-commerce means dealing with one main concern for users, which is the potential loss of assets and privacy due to breaches to the security of the system whether they are physical trespasses, or gaining access through software means. This belief is supported by Qin (2009), who contended that “e-commerce security is closely concerned about the protection of citizen’s privacy, and the survival and development of enterprises”. Furthermore, Qin (2009: 135) also states that “the reliability of e-commerce system is the foundation of e-commerce security”. In summation, studying ways to protect user’s privacy and security is the number one issue for researchers on e-commerce security. Such is the view that this research took; the notion that e-commerce security is concerned with protecting people’s privacy and minimizing risks of financial losses to both business and individuals due to online attacks.

The evolution of the study of online security has conceded that security is as much a technical problem as it is a social problem. When concerns for online security began being an issue of major interest for scholars, most of the attention was centered on creating software and hardware tools to secure the system. Gosh (Gosh and Swaminatha, 2001: 33) argued that “the greatest risk to electronic commerce is failing software”. However, this belief has evolved and in the same year, Anderson (2001) redirected the assumption that e-commerce security was mainly a technical problem. He stated that information security is about taking technical measures such as giving access control, cryptographic protocols, firewalls, and better tools for detecting intrusions and malicious code; however, “information security is due at least as much due to perverse incentives” (Anderson, 2001). Feigenbaum et al. (2009: 73) agree with Anderson, and suggest that “most aspects of security and privacy research have been suffused with economic considerations”. In addition, Compañó and Lusoli (2009) claim that one of the main reasons for the struggle with issues concerning online privacy is the “apparently irrational and unpredictable behaviour of users when engaging in online interactions involving identity”. In conclusion, in

order to preserve security in e-commerce, it is necessary to look at the people aspect of the uncertainty as well as the technical aspect of it.

To that extent, Hassler (2001: 387) insists that in order to preserve e-commerce as a secure medium, awareness and education is essential. “[people] should become familiar with the basic security concepts and their limits as a matter of common sense... children should be taught respect for the privacy and security needs of others”. Moreover, with new technologies introduced to perform marketing activities, simply researching technological procedures and processes might be leaving the work half-done. As Ozuem et al. (2008) state, academics should move to providing practitioners with concepts and methodological pathways based on the changing behaviour of consumers. In summation, whether it is due to economic reasons, social reasons, psychologically irrational behaviour, or plain ignorance, online security is as much due to technical issues, as it is due to the behavioral aspect of people who use it and research efforts should focus on the behavioral aspect as well as the technical aspect of security.

## **WHITHER TRUST AND PRIVACY**

Trust plays an important role in e-commerce. The trust that users have upon the system helps determine its evolution and how widespread it becomes as it is a significant determinant for adoption. “The main reasons people do not want to buy are related to trust, concern over electronic instruments of payment, and price” (Sartori, 2006: 185). If there is a lack of trust in e-commerce, users as well as businesses and operators will stop using the internet, and revert back to the traditional ways of doing business (Marchany and Tront, 2002). Further to this, if there is an absence of trust, e-business systems are found to lead to resentment within the user community, tensions and conflicts will arise, and ultimately users will withdraw from the system (Bunduchi, 2007). In addition, Kao (2009) concludes that transaction trust significantly affects consumers’ intentions to adopt the internet to perform their business transactions. However, just how much an excess of trust would lead to unsafe consumer behaviour has not been studied with much attention.

The traditional meaning of trust as a concept is applied to e-commerce as well. Lin et al. (2005: 262) define trust as a relationship between two entities in which one party has certain beliefs regarding the attributes of the other one. The properties of a trust relationship are identification, which refers to whether the subject entity is what it claims to be; qualification, which refers to the belief that the other entity is capable of doing what it says it does; and consistency, which refers to the credence that the subject entity is able to deliver the result, with certain level of acceptable certainty (Lin et al., 2005: 262). According to Bunduchi (2007: 161), there are two types of trust. One is the goodwill trust, which is defined as confidence in another party’s intentions to act according to the agreements made between the two parties; on the other hand, risk-based trust is more impersonal, and relies on reputation information and economic reasoning. Furthermore, risk-based trust is the main kind of trust present in B2C transactions, as familiarity and constant interaction, which are two main sources of goodwill trust, are not present on online transaction (Ba and Pavlou, 2002). The way trust with its traditional significance and types is applied to e-commerce as well.

Trust in e-commerce is very sensitive because of the many issues that surround this new technology, and all the important aspects that are at stake for both consumers and businesses. There is a natural lack of trust on the e-commerce process due to the constant stories of consumer data privacy breaches, and hacker attacks (Marchany and Tront, 2002). On e-commerce, trust reveals a higher level of importance than in traditional commerce as there still is a lack of clear rules, and because online products and services are not immediately verifiable (Gefen and Straub, 2004). The nature of e-commerce provides for a need of trust, but it is that nature which leads to a natural lack of trust among those involved.

As trust is very important for e-businesses, merchants spend a great deal of effort in generating trust on customers. Creating familiarity to their websites is a main way to generate trust, so businesses publicist and create a lot of exposure to their businesses partially in an attempt to create trust (Gefen and Straub, 2004). Research has led to many elements of website trust assessments. Some of these include “usability of the website interface, the presence of third party seals of approval, the amount of information about the products, privacy policy, company address, and contact persons, ease of purchase, and ease of navigation” (Hussin et al., 2005). Those trust attributes allow businesses to send a message to their customers that their business is legitimate and

that they can transact with them. Nevertheless, one big setback of this approach is that consumers may not be able to fully judge the reliability of attributes and their importance; they may misinterpret the cues or be misleading (Hussin et al., 2005). As a result, trust generation becomes a very complex issue.

Privacy is one of the riskiest aspects for consumers on e-commerce. Privacy concerns are a very important reason why people are prevented to go online, or why people provide false information online. Privacy is a problem for e-commerce due to a combination of irregular business practices, consumers insecurities, and media pressure (Ackerman and Davis Jr, 2009). Privacy is at the centre of the question of who gets access to customer data as the most important asset of the online economy (Spiekermann, Grossklags and Brendt, 2001). Moreover, Udo (2001) suggested that security and privacy concerns are the most important reason why users do not purchase on the internet. This is supported by many study findings that indicate that the majority of the online customers nowadays have significant concerns about their privacy and security while shopping online (Udo, 2001). The importance of privacy concerns online is further supported by Ackerman et al. (1999: 2), who contend that “the vast majority of Net users are concerned about threats to their privacy while online”. It is no doubt that privacy holds a very high importance for consumers online and consequently for businesses as well.

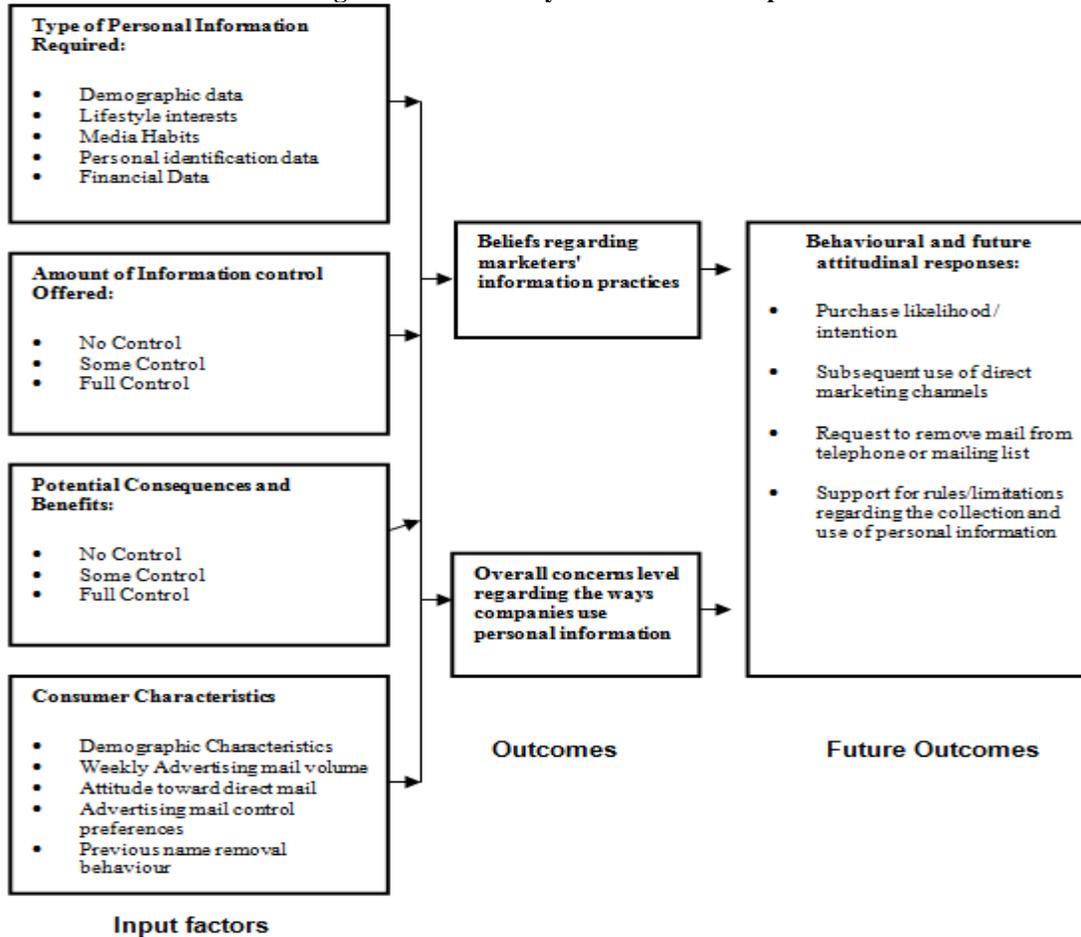
As a concept, privacy in general has held a very high level of importance for individuals in a society throughout history. In online environments, privacy is seen as the set of rights of users and businesses to determine for themselves the manner in which information about them is utilized (Ackerman, Cranor and Reagle, 1999). On the other hand, according to Gosh (2001: 189) privacy refers to aspects of individuals or entities that the owner wants to maintain confidential from third party interests. These aspects include data, properties, and behavioral characteristics. On the internet little bits of information are collected about users. These pieces of information are legally termed personally identifying information (Phelps, Nowak and Ferrel, 2000), and when put together they can represent a picture of a person’s identity, which can lead to privacy breaches like identity theft, harassment, or stalking (Ciocchetti, 2007: 56). Nevertheless, the nature of privacy has been source of debate for scientists as some argue that that privacy is illegitimate or infeasible in a human society, while others contend that it has become an insignificant right (Ackerman and Davis Jr, 2009). As such, members of the society have always been concerned about how personal data is used mainly by governments, and this concern has evolved into how private data will be used by businesses (Udo, 2001) due to the fact that business today is geared by information collection. These concerns affect the way individuals behave, and perform business practices.

E-commerce, as a relatively new way to transact and do business, has brought new threats to privacy. On the internet it is impossible to make a transaction without revealing some kind of information about oneself. It can be an address, credit card information, telephone number, or product preference (Ackerman, Cranor and Reagle, 1999). The great deal of information that people expose online can very easily be stored and transmitted, leaving data trails that can be a basis for the exercise of power over them by governments as well as private organizations (Udo, 2001: 165). The danger to online privacy is increased by the lack of attention paid to it from individuals and also from businesses. As of 1998, the American Federal trade Commission (FTC) found that the majority of businesses had failed to adopt even the most fundamental elements of fair information practices (Ackerman and Davis Jr, 2009). In addition, most of the time individuals do not worry about being informed regarding privacy policies online mainly due to the fact that websites post their privacy policies in a very discrete way and make them very difficult for regular users to comprehend (Ciocchetti, 2007: 69). In conclusion, the nature of e-commerce provides for high risk to individual privacy, as its essence is based on the provision of certain types of data by all parties in order to complete the transactions.

Many scholars have worried about who should be responsible for ensuring that privacy is protected online (Udo, 2001; Phelps et al., 2000). For example, Udo (2001: 171) suggested that privacy should be addressed by all parties involved, including governments, businesses and organizations. However, the author fails to identify the fact that consumers, as part of the overall picture, also play an important role in ensuring privacy and security on the overall system. Individuals are very concerned about their privacy; Phelps et al. (2000) created a conceptual framework to describe the inputs and outputs of the privacy concern, which is shown on Figure 1. Individuals with their practices can make a big impact on safeguarding privacy. However, people do not fully understand the importance of disclosing certain types of data. There is a lot of public information regarding the dangers of providing credit card numbers, national insurance numbers, or bank information. However, people more easily will provide other information like medical records, name, and address, as they

may not fully know the sensitivity of it (Ackerman, Cranor and Reagle, 1999: 4). Safeguarding privacy online is an important issue to be resolved. In regard to who should be responsible for protecting consumer privacy online, some suggest that it should be the government who should intervene, some others call for businesses to act ethically and self regulate themselves, and some believe users should be offered the option to decide how their information will be used (Udo, 2001: 167). Nevertheless, consumer self regulation, and control to protect themselves is not taken into account to a very large extent, being that the issue that this research confronted.

**Figure 7: The Privacy Concern: A conceptual Model**



Source: (Phelps, Nowak and Ferrel, 2000)

When using online systems, customers face many kinds of threats, which are specific issues that represent risk to them and increase the probability that something with a negative outcome will occur. A threat is "any potential event or act, deliberate or accidental that could cause injury to employees or assets" (Universal Postal Union, 2009). The more technology advances the more risks and threats to systems there are. Gosh and Swamonatha (2001: 52) state that new threats are always being developed, particularly due to the wireless medium and devices that forms e-commerce platforms. In addition, Ackerman and Davis, Jr. (2009) suggest that threats to security and privacy in e-commerce are a serious problem, and this is due to a combination of factors that include current business practices, media pressure, and consumer fears. For consumers, the internet provides a level of anonymity that gives online scammers, identity thieves, and hackers, access to personal information that is not seen in traditional business settings (Federal Trade Commission, 2007). A bolder statement provided by Gosh (2001: 29) indicates that "the internet infrastructure on which e-commerce is based is fundamentally vulnerable to simple attacks". In addition, one of the main reasons for e-commerce to be more vulnerable to threats is the fact there is no human interaction in the transaction, all other types of trading have it, but not e-commerce (Smith, 2004: 11). As such, some of the simplest ways of attack might be overlooked by users. There

are risks and threats whenever a business transaction takes place; however, due to many circumstances, the potential treats in e-commerce become more evident.

Threats on e-commerce can be classified as internal or external. Internal threats are those that come from insiders like people within the same company, or people with access to the system, while external threats come from strangers who try to enter the system by ways of hacking, or stealing data (Hassler, 2001). The types of threats that customers face are mainly external; however, they can also be internal, as someone in their own office or home getting access to a user's PC can be classified as an internal threat.

Among the many types of threats, malware represents one of the biggest one for customers. Marchany and Tront (2002) identify malware such as trojan horses and viruses as an important source of risk for customers. In addition, Smith (2004: 35) states that malicious software like viruses, worms, and trojan horses signify threats to any individual using a computer. Trojans are programs that allow fraud and data integrity attacks to originate from a client system that appears to be valid (Marchany and Tront, 2002). These attacks could result in website services unavailable, which occur when due to technical problems, or due to denial-of-service-attacks on the system, the services sought by customers are not available. More so, they represent big risks for e-commerce users, who in many cases do not pay attention to this kind of threat as malicious software do not instantly disturb any action that the user is taking.

Some other threats include illegal behaviors such as false trade, counterfeit products, contract cheat, price pushing in online auctions and the impingement of consumers' legitimate rights and interests (Qin, 2009: 59). In addition, online contracts not complied with, such as product not shipped, services not rendered in a timely manner, or failing to ship goods after receiving a payment is another important threat that customers face (Smith, 2004: 35). Furthermore, extortion or threats to commit a computer attack or the use of information gained from a computer crime in exchange for money may represent a danger for consumers as well (Fishbaum and McClenahan, 2001). In conclusion, not only do threats exist from cybernetic attacks, but also from other kinds of illegal practices that represent a potential loss to consumers, whether it is financial or of any other sort.

Unauthorized network penetration is another type of threat that consumers face. Qin (2009: 137) states that "since the information is transmitted online via the routers while the users cannot know which one of the routers are involved in the process, it is possible that someone will be able to view the user's information by scanning and tracking data". On computer networks outsiders may easily get access to other computers, and view private information. As such, network penetration is identified as one of the top threats in e-commerce (Smith, 2004: 35). Matsuura (2002: 48) argues that unauthorized access to the data stored and processed by the system, and unauthorized access to codes or other means of gaining access to the computer system represent big threats to customers in online systems.

Users also face threats from their own direct actions. Incorrect data entry, for example, is another factor of risk to online users. This occurs when customers make incorrect selections or incorrect navigations on the website (Vijayaraghavan, 2003: 81). This type of risk may also occur when a customer wants to perform a financial transaction and make payments, or money transfers of certain amounts, but make a typing mistake and performs a transaction of a different amount than the one intended. This is a serious risk as sometimes users do not double-check the amount of their transactions, and end up accepting amounts that do not correspond to the ones intended.

Denial-of-Service attacks are another way in which customers are affected. This type of attack involves the use of "a flood of false messages to crash a business' systems" (BusinessLink, 2010). This is a simple type of attack that affects mainly business as it may generate considerable losses; however, customers are also affected by this as there might be a significant service or product needed at a specific point in time, which may not become available due to this type of attack. Service or product availability may also represent a loss to the customer, so even though e-commerce customers may have little impact on ways to prevent this attack, it is a threat that may significantly affect them.

Sometimes the simplest attacks happen to online users. "E-commerce is vulnerable to simple attacks, basically due to the internet infrastructure upon which it is built" (Ghosh, 2001: 29). As such, some of the simplest ways of attack might be overlooked by users. One way in which customers might be attacked is by third

parties physically “eavesdropping” on the user’s computer to collect personal information. Due to the ubiquity that mobile computing brings, nowadays users may perform e-commerce transactions in any place where there may be other people present (Gosh and Swaminatha, 2001). Users failing to check behind their back may be vulnerable to another person looking at their personal private information. In addition, one of the most pervasive, least acknowledged attacks is from trusted insiders (Ghosh, 2001: 30). Insiders are people who have access to computer equipment on the network, like company employees, or personal friends. These insiders can get unrestricted access to sensitive information, and use in different ways. Equipment theft is another way in which e-commerce users can be attacked. There is a lot of vital information on emails, website history, or documents stored on a computer. This risk is augmented by the increasingly massive use of laptop computers and mobile devices, which are a lot easier to steal, or loose, than say, a desktop computer.

Consumer security awareness is not ideal, and this leads to unsafe online behaviour. Schmidt et al. (2009) established that users are not fully aware and do not have a clear perception of e-commerce security. This leads customers to display unsafe behaviors, or at least not take appropriate measures as they are not fully aware of the online risks. The first step for creating a culture of online security behaviour would be to create more awareness on consumers.

Individuals know that their security is important, and they want to have a reliable system on which they can transact. Spiiekermann, Grossklags and Brendt (2001) argue that in spite of the privacy preferences that most people have, users do not act according to the privacy preferences, and the practices they execute do not live up to their indications. In addition, Yao and Linz (2008) concluded that adopting self-practices to protect oneself in e-commerce is a function of the person’s attitude toward security perceptions, the protective strategies, and the perception of behavioural control. They also stated that the need for privacy and certainty widely influence their self-protection practices. This means that users practices are subconsciously influenced by their needs, their preferences and their perception toward the system. However, since people’s awareness regarding security is not ideal, their practices do not always support their needs and beliefs.

In regard to policy about self-regulatory practices, there is not much literature available regarding regulations and norms, perhaps due to the difficulty that it represents to control personal practices by users. However, Phelps, Nowak and Ferrel (2000), stated that consumers require policies that provide more control over the dissemination of personal information, and that there is a need for a promotion of self-regulatory practices. In fact, Earp and Baumer (2003) suggest that a significant reason why consumers see a need to protect themselves with their own actions is because there is a certain level of uncertainty in the legal environment. As stated earlier, E-commerce legislation still is in its development process; therefore, there is an underdevelopment in policies and laws regarding secure practices by consumers.

## **CONCLUDING REMARKS**

This section aims at suggesting feasible improvements that can be made in order to make a clear and secure environment regarding e-commerce security, particularly when it comes down to the responsibilities that customers have with their own behaviour. In this section, the fourth research objective for this study is addressed, which was to recommend ways to improve security risk avoidance among e-commerce consumers. This objective meant that actions directed towards improving consumer behaviour regarding e-commerce security would be recommended.

One of the biggest issues that this research allowed to discover is that education is keen in generating more secure practices on users. For that reason, the first recommendation that needs to be made is that systems for education and information regarding e-commerce need to be created so that users can apply with the learning that they gain in displaying secure practices. Some of the questionnaire respondents provided some feedback upon completion of the questionnaire and a lot of this feedback included comments that indicated that users were not even aware of the things they should know, or certain actions they can take to protect themselves and create e-commerce more secure. With these kinds of comments in mind, this researcher is able to arrive at the conclusion that consumers are not fully trained, or even informed to engage in e-commerce transactions. This set up of education systems should come from regulating bodies like the NCC in Britain, or the FTC in The United

States. These entities should work together with the big e-commerce businesses to reach consumers and create a better conscience on the importance of their actions and how they affect internet security overall.

As this research demonstrated that there are no big differences on security practices between heavy and light internet users, actions taken to improve security practices through education should focus on heavy internet users. After all, heavy internet users occupy the majority of the online traffic, they will more easily understand the issues involved, and they will more likely take notice on information provided. With the current growth that internet and e-commerce are experiencing, light internet users will eventually catch up with heavy users, they will gradually increase the usage of the internet, and they will progressively grasp all the general concepts that are needed for an improvement of their security practices.

It is of uttermost importance for consumers to understand the threats they face. This is arrived at through education, as well as through publicity. The complete set of threats to e-commerce users need to be mentioned on every single e-commerce site so that everyone who accesses the system, and wants to use it has a place where they can go to be sure they know exactly every threat they face. Regulations should be set about this to make it mandatory for businesses to include information on the threats that customers face every time they engage on online trading. This way the risks that users face will be more evident to them, and they will be able to take appropriate measures to protect themselves during the act of an e-commerce transaction.

The creation of standards is also very important so that every citizen knows what good online behaviour is and what bad online behaviour is. Those standards should be publicized by governments, and they will tell e-commerce users the set of practices that they should perform every time they engage in an online transaction in order to avoid online risk. If those standards are made public in an appropriate way, customers will have it on the back of their heads every time, and they will remember what it is that they should be doing regarding online security. Any effort spent on publicizing e-commerce security information will not be wasted, especially with the way in which e-commerce is becoming increasingly popular by the day.

## **IMPLICATIONS AND FUTURE RESEARCH DIRECTIONS**

The main conclusion drawn from these results is that information definitely plays a very important role in order to generate an improvement on consumer security practices. If people were better informed, they would know exactly what they need to defend themselves from, how they should be doing it, and what happens if they do not defend themselves appropriately.

By no means is the notion of online risk and security a minor issue. To the contrary, as was evidenced from the review of the extant literature, online security is at the heart of the growth and potential of e-commerce, and through it the internet in general. There have been many studies performed, and there is extensive literature on how security should be improved both in technical and non-technical ways. This demonstrates the importance that has been given to e-commerce security among the academic community. However, in spite of all the attention that has been put on e-commerce security, there seems to be a side of it that has not been quite as widely studied, and that is the side of security that concerns to user responsibilities. All areas surrounding e-commerce risk have been studied to a great extent in the past, and as the part of online user behaviour regarding security matches perfectly as one aspect that would widely increase online security in general thereby minimizing risk. This study demonstrated that in general consumers do not take appropriate precautions regarding online security, and this allows this researcher to conclude that if actions were taken to promote appropriate e-commerce practices on consumers, e-commerce security overall would be increased. There is very little difference between heavy and light internet users on their security practices, therefore all actions that are taken to promote a secure behaviour can be generalized to all citizens, and the results would be equally positive.

In addition, trust seems to be a factor that affects the behaviour that users display regarding security; however, it does not seem to be a determinant factor either. Therefore, the efforts to generate trust on users can continue as they have been going, but they should definitely be mixed with efforts to promote and reward secure online behaviour. Nevertheless, trust is very important in order to create more sense in people regarding the need to behave securely; however, trust needs to be very carefully incited as it has the danger of becoming a factor

that has a tendency to make user “lower the guard”. Future research is needed to undertake empirical research on the risk measurements and the impact of trust on customer retention in the online environments.

## REFERENCES

- Ackerman, M., Cranor, L.F. and Reagle, J. (1999) 'Privacy in e-commerce: Examining user scenarios and privacy preferences', *Proceedings of the 1st ACM conference on Electronic commerce*, pp. 1-8.
- Ackerman, M. and Davis Jr, D. (2009) *Privacy and security issues in e-commerce*, [Online], Available: <http://econ.ucsb.edu/~doug/245a/Papers/ECommerce%20Privacy.pdf> [13 March 2010].
- Anderson, R. (2001) *Why Information Security is Hard - An economic Perspective*, [Online], Available: <http://www.cl.cam.ac.uk/~rja14/papers/econ.pdf> [3rd March 2010].
- Bakos, Y. (1998) 'The emerging role of electronic marketplaces on the internet', *Communications of the ACM*, vol. 41, no. 8, August.
- Ba, S. and Pavlou, P.A. (2002) 'Evidence of the effect of trust building technology in electronic markets: price premium and buyer behaviour', *MIS Quarterly*, vol. 26, no. 3, pp. 234-268.
- Bauer, R. (1960) 'Consumer behaviour as risk taking', in Hanchock, R.S. (ed.) *Dynamic Marketing for a Changing World*, Chicago: American Marketing Association.
- Bunduchi, R. (2007) 'An empirical investigation of the role of trust and power in shaping the use of electronic markets', in Li, F. *Social Implications and Challenges of E-business*, London: Information Science Reference.
- BusinessLink (2010) *Information Security best Practice*, [Online], Available: <http://www.businesslink.gov.uk/bdotg/action/detail?r.s=sc&r.11=1073861197&r.lc=en&r.13=1075406921&r.12=1075408323&type=RESOURCES&itemId=1075406932> [28 February 2010].
- Chang, M., Cheung, W. and Lai, V. (2005) 'Literature derived reference models for the adoption of online shopping', *Information and Management*, vol. 42, no. 4, pp. 543-559.
- Ciocchetti, C.A. (2007) 'E-commerce and information privacy: privacy policies as personal information protectors', *American Business Law Journal*, vol. 44, no. 1, Spring, pp. 55-126.
- Compañó, R. and Lusoli, W. (2009) *Eighth Workshop on the Economics of Information Security (WEIS 2009)*, June, [Online], Available: <http://weis09.infosecon.net/files/119/paper119.pdf> [3 March 2010].
- Cox, D.F. and Rich, S.T. (1964) 'Perceived risk and consumer decision-making: The case of telephone shopping', *Journal of Marketing Research*, vol. 4, pp. 32-39.
- Cunningham, S. (1967) 'The major dimensions of perceived risk', in Cox, D. (ed.) *Risk Taking and Information Handling in Consumer Behaviour*, Boston: Harvard Business School.
- Earp, J. and Baumer, D. (2003) 'Innovative web use to learn about consumer behavior and online privacy', *Communications of the ACM*, vol. 46, no. 4, pp. 81-83.
- Federal Trade Commission (2007) *OnGuard Online*, September, [Online], Available: <http://www.onguardonline.gov/pdfs/stopthinkclick.pdf> [11 March 2010].
- Feigenbaum, J., Parkes, D. and Pennock, D. (2009) 'Computational Challenges in E-Commerce.', *Communications of the ACM*, vol. 52, no. 1, January, pp. 70-74.

- Fishbaum, D. and McClenahan, C. (2001) *Quantifying E-commerce Risk*, [Online], Available: [www.casact.org/about/ECCppts/ecommerce.ppt](http://www.casact.org/about/ECCppts/ecommerce.ppt) [28 February 2010].
- Forsythe, S. and Shi, B. (2003) 'Consumer patronage and risk perceptions in internet shopping', *Journal of Business Research*, no. 56, pp. 867 - 875.
- Gefen, D. and Straub, D. (2004) 'Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services', *Omega: The International Journal of Management Science*, vol. 32, no. 6, December, pp. 407-424.
- Ghosh, A.K. (2001) *Security and Privacy for E-business*, New York: John Wiley & Sons, Inc.
- Gosh, A.K. (1998) *E-Commerce Security: Weak Links, Best Defenses*, New York: John Wiley & Sons, Inc.
- Gosh, A. and Swaminatha, T. (2001) 'Software security and privacy risks in mobile e-commerce', *Communications of the ACM*, vol. 44, no. 2, February, pp. 51-57.
- Hassler, V. (2001) *Security Fundamentals for E-commerce*, Norwood: Artech House, Inc.
- Hussin, A., Keeling, K., Macaulay, L. and McGoldrick, P. (2005) 'A Trust Agent for E-Commerce: Looking for Clues', in Cheung, W. and Hsu, J. (ed.) *The 2005 IEEE International Conference on e-Technology, e-Commerce, and e-Service*, Los Alamitos, CA: IEEE Computer Society.
- Kao, D.T. (2009) 'The Impact of Transaction Trust on Consumers' Intentions to Adopt M-Commerce: A Cross-Cultural Investigation', *CyberPsychology & Behavior*, vol. 12, no. 2, April, pp. 225-229.
- Katos, V. (2010) *An Integrated Model for Online Transactions: Methodological Issues and Challenges*, [Online], Available: <http://www.methodologicalinnovations.org/pdf/18-01-10/4.%20Katos%2027-40%20.pdf> [9 March 2010].
- Lin, K., Lu, H., Yu, T. and Tai, C. (2005) 'A reputation and trust management broker framework for web applications', in Cheung, W. and Hsu, J. (ed.) *The 2005 IEEE international Conference on e-Technology, e-Commerce and e-Service*, Los Alamitos, CA: IEEE Computer Society.
- Marchany, R. and Tront, J. (2002) *E-commerce Security Issues*, [Online], Available: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.104.6286&rep=rep1&type=pdf> [1 March 2010].
- Mariani, M. and Zappalà, S. (2006) 'Risk perception in online shopping', in Zappalà, S. and Colin, G. (ed.) *Impact of e-Commerce on Consumers and Small Firms*, Abingdon, Oxon: Ashgate Publishing, Limited.
- Matsuura, J.H. (2002) *Security, Rights, and Liabilities in e-Commerce*, Norwood: Artech House, Inc.
- Ozuem, W., Howell, K. and Lancaster, G. (2008) 'Communicating in the new interactive marketplace', *European Journal of Marketing*, no. 9/10, pp. 1059 - 1083.
- Phelps, J., Nowak, G. and Ferrel, E. (2000) 'Privacy concerns and consumer willingness to provide personal information', *Journal of Public Policy & Marketing*, vol. 19, no. 1, pp. 27 - 41.
- Qin, Z. (2009) *Introduction to E-commerce*, New York: Springer Berlin Heidelberg.
- Sartori, L. (2006) 'Consumption on the Net', in Zappalà, S. and Colin, G. (ed.) *Impact of e-Commerce on Consumers and Small Firms*, Abingdon, Oxon: Ashgate Publishing, Limited.
- Schmidt, M.B., Chen, J.Q., Phan, D.D. and Arnett, K.P. (2009) 'Security perceptions of e-commerce users', *Journal of Internet Commerce*, vol. 8, no. 1/2, pp. 44 -57.

Smith, G.E. (2004) *Control and Security of E-commerce*, Hoboken, NJ: John Wiley & Sons, Inc.

Spiekermann, S., Grossklags, J. and Brendt, B. (2001) 'E-privacy in 2nd generation e-Commerce: Privacy preferences versus actual behaviour', *Proceedings of the 3rd ACM Conference on Electronic Commerce*, pp. 38-47.

Udo, G. (2001) 'Privacy and security concerns as major barriers for e-commerce: a survey study', *Information Management & Computer Security*, vol. 9, no. 4, pp. 165-174.

Universal Postal Union (2009) *e-Commerce Security*, [Online], Available: [http://www.upu.int/security/en/e-commerce\\_security\\_en.pdf](http://www.upu.int/security/en/e-commerce_security_en.pdf) [12 March 2010].

Vijayaraghavan, G. (2003) *A Taxonomy of Computer Risks and Failures*, May, [Online], Available: <http://www.testineducation.org/a/tecrf.pdf> [28 February 2010].

Yao, M. and Linz, D. (2008) 'Predicting Self-Protections of Online Privacy', *CyberPsychology & Behavior*, vol. 11, no. 5, October, pp. 615-617.

# OF MINING ACCIDENTS AND SENSE-MAKING: TRAVERSING WELL-TRODDEN GROUND

**Christian L van Tonder, Curtin Business School, Australia**  
**Johann P Groenewald, Edith Cowan University, Australia**

## ABSTRACT

*Notwithstanding the huge contribution of the mining sector to the fiscal wellbeing of the host country, mining remains a perilous affair - as recent high profile mining accidents attest. Mining Houses make substantial investments and take drastic actions to the point of temporarily closing shafts or mines in an attempt to improve safety and reduce fatal accidents. Despite these initiatives the poor safety (fatality) record of precious metal mines appears to persist. This suggests that the frameworks and mechanisms traditionally employed to interpret and make sense of mining accidents are probably inadequate. The study set out to explore the causes of a 'fall of ground' accident in a platinum mine in which a team leader was injured, and did so from a sense-making perspective. Content analysis of the narrative obtained from 10 key informants and a focus group (nine members) closely associated with the accident revealed that the multiple interconnected human and systemic causes appeared to have escaped detection, preventing a conclusive perspective on the causes of the accident. It is argued that mining investigations, as collective sense-making vehicles are subject to similar biases. The findings are considered from the perspective of sense-making, and mindfulness.*

## CONTEXT

Mining is generally regarded as an 'affluent' industry and a significant contributor to the host country's Gross Domestic Product (GDP). For this reason it is an important source of stability and, by virtue of the scope of its operations, usually a mass employer and a powerful influence on societal wellbeing. In South Africa, where the current study was undertaken, approximately 2.9% of the economically active population is engaged in mining operations. Notwithstanding this significant contribution the industry is somewhat tainted by the high incidence of mining accidents and fatalities and it is justifiably considered a hazardous enterprise. High profile mining accidents across the globe are common with the most recent cases recorded in New Zealand and Chile. Indeed, it is not without reason that mining is the industry with the highest recorded number of fatal occupational injuries (cf. McGwin et al., 2002; Oldfield & Mostert, 2007). From the position that a single fatality constitutes a catastrophe and that one fatality is one too many, it is noteworthy that South Africa recorded 168 and 128 mining fatalities for the 2009 and 2010 years respectively. For the same period a similar decline is noted in the number of South African mining injuries from 3673 to 3019 for the corresponding period, which is encouraging. The recorded number of mining fatalities and injuries, however, are not reassuring and represents an indictment of safety orientation and practice in the mining environment. The South African presidential audit (investigation) into mine safety and health concluded that "*The South African mining industry has a history of unacceptably high accident rates that result in fatal and disabling injuries*" and "*...the number of people that die from occupational injuries from well over 700 in the mid 1980's to the current levels of over 200. Of serious concern is that the fatalities have been steadily decreasing since 1995, but over the last two calendar years, the decrease stagnated with a negligible reduction in 2006 and an increase of about 10% more deaths in 2007*" (DME, 2008, p. 19).

While underground mining is undoubtedly a dangerous occupation (see also Perrow, 1999), this characterization of the industry belies the attempts by Governments and Mining Houses to improve mining safety. Government and regulators, for example, have introduced stringent measures in the areas of training, operating standards, and legislation with the sole purpose of affording mine employees greater protection from mining accidents (e.g. machine-related, slip and fall, and blasting accidents). In 2007, and following a

particularly devastating mining accident, executives took the virtually unheard of and very costly decision to stop all mining operations at the largest platinum mine in South Africa. Paradoxically, injuries and fatalities continued to occur while mining executives continued to pour huge amounts of institutional resources into the containment and management of unsafe practices. This is not uncommon and even from early historical accounts it is clear that the significant risks involved in underground and deep mining endeavors have been an enduring challenge for mining executives. As a result, safety has been a central focus of mine management, not least as a consequence of political pressure to improve safety practices.

## Mining accidents and sense-making

Safety has received extensive coverage in the behavioral sciences especially considerations such as safety climate (Beus, Payne, Bergman & Arthur Jr., 2010; Clarke, 2006; Neal & Griffin, 2006; Zohar & Luria, 2005), workplace psychosocial safety climate (Dollard & Bakker, 2010), safety outcomes (Nahrgang, Morgeson & Hofmann, 2011); safety management systems (Naveh, Katz-Navon & Stern, 2011) and the influence of safety values on safety outcomes (Newnam, Griffin, & Mason, 2008) to name a few. These studies, the majority of which were undertaken in sectors other than Mining (education, health, transportation, etc.) provide a powerful applied perspective on the interrelatedness of organizational safety practices and individual safety behavior. Less common, however, are studies that purposefully consider cognitive-behavioral mindsets (schemata) and the cognitive dynamics that precede, give rise to, and are enacted in workplace safety behavior, especially in mining environments. The latter perspective, instead, is evidenced in notions such as ‘sense-making’ and ‘mindfulness’ in high risk or high-hazard institutions and technologies, and is prevalent in the work of, for example, Weick (1995; 2001; 2004) and Weick and Putnam (2006) on sense-making and mindfulness. ‘Normal accident theory’ (Perrow, 1999), Catastrophe theory (Souder, 1988), Disaster theory (Stein, 2004), and Nonlinear change theory (Van Tonder, 2006; 2008) are some of the typical theory frames with which potential catastrophic failure in high risk and high reliability organizations have been approached. From the vantage point offered by cognitive-behavioral theory, mining safety has received only cursory attention (compared for example to the nuclear energy industry) yet offers substantial scope for deciphering entrenched behavioral phenomena. The current study employs the construct of ‘sense-making’ (Weick, 2001) as a novel perspective on the ‘dynamic equilibrium’ that appears to have stabilized around continuous investment in safety initiatives yet also recurring mining accidents and fatalities – in particular as this pattern recurs despite extensive investigative processes (and purported institutional learning) that have aimed to curb the incidence of mining accidents.

However, as the statistics convey, the exhaustive safety investigations that follow mining incidents and/or accidents do little to meaningfully alter this dynamic. The Presidential audit (DME, 2008) commissioned in South Africa after the 2007 mining accident concluded that not all major hazards were identified and that the approach of most mines to safety risk management “*is a major cause of concern*” (p. 61). Disturbing as this finding may be, it is unsurprising, and for several reasons. Carroll (1995) for example has concluded that incident review programs have many weaknesses, which are evident in part in the inability of these investigations to establish root causes - despite extensive training of investigators in root cause identification. Moreover, as Perin (1995) suggested, the focus on surfacing root causes during incident reviews in ‘high-hazard production systems’ (p. 157) was heavily biased towards technology while systematic or contextual investigation received very little attention. This is problematic as the risks associated with errors in high-hazard organizations (e.g. mining companies) preclude the option of learning by trial and error, thus prompting an inordinate but justified reliance on minor, ad hoc incidents or accidents as primary vehicles for learning (Carroll, 1995; Sitkin, 1992; Weick, 1987). Naturally, and in compliance with mining standards, every incident in a mining environment is the subject of rigorous investigation. This is usually undertaken by an investigating team comprised of safety personnel and the relevant line supervisors, who will systematically investigate and reconstruct the incident, relying, among other, on available eye witness accounts. New procedures and standards typically follow from the insights generated during the investigative process and these are usually incorporated immediately into existing training programmes. The intent, process and character of the inquiry into the incident (e.g. accident) are such that the root causes of the incident / accident should be established unambiguously. Yet, despite this procedural framework, ‘learning’ from such investigations do not meaningfully reduce the number of injuries and fatalities, prompting skepticism around the organisational learning capability (i.e. sense-making capability – Battles et al., 2006; Sitkin, 2010) of the mining community. The ongoing injuries and fatalities suggest an inability to develop an appropriate understanding of the circumstances that give rise to the accidents

(i.e. an inadequate sense-making capability). Secondly, and undergirding the imperfect nature of investigative procedures, is the readily acknowledged notion that sense-making is idiosyncratic. Consequently, the processes whereby employees develop an understanding of confusing events and information are decidedly individualistic – to the extent that marked differences are observed in the meanings that they attach to the same situations or events (cf. Helms Mills, Thurlow & Mills, 2010; Weick, 1995). Moreover, sense-making is a directional process in that it defines the framework through which, for example, management views and interprets otherwise seemingly inconsistent and ambiguous situations, events or information (Möller, 2010, p. 365). A caveat here is that sense-making may not always be helpful and may actually contribute to inappropriate conclusions (Stein, 2004). For our purposes, sense-making is regarded as those cognitive processes through which individuals develop/construct a plausible, logical and coherent account of an otherwise illogical, incoherent and sudden or unexpected event.

Accident investigations ('incident reviews') are technically the only practical approach through which mining officials are able to learn about organizational inefficiencies and systemic risks, but as several researchers indicate these analytic procedures are fundamentally flawed and incapable of revealing the key underlying causes of such accidents. The impact and profound ramifications of mining injuries and fatalities on the other hand necessitate an urgent consideration and exploration of any means that could ultimately reduce the incidence of these accidents. From this perspective the current research with its underlying concern with reducing mining injuries and fatalities, constitutes a critically important perspective as, after all, any injury or fatality is one too many! It is in this regard that alternative theoretical frameworks and/or approaches may assist with improved sense-making and in so doing shed more light on what appears to be a dynamic equilibrium between safety-related investment (expenditure) and ongoing injuries and fatalities, i.e. facilitate greater awareness of the avoidability of mining accidents and thus injuries and fatalities.

Against this setting the researchers hypothesized that sense-making around mining accidents are bound to be inadequate, resulting in fragmented and incomplete data and hence inappropriate conclusions. This it is argued, is particularly true for accident investigation panels who rely on post-accident 'evidence' led by employees impacted by the change. The current study consequently aimed to explore the causes of a recent '*fall of ground*' accident in a platinum mine during which a mining employee (team leader) was injured. Beyond this, and consistent with an interpretive research paradigm, the researchers refrained from formulating specific, pre-emptive propositions (to avoid bias and conceptual contamination), other than presuming that the use of a quasi-phenomenological approach will surface rich data which should allow more valid conclusions with regard to the cause of this accident and provide an expanded perspective from which to approach and consider mining accidents in general.

## EMPIRICAL EXPLORATION

### Research setting

The research was conducted in a typical mining operation in one of the 77 underground mineral mines in South Africa<sup>1</sup>. The work methods and work environment of mining have hardly changed over the past three centuries or so and mining employees are still confronted by challenging working conditions and as a result very demanding physical work. Work sites are noisy, cramped, dark, hot and wet, which further complicates an already dangerous work environment. Geological shifts or disturbances often exacerbate these working conditions. Understandably, under such conditions miners will tend to be hard and mining cultures generally tough and unrelenting. Work areas tend to be dispersed, usually requiring extensive walking from one confined space to another, which places additional strains on supervisors who are usually responsible for four to six such areas. These practicalities often imply that supervisors cannot attend to all work areas simultaneously and as a result mining teams are frequently left under the supervision of (what is referred to as) a team leader only.

The commonly understood task of 'mining' (the ore body) essentially revolves around transporting people to and from the workplace, erecting infrastructure and installing needed support facilities such as water, electricity and ventilation systems, but also specific initiatives such as blasting *raises*<sup>2</sup>, *ledging*, and equipping *stopes*. Traditionally in the South African mining environment and in the mine used in this study, these tasks are performed by separate *specialist* teams e.g. *ledging* teams, who prepare the work area for the mining teams.

Against this context the current study focused on a *fall of ground* or *roof fall* accident (Perrow, 1999) - also referred to as a "Hanging wall" accident. In mining terminology the *hanging wall* and *side wall* refers to the roof and side walls of the area from which the ore is taken, respectively. On an annual basis this category of accidents accounts for the greatest proportion of fatal accidents in South African mining (approximately 35% with 86 and 76 fatalities in 2006 and 2007 respectively – DME, 2008, p. 23). During a "*Fall of Ground*" (FOG) incident or accident the overhead ground and rock formations, and often those on the sides, cave in.

## Design and Methodology

The study was approached from within an interpretive research paradigm and based on the ontological premise that reality is socially constructed. It is argued that mining employees interpret and respond to mining accidents on the basis of personal perception and sense-making and it is these idiosyncratic views that are the target of the study's exploratory focus and objectives. Knowledge of the causes and dynamics of the *fall of ground* accident is embedded in employees' individualized sense-making actions i.e. their meaning construction of the accident. Against these ontological and epistemological assumptions the researchers opted for a field study design with face-to-face, semi-structured (audio-taped) interviews with mining officials and a focus group discussion with mine workers - all of whom were directly or indirectly involved with the accident being researched. Relevant supporting documentation and archival data, where available, were used to supplement interview data.

A purposive sampling strategy using specific criteria for selecting / excluding respondents was pursued. Functional proximity to the accident was the first criterion and, as a result, all mining officials who had some role or responsibility that linked him/her to the accident, work area, or the employee who was injured, were approached. This meant that employees who were part of the work team or were located in the chain of command above the work team were involved. The second criterion required that respondents should also be familiar with the specific *fall of ground* or *hanging wall* accident. As a result, in-depth, semi-structured individual interviews were conducted with five (5) senior managers (members of the Mine management team with a responsibility for employee safety), three (3) successive in-line supervisors above the injured employee, the injured employee himself (a team leader), and the technical advisor for the specific shaft. A focus group discussion was conducted with the work team (9 members) that reported to the injured employee (the team leader).

The researchers asked each respondent to provide a step-by-step account of the accident and explored the respondent's understanding of the causes and consequences of the accident. This was also the focal point of the focus group discussion. Prior to commencing with the interviews respondents were again made aware of the objectives and methodology of the research and the confidentiality of the data and anonymity of the respondents. They were also again offered the opportunity to withdraw from the research should they desire this. The data obtained from the interviews and focus group discussions were then transcribed and basic content analysis, using an open coding approach, undertaken. The data were analyzed by two independent researchers who then met to review and resolve any discrepancies that were in evidence after the independent analyses. Several important perspectives consequently emerged and these are briefly presented in the ensuing section.

## Empirical observations

Thematic content and empirical observations derived from interview data (through content analysis) are introduced with a brief overview of the 'fall of ground' accident. This is followed by an account of the reported causes of the accident and a tabular depiction of causes as nominated by the various respondents.

### The 'Fall of Ground' accident

On the morning of 19 February a Team Leader (TL) of a *ledging* team was injured while inspecting the roof or ceiling area (the 'hanging wall') for loose rock formations in a newly blasted stope. One specific rock seemed problematic to the Team Leader who requested that the Miner<sup>3</sup> be called to verify his concern. The team leader nonetheless continued testing the ceiling area by prodding it with a steel rod or "gwala", when the rock suddenly dislodged and fell on him, causing him serious injury. Members of the team immediately assisted the injured team leader who was subsequently evacuated for medical treatment. In accordance with mining

regulations the work area was immediately closed down for investigative purposes. The latter typically comprises an investigative panel that conducts interviews with key employees and mining officials (often as many as 20), usually for a period of two or more days<sup>4</sup>.

### Causes of the ‘Fall of Ground’ accident

In response to the researchers’ questions about the primary cause of the accident (the dislodged rock that injured the Team Leader), interviewed employees and officials presented a rich mosaic of different yet intertwined and overlapping cause-and-affect links, which did little to establish the exact cause of the accident with any measure of certainty (see Table 1).

Some respondents were of the view that pre-existing geological "faults" (or *ground conditions*) in the mining area were the root cause of the accident, while others considered *damage to the ‘hanging wall’* as a result of blasting (explosives) by mining teams either 6 to 12 months before or, more recently (the previous day), as primary causes of the accident – especially given the prevailing ground conditions. The *Mine Overseer* affirmed the role of ground conditions but stressed that *incorrect work methods* and *inadequate training* were central considerations. He indicated that the *raise* team did not properly install roof bolts, which are used to attach various layers of unstable rock to the more permanent geological formations. *Employee non-compliance* with the prescribed procedures was cited on the basis of the known difficulty of getting the required volume of cement into the holes drilled for the roof bolts - evidenced in the number of unused cement bags observed in the work place (to curb wastage and reduce costs exact quantities of materials are issued to workers in accordance with previously established requirements). While concurring with this perspective, the *Shift Supervisor* also indicated *coercion* by supervisors as root cause (e.g. threatening the mining staff if production delays or stoppages occur). The issue of coercion is probably best accounted for as *pressure for production*, which is considered by several officials as the primary underlying cause of the accident. This of course raises the issue of power and hence supervisory and managerial roles in the mining process. *Shift supervisors’* work norms and practices were implicated as a significant cause of the accident. Moreover, several safety officers in particular argued that the accident commenced with *inconsistent* or *ambiguous* safety-production ‘*messages*’ by *senior managers*. In the latter instance, both safety and production messages are firmly communicated but without establishing a clear hierarchy of importance or, arguing the overriding importance of safety yet issuing instructions that reveal production as the primary and overriding concern. Apart from these different perspectives on the fundamental cause of the accident, employee *speed* and *haste* was also indicated as a main cause of the accident. This in turn related to various *human factors* that were considered by some to be the origin of the accident. *Fatigue* as a result of demanding physical labor and short rest periods compounded by the fact that a large contingent of employees on a daily basis travel long distances between the mine and their residences with public transport and get very little sleep was indicated by respondents as being quite common. It was also pointed out that production interferences (e.g. as a consequence of insufficient materials / equipment) can introduce delays which reduce the time within which the daily production target (‘call’) has to be achieved. Employees may only leave their work areas when the daily ‘call’ has been achieved. This often results in time overruns with employees consequently missing their public transport, which introduce associated, added difficulties e.g. the employee walking home. This takes up an inordinate amount of time and further reduces sleeping time, exacerbates fatigue and increases the probability of accidents. To avoid delays beyond normal closing times and be in time for public transport, the employees as a consequence start taking *procedural “shortcuts”* which will allow them to achieve the production call despite interferences. Commonly acknowledged by officials and employees, but not necessarily recognized as a human condition that contributes to accidents (i.e. *human factors*), is the *impact* and *psychological trauma* of mining accidents. A *fear* of underground work and *stress* are for example mentioned by *focus group members* and the *mine overseer* as primary considerations contributing to mining accidents. An outline of respondents’ accounts of the fundamental cause of the accident, with supporting narrative (excerpts), is presented in Table 1.

**Table 1: Perceived central causes of the ‘Fall of Ground’ accident**

No.	Causes of the accident	Illustrative narrative <sup>a</sup>
1	Pre-existing <b>geological ‘fault’</b> line	<p>“...the ground is not good as the chrome is dominating in this area and might result in unstable ground (falling rocks)” (Resp. 6, Injured TL)</p> <p>“Due to our understanding and experience on the mine, the place was safe and this occurred as the result of natural soil events and was beyond human control” (Resp. 5, FGT)</p>

No.	Causes of the accident	Illustrative narrative <sup>a</sup>
2	<b>Earlier damage</b> to the geological structure (6-12 months ago)	<p>“...the accident basically happened six months ago, or happened a year ago when they mined during the development stage, you understand? Its..., its where your accident started and, and hmm...” (Resp. 1, CSO)</p> <p>“Hanging wall was damaged six months back, injured badly”. (Resp. 4, MO)</p>
3	<b>Recent damage</b> (2 <sup>nd</sup> blasting) to the geological structure previous day	<p>“On this day, it was our second blast in the area and I think this had a negative impact on the incident” (Resp. 6, Injured TL)</p>
4	<b>Poor workmanship</b> (incorrect work methods in terms of drilling; attaching roof bolts)	<p>“Not using the air leg extension in the broad UG2 reef of 2m, forces you to drill upward and in so doing damaging the hanging wall”. (Resp. 4, MO)</p> <p>“Roof bolts are not properly installed, some are loose and do not even have cement on it. It takes 9 bags to fill a 2,2 hole, but they cannot get it all into the hole... they know it does not work and leave it as such” (Resp. 4, MO)</p>
5	<b>Poor training</b> in different mining methods	<p>“Developers at Merensky used to drill 10 cm above the reef. When drilling UG2 they want to do the same, which leads to damage to the hanging wall - ... never coached to do it right” (Resp. 4, MO)</p>
6	<b>Employee non-compliance</b> with prescribed policies, procedures and standards	<p>“All the time people know... in 80% of the cases, of “fall of ground” incidents, they have identified the risk before the time, but ignored it. Yes, sometimes they are forced to carry on” (Resp. 2, SS)</p>
7	<b>Negligence</b> or unsafe conduct by individuals or teams e.g. speed, haste	<p>“It’s faster to install one eyeball and attach snatch blocks than it is to install three. A chain and snatch blocks ...negligence and hastiness to conclude the work... he knows he is taking a chance, but still does it” (Resp. 3, FTSR)</p> <p>“Guys are in a hurry to finish especially when there were shortages of material/resource. They do not want to wait at the ‘green areas’... they will miss their transport, they have paid for monthly public transport and if late they must pay for a taxi” (Resp. 4, MO)</p>
8	<b>Pressure</b> for production	<p>“If you talk to the production guys, they display a very strong production first and then safety” (SM:AG)</p> <p>“People only think of the production...” (Resp. 1, CSO)</p> <p>“If a person does development work and production, for argument’s sake, he will leave the development [work] because a person only does work that drives his bonus in the short run” (Resp. 2, SS)</p> <p>“You can be as safe as you wish, but if the platinum does not come out of the ground, none of us will have work” (Resp. 7, SM:AG)</p>
9	<b>The quality of supervision</b> supervisor norms, practices	<p>“The Shift Supervisor creates norms by what he allows” (Resp. 2, SS)</p> <p>“...depends on the person above him [supervisor] if he’s really very strict, how safe his work is” ((Resp. 2, SS)</p> <p>“I think the miner/shift supervisor can do better at preventing incidents as they have better skills than employees at operator levels. They are blasting certificate holders” (Resp. 6, Injured TL)</p> <p>“Currently our suggestions are not listened to by our leaders and we are only instructed to do the job” (Resp. 5, FGT).</p>

No.	Causes of the accident	Illustrative narrative <sup>a</sup>
10	<b>Fear</b> of supervisors (coercion)	<p><i>“The shift bosses force us to work in dangerous places...” (Resp. 1, CSO)</i></p> <p><i>“... and he says his shift supervisor told him that he would kill him if he does not keep that hole open” (Resp. 7, SM:AG)</i></p> <p><i>“...and when they leave, or look away, he just continues to do it [a life threatening act] because he is so afraid of his shift supervisor, who had said he will kill him” (Resp. 7, SM: AG)</i></p> <p><i>Yes, sometimes they are forced to carry on” (Resp. 2, SS)</i></p> <p><i>“If he does nothing I might give him a hiding tomorrow or something similar... this is the way it is...” (Resp. 2, SS)</i></p>
11	<b>Ambiguous</b> safety-production ‘messages’ by management	<p><i>“People preach one thing and do another - like talking about safety and then driving at 170 km past you on the road” (Resp. 3, FTSR)</i></p> <p><i>“You can be as safe as you wish, but if the platinum does not come out of the ground, none of us will have work” (Resp. 7, SM:AG)</i></p> <p><i>“...it is difficult to get the right message through; the monetary worth of high production is far more than the penalties related to safety” (Resp. 10, GFM)</i></p>
12	<b>Human Factors</b> - fatigue, lack of pride, maliciousness, personal problems, fear of underground work, stress, trauma, fear of prosecution, inattentiveness e.g. of the injured employee	<p><i>“Incidents, especially if you look at a stoping, in many cases it is very difficult, it is not only a case of being difficult, but it is hard work, the man is exhausted and he wants to now, he wants to finish” (Resp. 2, SS).</i></p> <p><i>“It is actually blatant maliciousness that allows incidents to take place”(Resp. 3, FTSR)</i></p> <p><i>“It could be that the person has personal problems and that his mind is not consistently on the job...he could have financial problems...” (Resp. 3, FTSR)</i></p> <p><i>“No pride in their work - years ago it was as if the mine was your own” (Resp. 1, CSO)</i></p> <p><i>“Incidents are not good, we have seen people die or getting injured and as a result this leaves a lot of stress, trauma and fear of returning to work underground again” (Resp. 5, FGT)</i></p> <p><i>“I experienced FOG [fall of ground incident] when I was still working at the gold mines and I injured my hand – I have prayed that this doesn’t happen again but it happened and it’s a bad experience because you don’t just forget about it” (Resp. 5, FGT)</i></p> <p><i>“The team now is negative and afraid to enter the mine again. They will wait for a higher level to make the place safe, but they must see it physically being done... you can see it touches them... affects their humanity” (Resp. 4, MO)</i></p> <p><i>“...most of the time that an incident occurs the guys stop the panel, so you lose the blast for the day, naturally. Hmm... hmm... I think it creates a bit of panic... because hmm, hmm... if you know... what the guy did wrong, am I not doing the same thing wrong? Am I going to be prosecuted?” (Resp. 1, CSO)</i></p>

*Note.* Illustrative narrative represents excerpts taken from transcribed interview and focus group data.

<sup>a</sup>Job title acronyms used: *TL* - the injured team leader; *FGT* – the focus group comprising the team under the supervision of the TL; *SS* – shift supervisor or ‘shift boss’; *MO* – mine overseer; *FTSR* – full time safety representative; *CSO* –chief safety officer; *SM:AG* – safety manager: auditing and governance.

Generally the observations highlighted in Table 1 reveal substantial parallels with similar research, and in particular an earlier study by Souder (1988), which involved 60 carefully selected fatal-accident cases. Of the nine (9) variables that contributed in a statistically significant manner to fatal mining accidents, five (5) were echoed in the current study: supervisors evidencing a low safety norm; the absence of cautious behavior when performing tasks; victims failing to act in avoidance or evading the danger; the inability of victims to extract

relevant information from a complex setting or background; and inadequate regard for personal safety (Souder, 1988, p. 6, Table 3).

Although first impressions suggest notable convergence around the perceived cause(s) of the accident, a conclusive *root cause* in this situation is ruled out because of the level of ambiguity that envelopes the accident. Indeed, nuanced differences in mining officials' perspectives, on closer inspection, emerge as consequential variation around the root cause of the accident. This, incidentally, is characteristic of systems with complex interactions (such as mining) and is "...most apparent in roof falls, or 'falls of ground' as they are usually called, a frequent and dangerous accident" (Perrow, 1999, p. 250). Typically serious or "surprising" events in institutional settings of this nature develop over a period of time from a combination of multiple causes and circumstances rather than a single cause (Carroll, 1995, p. 181). There is clearly no novelty in the observance of multiple contributing factors to mining accidents (despite accident investigators' pursuit of this goal), but at the same time there is no unambiguous statement of cause. This not only suggests difficulty in making sense of mining accidents but comments on the adequacy of the vehicles, e.g. accident investigations, through which sense-making (and organizational learning) has to occur. Against this context, mining officials' sense-making in respect of this accident warrant further attention.

### Mining officials' sense-making of the 'Fall of Ground' accident

In pursuit of greater clarity the various causes nominated by the respondents (Table 1) are further summarised and categorised in Table 2.

**Table 2: Sense-making around the mining accident: Perceived central causes**

No.	Salient causes of the accident	TL	SS	MO	FTSR	CSO	SM:A G	GFM	FGT
<b>MINING TERRAIN (GEOLOGICAL STRUCTURE)</b>									
1	Pre-existing <b>geological 'fault'</b> line	x							x
2	<b>Earlier damage</b> to the geological structure (6-12 months ago)			x		x			
3	<b>Recent damage</b> (2 <sup>nd</sup> blasting) to the geological structure previous day	x							x
<b>CONDUCT &amp; WORKMANSHIP</b>									
4	Poor <b>workmanship</b> (incorrect work methods in terms of drilling; attaching roof bolts)		x	x					
5	Poor <b>training</b> in different mining methods			x					
6	Employee <b>non-compliance</b> with prescribed policies, procedures and standards		x	x					
7	<b>Negligence</b> or unsafe conduct by individuals or teams e.g. speed, haste			x	x	x			
<b>MANAGERIAL</b>									
8	<b>Pressure</b> for production		x			x	x		
9	The quality of <b>supervision</b> supervisor norms, practices	x	x			x			
10	<b>Fear</b> of supervisors (coercion)		x			x	x		
11	<b>Ambiguous</b> safety-production 'messages' by management				x		x	x	

No.	Salient causes of the accident	TL	SS	MO	FTSR	CSO	SM:A G	GFM	FGT
-----	--------------------------------	----	----	----	------	-----	-----------	-----	-----

**HUMAN FACTORS**

**12 Human Factors**

• fatigue,			x				x		
• lack of pride,							x		
• maliciousness,						x			
• personal problems,						x			
• fear of underground work, stress, trauma,				x					x
• fear of prosecution							x		
• inattentiveness e.g. of the injured employee						x			

*Note.* Job title acronyms employed refer to the following: *TL* - the injured team leader; *FGT* – the focus group comprising the team under the supervision of the TL; *SS* – shift supervisor or ‘shift boss’; *MO* – mine overseer; *FTSR* – full time safety representative; *CSO* – chief safety officer; *SM:AG* – safety manager: auditing and governance.

From Table 2 it is evident that sense-making by employees working in the stopes (team leader and team members) position the accident as a consequence of geological features and earlier damage to the hanging wall, but do not acknowledge broader systemic and dynamic influences on safe work practices (e.g. managerial conduct). By contrast, senior management’s sense-making of the accident is structured around employee workmanship (negligence and non-compliance with work procedures), but sense-making at different managerial levels appear to be inconsistent. Sense-making by supervisory management (shift management) places managerial policies and practices at the centre of the accident. Contextual considerations (geological features and the impact of mining operations) and human factors are virtually nonexistent in managerial accounts (sense-making) of the accident. In a similar vein, sense-making by respondents in the specialist safety roles (safety support function) tend to locate the cause(s) of the accident in the domains of managerial conduct and human factors, with minimal awareness of contextual (geological) considerations. These observations underscore both the idiosyncratic and directional i.e. role-based and framework-defining nature of individual sense-making (see Helms Mills et al., 2010; Möller, 2010; Weick, 1995).

However, accidents occur within, and are inextricably intertwined with a specific setting. Perception and hence sense-making, being person-specific and selective, consequently extends to the work environment and accident setting. Respondents' narratives were scanned for evidence of inadequate or compromised perception of the accident environment as this may further impact on the accuracy, validity and consequently utility value of ‘sense’ (understandings) that may emerge during sense-making attempts. Evidence-based themes of such constraints, usually of an intrapersonal, interpersonal and/or institutional nature, were indeed observed (see Table 3 for illustrative excerpts of respondent narrative).

**Table 3: Constraints on sense-making**

No.	Constraints (Themes)	Illustrative narrative <sup>a</sup>
1.	Anticipatory, forward thinking	“Another thing with our people is that they frequently <b>do not think ahead</b> , they do not think of the consequences” (Resp. 2, SS) “At the lower levels they simply <b>do not think ahead</b> ” (Resp. 7, SM:AG)
2.	Reflective, retrospective thinking (and causality)	... I think the guys <b>do not think that far back</b> ...we could have prevented this accident at that time already... (Resp. 1, CSO)
3.	Learning from experience;	“Hmm... well it worries me a bit that <b>the repetitive things</b> ... hmm the guys do not <b>learn</b> from their mistakes” (Resp. 1: CSO)

No.	Constraints (Themes)	Illustrative narrative <sup>a</sup>
4.	Automated, routine-driven behavior (mindlessness linked to causality).	<i>“So the guy is now <b>used to doing the work in this way</b>, so he’s been doing it wrong for some time...and this one time, it caught up with him” (Resp. 1, CSO) “The guy’s doing something and he wants to finish it, then <b>he stops thinking, he’s just doing...</b> that’s when somebody gets hurt” (Resp. 2, SS)</i>
5.	Perception and mindfulness	<i>“...then you still have to walk 15 km... you know, ...you know... <b>you do miss a few things</b> (Resp. 1, CSO)</i>
6.	Attentiveness / mindfulness	<i>“People only think of the production and <b>do not stand back and pay attention</b> to their surroundings.” (Resp. 1, CSO) “It could be that the person has personal problems and that <b>his mind is not consistently on the job...</b>he could have financial problems...” (Resp. 3, FTSR)</i>
7.	Inappropriate information processing (dissonance)	<i>“In 80% of the cases, of ‘fall of ground’ incidents, they have identified the risk before the time, <b>but ignored it.</b>” (Resp. 2, SS)</i>
8.	Institutional practices that stifle the unencumbered flow of relevant information.	<i>“It is possible <b>if there is a flow of communication</b> between leaders and employees and suggestions from all angles are taken into consideration” (Resp. 5, FGT) “Currently our suggestions are <b>not listened to</b> by our leaders and we are only instructed to do the job” (Resp. 5, FGT) “I think the guys <b>hide things away</b>, just because they do not want it to go to the topmost guy, so everywhere <b>information is being blocked</b> and in the end he does not develop a ‘nice’ picture” (Resp. 7, SM:AG) There is still a major <b>culture of hiding things</b> (Resp. 7, SM:AG) “I feel that the people immediately <b>tries to cover up</b> the issue as if it was not that serious. You know... and I think it is fear” (Resp. 1, CSO)</i>

Note. Bold emphasis added.

The themes indicated in Table 3 suggest that constraints to sense-making are located largely in the areas of *individual cognition* (attentiveness or mindfulness, perception, thinking or reflection, analysis) *employee behavior* (especially automated behavior – or ‘scripts’ cf. Ashforth & Fried, 1988) and *institutional practices*. Contrary to the dominant behavioral frame with which respondents portrayed the nature and causes of the accident (Tables 1 and 2), the illustrative excerpts in Table 3 draw attention to the cognitive ‘world’ that informs respondents’ accounts. These comments are also at odds with the indicated ‘cognitive behavior modeling’ (*Group Effectiveness Manager*), and specifically the ‘Stop, Think, Fix’ mantra (*Resp. 3 FTSR, Resp. 2 SS*) that is taught at mining training centers. If an open systems frame is superimposed on the comments in Table 3, it becomes apparent that several deficiencies characterized employees’ sense-making processes in respect of this accident. Sense-making is viewed here as consisting of data gathering, processing and exporting or outputting a synthesized understanding or interpretation of the data. So, for example, the perceptual sampling of the work setting (data input process) appears to be impacted by inattentiveness, reduced presence of mind (mindfulness) and various distracting factors of a contextual or personal nature, further bolstered by automated and routine-driven behavior or ‘scripts’ (see themes 6, 5 and 4, Table 3). Even if cognitive processing was optimal, the potential value or sense that could be obtained from the analysis would be limited as a result of impoverished input data. Commentary, however, suggests that cognitive processing is not optimal. Active cognitive engagement and manipulation of input data appear not to be in evidence, gauging by the limited reflection (‘thinking’ - see themes 1 and 2) and flawed analysis or ‘processing’ (themes 3 and 7) conveyed by the commentary. Accurate and effective onward transmission of employees’ synthesized understandings (emergent ‘sense’ – the output process) in respect of the mining accident are unlikely because of the reported managerial disregard for employee perspectives, and the institutional tendency to suppress undesirable data (see Theme 8). Compared to the dominant technology ‘bias’ of accident investigations (Perrin, 1995) these observations then suggest the need for an elaborated frame-of-reference when analyzing and making sense of mining accidents. This has several implications for ongoing research and institutional management, which are briefly considered in the ensuing section.

## PERSPECTIVES AND IMPLICATIONS

## **The contribution of a sense-making perspective**

Researchers have approached the root causes of mining accidents from many perspectives but very little attention has been directed at this ‘trend’ from a sense-making perspective. The adoption of a sense-making lens in this (case) study of a nonfatal mining accident has proved beneficial in several ways. Among other, it has surfaced multiple intertwined causal linkages, both temporally and spatially removed from the accident. It also revealed the idiosyncratic and contained nature of individual interpretation frames and how these impose boundaries on the number and range of interpretation options available to those employees associated with the accident. Compounded by impoverished communication practices (see theme 8, Table 3), this naturally precluded an extended appreciation of the dynamics involved in the accident and adversely impacted both individual and collective sense-making processes. Although several mining officials seemed to be aware of contributing circumstances beyond the immediate accident setting, they do not appear to have consciously sampled the total field, or to detect the extended frame and multiple linkages that tie together the potential causes they nominated (Table 2). This absence of systemic awareness prior to the accident is not uncommon (see also *systemic blindness* or the inability to detect crucial indicators of an impending crisis - Van Tonder, 2006). At the same time it is consistent with the position that sense-making during crises will be compromised because communication and feedback channels are constricted (cf. Theus, 1995; Weick, 2001). Multiple considerations contribute to the inability to anticipate impending crises, catastrophes and, in this instance, mining accidents. Systemic awareness and an appropriate internalized understanding of the organization are central considerations in preventing accidents, but ‘blindness’ are influenced also by the impact of past success (and extended accident-free periods in the mining setting), denial, distortions, self-deceit, paradigmatic fixation, and several other (cf. Brown & Jones, 2000; McLarney, & Dastrala, 2001; Van Tonder, 2006). In this mining accident employees (at best) grasped fractional linear sequences of cause-and-effect relations but failed to register and make sense of the multiple, interrelated causes of the accident which were dispersed across the entire mine system - both spatially and temporally. The contribution of sense-making however extends beyond this elaborated perspective and suggests that formal accident investigation procedures and the policy changes that may follow from this will unavoidably be impacted.

## **Accident investigations and flawed institutional sense-making**

Accident investigations (incident or event reviews) represent one of the very few institutional sense-making instruments available to mining officials. The application of a sense-making perspective however suggests that this instrument, in its current form, is prone to significant flaws and, except for the simplest of incidents or accidents, will not yield the required knowledge and understanding to prevent similar accidents from recurring. In this study the respondents closest to the accident (including the injured team leader) were engaged and being the most important sources of data on the accident, these employees invariably lead evidence at accident reviews.

The nature of sense-making processes is such that individual employees (and these respondents) impose cognitive frameworks on accidents that introduce logic of some form to connect the various information strands to which they have access. From this a ‘coherent understanding’ is developed that aligns more with their belief systems than with actual circumstances, conditions and features of the accident. Indeed, employees’ sense-making are derived from their person-specific and belief-based perception and interpretation of the accidents features (Brown & Jones, 1998; Helms Mills et al., 2010; Möller, 2010). Of particular importance is that the roles occupied by employees within the system will influence the vantage point, scope, breadth, and depth of the incumbent’s accident perception (cf. Möller & Svahn, 2006 who argue that actors’ ongoing sense-making could be constrained by narrow role-based outlooks). As a result employees’ representations of facts will constitute a post sense-making and hence a personalized and unavoidably altered representation of the facts... to enable them to understand and cope with the sudden or surprising event (accident). Their accounts or ‘sense’ of what happened are primarily retrospective reconstructions of the event, characterized by logic and coherence (cf. Battles et al., 2006; Weick, 1995). However, as Van Tonder (2004, p. 187) indicates, employees’ perceptual appraisals of ambiguous situations (e.g. accidents) will invariably prompt misperceptions, which then promote further cognitive elaboration (part of the retrospective reconstruction of ‘understanding’ of what transpired) and which is invariably subject to multiple constraints such as inaccurate or incomplete perception and various

cognitive distortions (recurring reasoning errors – see Van Tonder, 2004, pp. 119, 187). Emotive states ensure that these constraints are pervasive during the sense-making process and in this manner contribute to the idiosyncratic nature of individual accounts of the ‘facts’. This then constitutes the data platform for collective, institutional sense-making initiatives such as the accident investigation panel. This of course raises questions about the validity and reliability of the panel’s observations.

## **Mindfulness as precursor to sense-making**

As useful as retrospective sense-making may be, in the accident considered in this case it did not allow for a conclusive and coherent understanding of the root causes of this mining accident to emerge. Indeed, appropriate degrees of sense-making as a practice, procedure or habit in the lead up to and including the accident are not apparent - as the perspectives obtained from the respondents indicate. Commentary of the various functionalities (themes 1 to 6, Table 3) are indicative, rather, of behavior that “...is performed automatically or mindlessly thus underscoring the oft-noted limitations of cognition in task and role-based behaviors” (Ashforth & Fried, 1988, p. 322). Mindless behavior entails entrenched routines or ‘scripts’ (cf. Ashforth & Fried, 1988) of sequenced behavior that are enacted in seemingly similar (repetitive) situations and are reinforced with every occurrence where the automated enactment of the ‘routine’ appears to work successfully i.e. without adverse consequences. Eventually employees habitually apply automated routines to situations that appear similar but are more intricately connected and have greater risk attached (but remain undetected), resulting in a significant failure, accident or catastrophe (e.g. in situations of ‘tight coupling’ – Perrow 1999; or ‘descriptive complexity’ – Van Tonder, 2006). To avoid such situations Weick and Roberts (2001) suggested the notion of *collective mind* whereby employees have to interrelate substantially to *construct* a commonly understood and mutually shared ‘field’ or environment. However, collective mind in itself may be an insufficient condition for the timely sampling of accurate accident-relevant information - if Krieger’s (2005) position on *collective mind* and *shared mindfulness* is considered. Unlike collective mind that concerns the social construction of a common field or environment i.e. the accident and its context, shared mindfulness propounds the sharing of an *accurate* depiction of the ‘field’ or environment (operating context) in which the accident occurred. Shared mind has the added feature that employees would simultaneously be in an “*attending state of perceiving that is continually open to incoming data*” (Krieger, 2005, p. 156). Given the strong power-production cultures evident in mines, anything less runs the risk of promoting what Geiger and Antonacopoulou (2009) refer to as self-reinforcing and self-legitimizing narratives or ‘truths’ that are not questioned and which will promote ‘blindspots’ and organizational inertia.

## **Implications for institutional management**

Application of a sense-making framework to the mining accident explored in this study highlights several risk areas that are not pertinently identified and addressed in studies of safety climate and safety performance, but by the same token not adequately attended to during institutional accident investigations either. The predominantly behavioral and technology foci of these respective processes do not adequately account for the perceptions, interpretations and subsequent personal meaning creation, i.e. sense-making of employees. The latter, as argued, tacitly but forcefully inform workplace behavior. The risk however is not limited to accuracy and adequacy of individual sense-making only, but extends to the *collective* construction of an *accurate* representation of the accident circumstances, and these are largely premised on individual understandings of the event.

The challenge for Mining Houses consequently resides firstly in the cultivation of an appropriate, habitual state of awareness among all those involved in these situations and, secondly, to establish accurate and authentic information sharing in century-old power-and-production cultures.

To secure a state of collective and shared mindfulness a significant change in managerial mindsets and attitudes, with a substantive commitment to a safe, fatality-free work environment (Towsey, 2003) reified through appropriate systems and policy changes, are mandated. An approach that embodies the challenges of cognition, especially around improved accuracy of observation skills and perception, may assist in cultivating greater mindfulness and consequently contribute to improved individual and collective sense-making. Formal management education could certainly be reviewed and augmented to incorporate elements of systemic

awareness; mindfulness and hyper vigilance (cf. Van Tonder, 2006) – acknowledging also that the impact of conventional training in this setting is not entirely effective (or certain - cf. Monforton & Windsor, 2010). Much can be gained from a careful consideration of the air traffic control industry where situational awareness and related skills have been a primary focus for decades (cf. Carstens et al., 2008; Van Tonder, 2008). At the same time extensive training and retraining – to the point of habit - of non-managerial mining employees in observational and cognitive skills beyond the current ineffectual ‘Stop, Think, Fix’-mantra of the mining community, would serve a powerful role. Indeed, from this account it seems necessary to enforce an ‘Observe and Think’ component before invoking the mantra.

## CONCLUDING PERSPECTIVE

On the basis of the high incidence of occupational injuries and fatalities, the Mining industry is generally considered to be the most dangerous employment sector. Political sensitivity around injuries and fatalities in the South African mining environment has steadily increased over the past decade and likely to become a worldwide concern. The probability of a single fatality at some stage in the future becoming a tipping point and prompting political intervention and/or the premature closure of otherwise productive and profitable mining operations cannot be disregarded. In an attempt to gain insight into the apparent equilibrium that seems to have stabilized around safety-related investment (expenditure) and ongoing injuries and fatalities in South African precious metal mines, the current study set out to explore the causes of a ‘fall of ground’ mining accident, from a micro-level sense-making perspective. The qualitative research methodology employed in this very focused and contained study of a “hanging wall” accident preclude any form of generalization, but the findings do suggest that mindsets and habits are far more pervasive and enduring than is generally acknowledged. Indeed, human neglect and error in the domains of perception, mindfulness and sense-making currently manifest in ways that will prevent appropriate institutional sense-making with regard to accidents. This will prevent needed changes in relevant policies and practices and unless a meaningful, sustainable commitment to mining safety is made, the lure of gold and platinum will lead through well-trodden ground... and this is bound to be fatal for some unsuspecting and probably undeserving employee.

## ENDNOTES

1. The mineral industry in South Africa can be dissected into five broad categories i.e. gold, the precious metals group (PMG), diamonds, coal and vanadium. The Department of Minerals and Energy (DME, 2008) suggests that the safety hazards in the Gold and Platinum sectors are predominantly associated with rock falls and rock bursts as a result of mining at great depths; the interaction of people and machines in confined spaces; falling materials and rolling rocks; inundations by mud or broken rocks; falling into excavations or from structures; exposure to dust, gases and fumes; explosives and fires; seismicity and high temperatures (up to +60°C if uncontrolled).
2. Terminology commonly in use in the mining environment and used in this paper include:  
***Hanging Wall***: Refers to the ceiling of an underground mining tunnel or ‘stope’. New ‘tunnels’ are developed through blasting with explosives, clearing out the metal carrying ore and reinforcing the ceiling / hanging wall with wooden supports.  
***Footwall***: The ground surface of the working area (where the ore is extracted)  
***Stoping***: The activity of removing ore, which creates stopes (tunnels in the mining area)  
***Raise***: A tunnel that is cut into the rock to link work areas, enable movement of mining staff between work areas, and bring fresh air into the work area.  
***Ledging***: Is the activity opening and equipping a mining tunnel or stope for production purposes.
3. Team Leaders constitute the first level of supervision and are usually responsible for the direct supervision and safety of a team of 12 employees. Several team leaders (five or six) report to a Miner who reports to a Shift Supervisor. The latter supervises between four and six miners and in turn reports to a Mine Overseer with a similar span of control (five or six Shift Supervisors).
4. Clarifying and contextual commentary provided by the *Group Effectiveness Manager* of this platinum company, during an in-depth review of the data and empirical observations pertaining to this specific accident.

## REFERENCES

- Ashforth, B.E., & Fried, Y. "The Mindlessness of Organization Behaviors.", *Human Relations*, Vol. 41, No. 4, (1988): 305-329.
- Battles, J.B., Dixon, N.M., Borotkanics, R.J., Rabin-Fastmen, B. & Kaplan, H.S. "Sensemaking of Patient Safety Risks and Hazards.", *HSR:Health Services Research*, Vol. 41, No. 4, Part II, (2006): 1555-1575.
- Brown, A.D. & Jones, M. "Doomed to Failure: Narratives of Inevitability and Conspiracy in a Failed IS Project". *Organization Studies*, Vol. 19, (1998): 73-88.
- Brown, A.A., & Jones, M. "Honourable Members and Dishonourable Deeds: Sensemaking, Impression Management and Legitimation in the 'Arms to Iraq Affair'", *Human Relations*, Vol. 53, No. 5, (2000): 655-89.
- Beus, J.M., Payne, S.C., Bergman, M.E. & Arthur Jr., W. "Safety Climate and Injuries: An Examination of Theoretical and Empirical Relationships.", *Journal of Applied Psychology*, Vol. 95, No. 4, (2010): 713-727.
- Carrol, J. S. "Incident Reviews in High-Hazard Industries: Sense making and Learning Under Ambiguity and Accountability." *Industrial & environmental Crisis Quarterly*, vol. 9, No. 2, (1995): 175-197.
- Carstens, N., Van Tonder, C.L., & Groenewald, J.P. "'Left off track', 'Knock-ons' and the Managerial Challenges of Nonlinear Change. *Proceedings of the 9<sup>th</sup> IFSAM World Management Conference*, Shanghai, People's Republic of China, 26-28 July. 2008.
- Clarke, S. "The Relationship Between Safety Climate and Safety Performance: A Meta-Analytic Review.", *Journal of Occupational Health Psychology*, Vol. 11, No. 4, (2006): 315-327.
- DME. *Presidential Mine Health and Safety Audit*. Report prepared for the President of the Republic of South Africa, the Department of Minerals and Energy, Pretoria, South Africa. 2008.
- Dollard, M.F. & Bakker, A.B. "Psychosocial Safety Climate as a Precursor to Conducive Work Environments, Psychosocial Health Problems, and Employee Engagement.", *Journal of Occupational and Organizational Psychology*, Vol. 83, (2010): 579-599.
- Geiger, D. & Antonacopoulou, E. "Narratives and Organizational Dynamics: Exploring Blind Spots and Organizational Inertia", *The Journal of Applied Behavioral Science*, Vol. 45, No. 3, (2009): 411-436.
- Jordan, S., Messner, M. & Becker, R. "Reflection and Mindfulness in Organizations: Rationales and Possibilities for Integration.", *Management Learning*, Vol. 40, No. 4, (2009): 465-473.
- Helms Mills, J.H., Thurlow, A. & Mills, A.J. "Making Sense of Sensemaking: A Critical Sensemaking Approach." *Qualitative Research in Organizations and Management: An International Journal*, Vol. 5, No. 2, (2010): 182-195.
- Krieger, J.L. "Shared Mindfulness in Cockpit Crisis Situations: An Exploratory Analysis.", *Journal of Business Communication*, Vol. 42, No. 2, (2005): 135-167.
- McGwin, G. Jnr., Valent, F., Taylor, A.J., Howard, H.J., Davis, G.G., Brissie, R.M. & Rue III, L.W. "Epidemiology of Fatal Occupational Injuries in Jefferson County, Alabama." *Southern Medical Journal*, Vol. 95, No. 11, (2002): 1300-1312.
- McLarney, C., & Dastrala, R. "Socio-Political Structures as Determinants of Global Success: The Case of Enron Corporation.", *International Journal of Social Economics*, Vol. 28, No. 4, (2001): 349-367.

Möller, K. "Sense-making and Agenda Construction in Emerging Business Networks – How to Direct Radical Innovation." *Industrial Marketing Management*, Vol. 39, (2010): 361-371.

Möller, K. & Svahn, S. "Role of knowledge in value creation in business nets." *Journal of Management Studies*, Vol. 43, No. 5, (2006): 985-1007.

Mohnforton, C. & Windsor, R. "An Impact Evaluation of a Federal Mine Safety Training Regulation on Injury Rates Among US Stone, Sand, and Gravel Mine Workers: An Interrupted Time-Series Analysis." *American Journal of Public Health*, Vol. 100, No. 7, (2010): 1334-1340.

Nahrgang, J.D., Morgeson, F.P. & Hofmann, D.A. "Safety at Work: A Meta-Analytic Investigation of the Link Between Job Demands, Job Resources, Burnout, Engagement, and Safety Outcomes." *Journal of Applied Psychology*, Vol. 96, No. 1, (2011): 71-94.

Naveh, E., Katz-Navon, T. & Stern, Z. "The effect of Safety Management Systems on Continuous Improvement of Patient Safety: The Moderating Role of Safety Climate and Autonomy." *The Quality Management Journal*, Vol. 18, No. 1, (2011): 54-67.

Neal, A. & Griffin, M.A. "A Study of the Lagged Relationship Among Safety Climate, Safety Motivation, Safety Behavior, and Accidents at the Individual and Group Levels." *Journal of Applied Psychology*, Vol. 91, No. 4, (2006): 946-953.

Newnam, S., Griffin, M.A. & Mason, C. "Safety in Work Vehicles: A Multilevel Study Linking Safety Values and Individual Predictors to Work-Related Driving Crashes." *Journal of Applied Psychology*, Vol. 93, No. 3, (2008): 632-644.

Oldfield, G. & Mostert, K. "Job Characteristics, Ill Health and Negative Work-Home Interference in the Mining Industry." *SA Journal of Industrial Psychology*, Vol. 33, No. 2, (2007): 68-75.

Perin, C. "Organizations as Contexts: Implications for Safety Science and Practice." *Industrial & Environmental Crisis Quarterly*, Vol. 9, No. 4, (1995): 152-174.

Perrow, C. *Normal Accidents: Living with High-Risk Technologies*. Princeton, NJ: Princeton University Press. 1999.

Sitkin, S.B. "Sense-making in Organizational Research", Stanford's Organization Theory Renaissance, 1970-2000, *Research in the Sociology of Organizations*, Vol. 28, (2010): 409-418.

Sitkin, S.B. "Learning through failure: The strategy of small losses", In B.M. Staw and L.L. Cummings (Eds.), *Research in Organizational Behavior*, Greenwich, CT: JAI. (1992): 231-266.

Souder, W.E. *A Catastrophe-Theory Model for Simulating Behavioral Accidents*. Information Circular 9178, United States Department of the Interior, Bureau of Mines. 1988.

Stein, M. "The Critical Period of Disasters: Insights from Sense-making and Psychoanalytic Theory." *Human Relations*, Vol. 57, No. 10, (2004): 1243-1261.

Theus, K.T. "Communication in a Power Vacuum: Sense-making and Enactment during Crisis-Induced Departures" *Human Resource Management*, Vol. 34, No. 1, (1995): 27-49.

Towsey, C.A.J. "Proactive Measures for Fatality Prevention in the Mining Industry – Why Fatalities Persist while Lost Time Injuries Decline." *Mining Risk Management*, (2003): 165-174.

Van Tonder, C.L. *Stacking the dominoes... courting catastrophe at the "edge-of-chaos"*. Proceedings of the 9<sup>th</sup> IFSAM World Management Conference, Shanghai, People's Republic of China, 26-28 July. 2008.

Van Tonder, C.L. "The Application of Nonlinear Change Theory to the Demise of Saambou Bank.", *SA Journal of Economic and Management Sciences*, Vol. 9, No. 2, (2006): 149-174.

Van Tonder, C.L. *Organisational Change: Theory and Practice*. Pretoria: Van Schaik Publishers, 2004.

Weick, K.E. "Normal Accident Theory as Frame, Link, and Provocation.", *Organization & Environment*, Vol. 17, No. 1, (2004): 27-31.

Weick, K.E. *Making Sense of the Organization*. Malden, MA: Blackwell Publishing, 2001.

Weick, K.E. *Sensemaking in organizations*. London: Sage, 1995.

Weick, K.E. "Organizational Culture as a Source of High Reliability.", *California Management Review*, Vol. 29, (1987): 112-127.

Weick, K.E. & Putnam, T. "Organizing for Mindfulness: Eastern Wisdom and Western Knowledge.", *Journal of Management Inquiry*, Vol. 15, No. 3, (2006): 275-287.

Weick, K.E. & Roberts, K.H. "Collective Mind in Organizations: Heedful Interrelating on Flight Decks." In K.E. Weick, *Making sense of the organization*, Malden, MA: Blackwell Publishing, 2001.

Zohar, D. & Luria, G. "A Multilevel Model of Safety Climate: Cross-Level Relationships Between Organization and Group-Level Climates.", *Journal of Applied Psychology*, Vol. 90, No. 4, (2005): 616-628.

# **A RESEARCH AGENDA FOR THE IMPACT OF MATERIAL VALUES AND LIFE SATISFACTION IN NON-DECEPTIVE COUNTERFEIT LUXURY BRANDS CONSUMPTION**

**Viet Dung Trinh and Ian Phau**  
**Curtin University, Australia**

## **ABSTRACT**

*Counterfeiting of luxury brands has been growing steadily in the past few years in spite of to the joint efforts of individual organizations and law enforcement agencies. The issue of counterfeit consumption seems to remain a permanent feature of the marketplace for time to come. In recent years, counterfeit luxury brand consumption continues to expand worldwide, and it is now sometimes regarded as a common act of consumption. Without reservation, counterfeit luxury brands are among the most critical issues for not only genuine luxury brands but also law makers around the world.*

*The main purpose of this conceptual paper is to extend existing literature on counterfeiting of luxury brands by building a research model to examine the influence of materialism and life satisfaction on consumer willingness to buy counterfeit luxury brands (WTBCLB).*

## **BACKGROUND**

Counterfeit is a term used to describe any product that bears names, signs, content or trademarks that identical from those registered to another party (Grossman and Shapiro, 1988). From the perspective of consumers, counterfeit brands are divided into two categories: deceptive counterfeiting occurs when a consumer is misled to buying a counterfeit product, believing it is a genuine branded one. The other category is non-deceptive counterfeiting, occurs when a consumer recognizes that the branded product is not authentic and still proceeds with the purchase. Also known under several names such as replicas, imitation, bogus, fakes, copy, and knock-off, counterfeit luxury brands are often thought to be lower quality (Lai and Zaichkowsky, 1999) but it is no longer the truth.

The quality of counterfeit luxury brands has continued to improve in the last 10 years, and as a result, the demographics of its consumers have also changed. Results from recent research show that people who actively seek and purchase counterfeit luxury brands are no longer limited to those who cannot afford the genuine products anymore (BASCAP Report, 2009). With continuous development in manufacturing process, great attention to details, extensive distribution and logistics networks, counterfeiting of luxury brands will remain as one of the most critical issues for the luxury industry for time to come.

## **RELEVANT LITERATURE AND MODEL DEVELOPMENT**

Determinants associated with counterfeit luxury brands consumption have been studied extensively (Wee *et al.*, 1995; Lai and Zaichkowsky, 1999; Nia and Zaichkowsky, 2000; Penz and Stottinger, 2005; Wilcox *et al.*, 2009). Among the identified determinants, attitude towards counterfeit luxury brands is one of the most important antecedents of consumer's WTBCLB (Wee *et al.*, 1995; Penz and Stottinger, 2005; Wilcox *et al.*, 2009). While most of previous studies focused on product attributes such as prices, quality, hedonic values and

availability – the supply perspectives - (Bloch et al 1993; Lai and Zaichkowsky, 1999; Gentry et al, 2001; Bian and Veloutsou, 2007; ) or lawfulness, ethical and moral standards - the demand perspectives - (Cordell *et al.*, 1996; Harvey and Walls, 2003; Tan, 2002; Phau *et al.*, 2009), there is a smaller stream of research examining the association between consumers' attitude towards counterfeit luxury brands and other variables such as “adventure-seeking”, “value consciousness” and “material values”. However, these works are yet to provide unambiguous results or reach a concrete conclusion (Eisend and Schuchert-Guler, 2006; Furnham and Valgeirsson, 2007; Phau *et al.*, 2009). But among those variables, material values – namely success, centrality and happiness – also known as the three dimensions of materialism (Richins and Dawson, 1992), stick out as potential factors that could sway the WTBCLB of consumer. And therefore, it has been suggested as a possible future research direction for non-deceptive counterfeit luxury brands consumption (Furnham and Valgeirsson, 2007; Swami *et al.*, 2009; Lu and Lu, 2010).

## Materialism

In an extensive review of counterfeit trade published in the *European Journal of Marketing*, Staake *et al.* (2009) presented a detailed list of literature related to the subject dated from 1978 to 2008. There was only one paper investigated counterfeits consumption using materialism as a key component among those studies (Furnham and Valgeirsson, 2007). But despite the lack of its presence in counterfeit luxury brands literature, materialism is not a new factor in marketing and consumer research (Belk, 1985; Richins and Dawson, 1992). In fact, it has been studied thoroughly, specifically in luxury related subjects (Belk, 1985; Richins, 1987; Fitzmaurice and Comegys, 2006; Han *et al.*, 2010). Richins and Dawson (1992) defined materialism as “the importance ascribed to the ownership and acquisition of material goods in achieving major life goals or desired states”. Materialistic consumers are driven to consume more than average people. They use acquired goods to generate social recognition and status in order to distinguish themselves from others (Mason, 2001). Because materialistic consumers can find all that they wanted in luxury brands, previous literature has accepted materialism as a term associated with luxury brand consumption for over a century (Veblen, 1899). But since the quality and distribution networks of counterfeit luxury brands have dramatically enhanced in the last few years (Wilcox *et al.*, 2009), the question arises as would materialistic people turn their attention to counterfeit luxury brands as an alternative solution for authentic luxury brands?

The attitude towards counterfeit luxury brands plays an essential role in defining the WTBCLB (Penz and Stottinger, 2005; Gentry *et al.*, 2006). Favorable attitude towards buying counterfeit luxury brands are expected to increase WTBCLB of consumers (Penz and Stottinger, 2005). However, the attitude towards counterfeit luxury brands can be swayed, temporarily or permanently, depend how the consumer is satisfied with life. Literature from the disciplines of psychology and sociology suggest that people may have unusual behaviors when they are not happy with life (Harris, 1981; Keinan, 1987; Mick and DeMoss, 1990; Driskell and Salas, 1991). According to these literature, when people are unhappy with life they may cheer themselves up by shopping, especially buying gifts for themselves (Mick and DeMoss, 1990). This explains the spurt in sales of cosmetics during the recent recession while the sales of necessities experienced a drop (Queensland Business Review, 2010; L'Oreal, 2010). These findings fit closely the profile of a materialistic consumer.

Furthermore, ethical standards and morality level of consumers were usually given significant roles in defying attitude toward counterfeit luxury brands in previous studies (Swami *et al.*, 2009; Phau *et al.*, 2009; Wilcox *et al.*, 2009). Would ethical standards and moral values defy the attitude toward counterfeit luxury brands of materialistic consumers? A study by Muncy and Eastman (1998) suggested that there is a negative correlation between materialism and consumer ethics. And this has been fortified by recent studies in North America and Asia (Martin and Prince, 2009; Lu and Lu, 2010). This finding has strengthened the prospect of materialistic consumers in committing unethical consumption activities such as buying counterfeit luxury brands.

## Life satisfaction

Previous literature suggested that highly materialistic consumers, who do not have the spending power to pursue their material dreams, are most likely to turn to counterfeit luxury brands (Gentry *et al.*, 2001). Other materialistic consumers, including those who have a sound financial capacity, might also turn to counterfeit luxury brands subject to their satisfaction with life. The major deficiency in the literature to the best of our

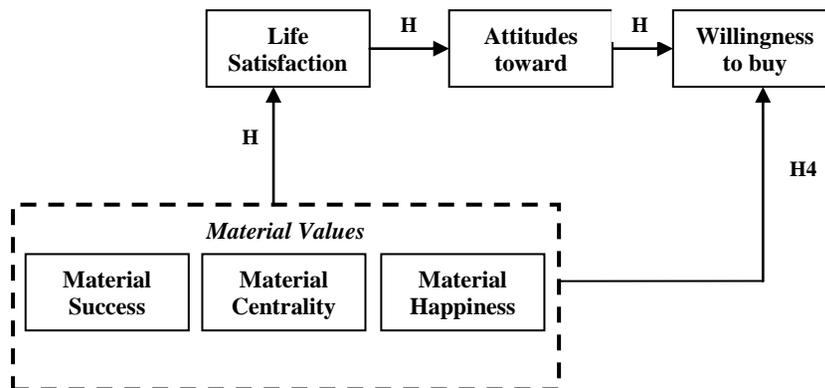
knowledge is that there is no previous study that examines the relationship between life satisfaction and WTBCLB of consumer.

However, there are several studies investigating the relationship between materialism and life satisfaction (Csikszentmihalyi and Rochberg-Halton, 1981; La Barbera and Gurhan, 1997; Sirgy, 1998; van Boven, 2005; Froh *et al.*, 2011). Results from these studies have established that materialistic people constantly feel unsatisfied with their lives (La Barbera and Gurhan, 1997; Sirgy *et al.*, 1998; Froh *et al.*, 2011). These people, consequently, are driven to consume more as a mean to pursuit happiness. Materialistic people believe life satisfaction cannot be achieved by any other means but through possessing and interacting with goods (Csikszentmihalyi and Rochberg-Halton, 1981; Richins, 1987). Important notes from materialism literature point out that materialistic people evaluate life differently in comparison with their non-materialistic counterpart (Sirgy *et al.*, 1998). Materialistic people tend to employ affective-based expectations, using ideal, deserved, and need-based expectations, to evaluate life rather than cognitive-based expectations, using past experience, predictive and ability-based expectations (Sirgy, 1998). Affective-based expectations are value-laden and they lead to experiencing intense emotions. These emotions can be positive feelings of elation, joy, and pride as well as negative feelings of anger, envy, and possessiveness (Sirgy, 1998; Sirgy *et al.*, 1998). Because of these emotions, materialistic consumers can be very happy with the acquisition of authentic luxury brands, but then may become very unhappy to see another person with a luxury product that not in their possessions (possibly with lack of financial means or unavailability). There is a likelihood that this may trigger their change of attitude toward counterfeit luxury brands, which eventually may lead to an increase in WTBCLB.

From the preceding discussion, a research model (Figure 1) with some initial hypotheses are formulated and presented as follows:

- H1: Material values have a negative effect on life satisfaction
- H2: Life satisfaction has a negative effect on attitudes toward counterfeit luxury brands
- H3: Attitude towards counterfeit luxury brands has a positive effect on WTBCLB
- H4: Material Values has a positive effect on WTBCLB

Figure 1: Proposed Research Model



## PROPOSED METHODOLOGY AND SAMPLING

The survey instrument utilized to measure materialism is adapted from the materialism scales developed by Richins and Dawson in 1992. On top of the adapted materialism scales, questions regarding life satisfaction (Sirgy, 1998), attitudes toward counterfeit luxury brands (Wilcox *et al.* 2009), and WTBCLB will also be administrated.

According to Richins and Dawson (1992), there are three dimensions of materialism. The first dimension is material success, the extent to which materialistic people use possessions as indicators of success and achievement in life, both in judging themselves and others. The second dimension is material centrality, the

extent to which materialistic people place possessions acquisition at the centre of their life. And finally, materialistic people believe that possessions are essential to satisfaction and well-being in life.

In order to improve Richins and Dawson's scale, items are going to be categorized into sub-dimensions. The first two sub-dimensions are spawned from materialism literature, namely conspicuousness and status. The conspicuous consumption theory ties luxury goods with the function of flamboyant display of wealth to indicate status (Veblen, 1899; Mason, 2001, Han *et al.*, 2010). And according to recent study, status is what buyers seek when buying counterfeit of luxury brands (Wilcox *et al.*, 2009). Previous literature points out that the purely conspicuous consumer derives satisfaction from the reaction of other people to the wealth displayed and not from the value of the product itself (Mason, 2001). Status and conspicuousness therefore seem to be two different constructs of materialism in the consumer behavior literature. Status consumption was defined as the personal nature of owning status-laden possessions, which do not necessary to be publicly displayed. Conspicuous consumption is more oriented toward the evidenced display of expensive possessions.

A convenience sample of 40 consumers was asked to classify each item of the original materialism scale to be whether "conspicuousness" or "status" related. The results showed that the Richins materialism scale is dominated by questions regarding conspicuousness, with only one question regarding status. This actually gives an explanation why the scale performed poorly in previous attempts to study counterfeit luxury brands consumption.

Previous findings also suggest that materialistic consumers purchased authentic luxury brands to distinct themselves from others (Eastman *et al.*, 1999) while counterfeit luxury brands buyers were looking for an economical alternative to become less distinctive from those who own authentic luxury brands. And thus, distinctiveness is added as the third sub-dimension, besides status and conspicuousness, in the new scale.

Using the preceding explanations of materialism, the study uses three methods to generate a set of potential scale items: literature reviews, thesaurus searches, and experience surveys, and follows the steps for scale development set out by DeVellis (2003). Items were generated from previously developed materialism scales and the materialism literature. More than 70 items from the three sub-dimensions (status, conspicuousness and distinctiveness) were generated and put into three main dimensions: material success, material centrality, and material happiness.

The items are scored on a 5 point Likert format from strongly disagree to strongly agree. Item scores are summed within dimension to form indices for each dimension, and can be summed to form an overall materialism score. Before administering to the larger sample, these items will be sent to a panel of experts for screening and review.

Upon received feedbacks from the panel of experts, ambiguous and redundant items will be removed from the scale. Then it is going to be administered to a sample of over 300 students, local and international, at a major Australian university. The results will be tested using exploratory factor analysis, reliability analysis, confirmatory factor analysis and social desirability testing.

## **SIGNIFICANCE, IMPLICATIONS AND CONCLUSION**

The above hypotheses are proposed with the goal of closing a number of gaps inherent to the literature. Conceptually, this proposed research provides a new perspective of non-deceptive counterfeit luxury brands consumption by synthesizing extant literature from two bodies of relevant research stream. While there are a small handful of previous studies on the relationship between materialism and counterfeit luxury brands consumption, the findings have been fairly inconclusive and lacking in rigor (Eisend and Schuchert-Guler, 2006; Furnham and Valgeirsson, 2007; Phau *et al.*, 2009). This is also the first study, to the best of our knowledge, to examine the role of life satisfaction in context with counterfeit luxury brand consumption. Methodologically, a unique scale may have to be developed to measure materialistic tendencies specific to attitudes towards counterfeit luxury brands. Managerially, the research findings can be used to formulate strategies for academia, practitioners and, more importantly policy makers to help eradicate, or at the very least curb counterfeit luxury brands consumption.

In general, this conceptual paper lays a foundation for using materialism and life satisfaction as key components in studying counterfeit luxury brands. This would lead to several theoretically and managerially important research directions. For example, research suggests that people from different cultures will have different views on status and conspicuousness (Aaker *et al.*, 2001). Compared with the West, Asia is home not only to luxury brands counterfeiting but also to a more collectivist cultures, in which people are under lot of pressure to conform and save face. People in Asia takes pride in possessing and displaying luxury brands and it is supposed to be a shameful act to use counterfeit, if revealed. However, it is reported that people in Asian developing countries have knowingly purchased and displayed counterfeit luxury brands, without any remorse (BASCAP, 2009; Lu and Lu, 2010). As the wealth gaps in developing countries are widening, so are the life satisfaction levels between people from different social classes (Graham, 2006; Shin, 2009; Park and Peterson, 2009). Therefore, the dynamics of counterfeit luxury brands consumption might be different in these countries, compared to Europe or North America. Further research into these directions will be essential to a richer understanding of the global demand for counterfeit luxury brands.

## REFERENCES

- Aaker, J.L., Benet-Martinez V., and Garolera J. "Consumption Symbols as Carriers of Culture: A Study of Japanese and Spanish Brand Personality Constructs," *Journal of Personality and Social Psychology*, 81 (3), 492–508, 2001.
- Albers-Miller, N.D. "Consumer Misbehavior: Why People Buy Illicit Goods," *Journal of Consumer Marketing*, 16 (3), 273–87, 1999.
- BASCAP Report. *Research Report on Consumer Attitudes and Perceptions on Counterfeiting and Piracy*, 2009. Available at: <http://www.iccwbo.org/bascap>
- Belk, R. W. "Trait aspects of living in the material world," *Journal of Consumer Research*, 12, 265–280, 1985.
- Bian, X. and Veloutsou, C. "Consumers' attitudes regarding non-deceptive counterfeit brands in the UK and China," *Journal of Brand Management*, 14, 211–222, 2007.
- Bloch, P., Bush, R., Campbell, L. "Consumer 'accomplices' in product counterfeiting," *Journal of Consumer Marketing* 10, 27–36, 1993.
- Chaudhry, P.E. and Walsh, M.G. "An assessment of the impact of counterfeiting in international markets: the piracy paradox persists," *Columbia Journal of World Business*, 2, 34–48, 1996.
- Cordell, V., Wongtada, N., Kieschnick Jr., R.L. "Counterfeit purchase intentions: role of lawfulness attitudes and product traits as determinants," *Journal of Business Research*, 35, 41–53, 1996.
- Csikszentmihalyi, M., Rochberg-Halton, E., *The Meaning of Things: Domestic Symbols and the Self*, Cambridge University Press, Cambridge, 1981.
- DeVellis, R.F., *Scale Development: Theory and Application*, 2<sup>nd</sup> . Newbury Park, Sage, 2003.
- Driskell, J. and Salas, E. "Group decision making under stress," *Journal of Applied Psychology*, 7 (3), 473-478, 1991.
- Eastman, J.K, Goldsmith, R.E and Flynn, L.R. "Status Consumption In Consumer Behavior: Scale Development and Validation," *Journal of Marketing Theory and Practice*, 7 (3), 41-52, 1999.
- Eisend, M. and Schuchert-Guler, P. "Explaining Counterfeit Purchases: A Review and Preview," *Academy of Marketing Science Review*, 12, 214-229, 2006.

Fitzmaurice J. and Comegys C., "Materialism and Social Consumption," *Journal of Marketing Theory and Practice*, 14 (4), 287-299, 2006.

Froh, J., Emmons, R., Card, N. Bono, G. and Wilson, J. "Gratitude and the Reduced Costs of Materialism in Adolescents," *Journal of Happiness Studies*, 12 (2), 289-303, 2011.

Furnham, A., and Valgeirsson, H. "The effect of life values and materialism on buying counterfeit products," *Journal of Socio-Economics*, 36 (5), 677-685, 2007.

Gentry, J.W., Putrevu, S. and Shultz C. "The Effects of Counterfeiting on Consumer Search," *Journal of Consumer Behavior*, 5 (3), 245-56, 2006.

Gentry, J.W., Putrevu, S., Shultz, C., Commuri, S. "How now Ralph Lauren? The separation of brand and product in a counterfeit culture," *Advances in Consumer Research*, 28, 258-265, 2001.

Graham, C. "Inequity and happiness: insights from Latin America," *Journal of Economic Inequality*, 4 (1), 107-122, 2006.

Han.Y.J., Nunes, J.C., and Dreze, X., "Signaling Status with Luxury Goods: The Impact of Brand Prominence," *Journal of Marketing*, 74 (7), 14-30, 2010.

Harris, R. M. "Conceptual complexity and preferred coping strategies in anticipation of temporally predictable and unpredictable threat," *Journal of Personality and Social Psychology*, 41, 380- 390, 1981.

Harvey, P.J., Walls, W.D. "Laboratory markets in counterfeit brands: Hong Kong versus Las Vegas," *Applied Economics Letters*, 10, 883-887, 2003.

Keinan, G. "Decision making under stress: Scanning of alternatives under controllable and uncontrollable threats," *Journal of Personality and Social Psychology*, 52, 639-644, 1987.

L'Oreal. *L'Oreal shows continuing strong growth*. 2010. Available at: <http://www.loreal-finance.com/eng/news-release/october-21-2010-724.htm>

La Barbera and Gurhan, Z. "The role of Materialism, Religiosity, and demographics in Subjective Well-Being," *Psychology & Marketing*, 14 (1), 71-97, 1997.

Lai, K. and Zaichkowsky L. "Brand Imitation: Do the Chinese Have Different Views?" *Asia Pacific Journal of Management*, 16 (2), 179-92, 1999.

Lu, L.C. and Lu, C.J. "Moral Philosophy, Materialism and Consumer Ethics: An Exploratory Study in Indonesia," *Journal of Business Ethics*, 94, 193-210, 2010.

Martin, N. M. and Prince D. "Trading ethics for possessions," *Journal of Academic and Business Research*, 1, 2009.

Mick, D. G., and DeMoss, M. "Self-gifts: Phenomenological insights from four contexts," *Journal of Consumer Research*, 17, 322-332, 1990.

Muncy, J. and Eastman, J., "Materialism and Consumer Ethics: An Exploratory Study," *Journal of Business Ethics*, 17(2), 137-45, 1998.

Nia, A. and Zaichkowsky, L. "Do Counterfeits Devalue the Ownership of Luxury Brands?" *Journal of Product & Brand Management*, 9 (7), 485-97, 2000.

Park, N. and Peterson, C. "Orientations to happiness and life satisfaction in twenty-seven nations," *The Journal of Positive Psychology*, 4 (4), 273-279, 2009.

- Penz, E. and Stottinger, B., "Forget the Real Thing – Take the Copy! An Explanatory Model for the Volitional Purchase of Counterfeit Products," *Advances in Consumer Research*, 32, 568 – 575, 2005.
- Phau, I., Sequeria, M. and Dix, S. "To buy or not to buy a 'counterfeit' Ralph Lauren polo shirt," *Asia-Pacific Journal of Business Administration*, 01 (01), 68-80, 2009.
- Queensland Business Review. *Retailers hopeful despite drop in sales*. 2010. Available at: <http://www.qbr.com.au/news/articleid/71456.aspx>
- Richins, M.L. "Media, Materialism, and Human Happiness," *Advances in Consumer Research*, Vol. 14, 352-356, 1987.
- Richins, M.L. and Dawson, S. "A consumer values orientation for materialism and its measurement: scale development and validation," *Journal of Consumer Research*, 19, 303–316, 1992.
- Shin, D.C. "Avowed Happiness in Confucian Asia: Ascertaining its Distribution, Patterns, and Sources," *Social Indicator Research*, 92 (2), 405-427, 2009.
- Sirgy, J. "Materialism and Quality of Life," *Social Indicators Research*, 43, 227-260, 1998.
- Sirgy, J., Lee D., Van Larsen, and Newell W. "Satisfaction with Material Possessions and General Well-Being: The Role of Materialism," *Journal of Consumer Satisfaction/Dissatisfaction and Complaining Behavior*, 11, 103-118, 1998.
- Staake T., Thiesse F. and Fleisch E. 2009. The emergence of counterfeit trade: a literature review. *European Journal of Marketing*, 43(3), 320-349.
- Swami V., Chamorro-Premuzic T., Furnham A. "Faking it: Personality and individual difference predictors of willingness to buy counterfeit goods," *The Journal of Socio-Economics*, 38, 820-825, 2009.
- Tan, B. "Understanding consumer ethical decision making with respect to purchase of pirated software," *Journal of Consumer Marketing*, 19, 96–111, 2002.
- Tom, G., Garibaldi, B., Zeng, Y., Pilcher, J. "Consumer demand for counterfeit brands," *Psychology and Marketing*, 15, 405–421, 1998.
- van Boven, L. "Experientialism, Materialism, and the Pursuit of Happiness," *Review of General Psychology*, 9 (2), 132-142, 2005.
- Veblen, T., *The theory of the leisure class*, Dover Publications, New York, 1899.
- Wee, C., Tan, S.-J., Cheok, K.-H., "Non-price determinants of intention to purchase counterfeit brands," *International Marketing Review*, 12, 19–47, 1995.
- Wilcox, K., Kim, H.M., Sen S., "Why do consumers buy counterfeit luxury brands," *Journal of Market Research*, Vol. XLVI, 24-259, 2009.
- Zaichkowsky, L. *The Psychology Behind Trademark Infringement and Counterfeiting*. Mahwah, NJ: Laurence Erlbaum Associates, 2006.

# COMBINING MULTIPLE FORECASTING EXPERTS FOR CORPORATE REVENUE USING COMBINATORIAL FUSION ANALYSIS

**Roger Tsai, Christina Schweikert, Samantha Yu, and D. Frank Hsu**  
**Fordham University, USA**

## ABSTRACT

*We present and test results for a new methodology that uses Combinatorial Fusion Analysis (CFA) for quantitative prediction by combining opinions and judgments of multiple experts. In this situation, each expert is considered a system whose decisions are represented by a scoring system which consists of a score function, a rank function, and a Rank Score Characteristic (RSC) function. Score and rank combinations are applied to fuse decisions from multiple experts, and RSC functions of the experts are used to measure the diversity in their scoring / ranking behavior. Our approach introduces a novel way of breaking the ranges of values for the target variables into multiple buckets, treating each bucket as a candidate in a contest with multiple judges. Since the original problem does not have multiple candidates in the mind of the judges, there are no multiple scores given by each judge for the range of candidates, thereby voiding the availability of score functions. We explore novel ways to cognitively construct score functions to allow for the application of combinatorial fusion, which depends on the presence of scoring systems. We apply such new methodology to predicting corporate sales revenue of a computer manufacturer and show that the new method outperforms each individual forecaster for each quarter as well as the average performance through four quarters. Further work will be done to explore ways to use parametric optimization of score functions, as well as finding the relationship between diversity and performance to derive the optimum strategy.*

## INTRODUCTION

Corporations rely on forecasting information in order to most efficiently strategize and manage operations. Dependable projections for quarterly sales of products will enable a corporation to better meet customer demands and optimize resource allocation. Combination of multiple forecasting experts has been shown to improve the accuracy of predictions. The experts or systems to be combined should be diverse in terms of their methods and rely on useful but independent sources of information. Combinations of multiple forecasts is especially useful in an uncertain environment in order to avoid large errors, since the combined forecast will be no worse than the worst performing component, and usually will be a considerable improvement compared to the average forecast (Armstrong 2001). Despite the increased amount of data and enhanced statistical methods available, there is still a need for improved forecasting methods (Houston et al 2010, Rieg 2010). A combined forecasting approach will enhance the performance of existing individual forecasting methods. In this paper, we describe and demonstrate a forecast combination method utilizing forecast scoring systems and Combinatorial Fusion Analysis (CFA) (Hsu et al 2006) that outperforms even the best individual forecaster on average over a period of time.

## FORECAST COMBINATION APPROACHES

Sales forecast projections within a corporation may come from human expertise (i.e. judgmental forecasters), quantitative methods (i.e. forecasting models), or an approach that incorporates judgment into a model or system (Armstrong et al 2001, Franses 2008, Marmierab and Cheikhrouhou 2010). Employee stakeholders (i.e. a manager) from various functional units of an organization draw on their unique and diverse

perspectives to make individual judgments as to the number of sales projected for a particular quarter. Alternatively, a chosen quantitative method (parametric or non-parametric, and linear or non-linear) can be applied to the requisite data to arrive at a forecast. Given a set of judges (either human or quantitative experts), their respective forecasts need to be combined to obtain one final projection. These individual forecasts can be combined by utilizing a variety of methods, which can also be divided into two general types: human expertise (i.e. an executive making a decision based on given inputs) or a quantitative method for combining forecasts (i.e. information fusion). Prediction markets and the Delphi technique are structured methods for combining the judgments of diverse experts and are both based on the idea that the collective wisdom of the group will outperform individual experts (Ivanov 2009, Rowe and Wright 1999, Wolfers and Zitzewitz 2004). There are a variety of quantitative approaches for combining forecasts, ranging from simple and weighted averages to artificial neural networks, genetic algorithms, and machine learning techniques (Lemke and Gabrys 2010, Vijayalakshmi et al 2010). Innovative and successful work has been done in the optimization of dynamic forecasting for risk and demand management, as well as sales and operations planning (An et al 2004, Gung et al 2002, Lee et al 2003, Tsai 2004, Tsai et al 2003).

In this case, we are looking at sales forecasts from various functional business units of a corporation which arise from judgment with consultation of quantitative information. Figure 1 shows the weekly sales projections of four functional units compared to the average of all projections and the quarter's actual sales. We then utilize a new information fusion approach called Combinatorial Fusion Analysis, described in the following sections, to find the optimal combination of these individual forecasts.

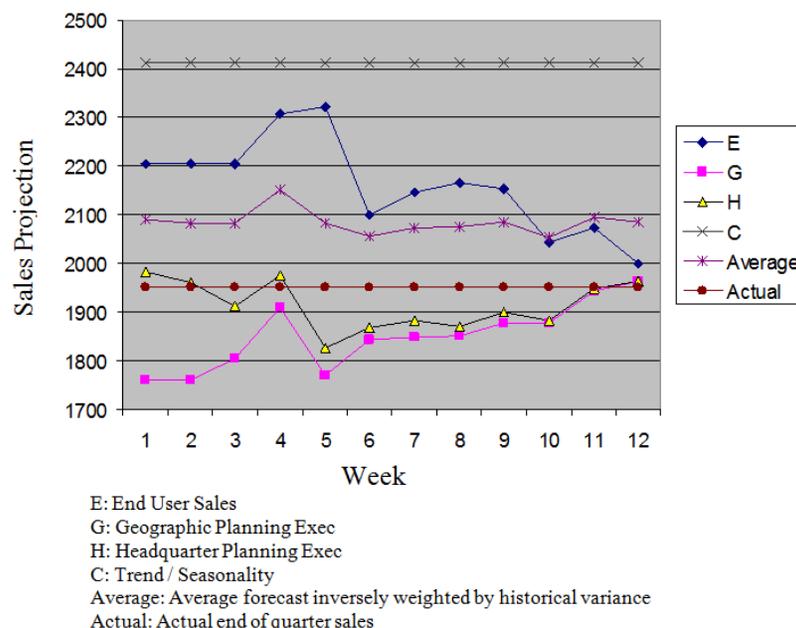


Figure 1: Weekly sales projections from four functional business units

## COMBINATORIAL FUSION ANALYSIS FOR FORECAST COMBINATION

Combinatorial Fusion Analysis (CFA) is an information fusion method that provides a framework to combine data, features, and decisions from multiple scoring systems (Hsu et al 2006). CFA has been applied to various domains including: information retrieval (Hsu and Taksa 2005), portfolio management (Vinod et al 2010), biomedical and health informatics (Lin et al 2007, McMunn-Coffran et al 2009, Schweikert et al 2009, Yang et al 2005), target tracking (Lyons and Hsu 2009), among others (Hsu et al 2010, Li et al 2009, Mesterharm and Hsu 2008). The Combinatorial Fusion Analysis architecture can enhance performance of forecasting methods at the feature level (within a system) and optimize forecast combination and at the decision level (multiple systems). Figure 2 illustrates the traditional business approach to forecast combination, based on

executive or group judgment, and Figure 3 shows the forecast combination method with Multiple Scoring Systems and Combinatorial Fusion Analysis.

The sales projections from the following functional business units: E (End User Sales), G (Geographic Planning Exec), H (Headquarter Planning Exec), and C (Trend / Seasonality) are the decisions from each respective forecaster/expert/judge. These decisions/judgments are made based on sales information data, which translates into various features such as how the current quarter's partial (up to the current time at some point in the middle of the quarter) sales compare with the corresponding partial quarter historical sales (prior quarters). To facilitate application of CFA, a scoring system is created for each of these judges, resulting in a set of Multiple Scoring Systems (MSS): E, G, H, and C. A scoring system is characterized by a score function (and corresponding rank function) on a set of documents/items/candidates. In this case, we use the sales projection value to construct a score function on a set of projection intervals (buckets) of a specified size. Each scoring system X will have a score function  $s_X(d_i)$  that assigns a real number to each bucket  $d_i \in D$ , where D is the set of buckets  $D = \{d_1, d_2, d_3, \dots, d_n\}$ , where  $n$  is the number of buckets under consideration, and  $i \in [1, n]$ . The buckets are chosen in such a way that the center bucket is centered at the combined mean (arithmetic average) of all the judges' original forecasts.

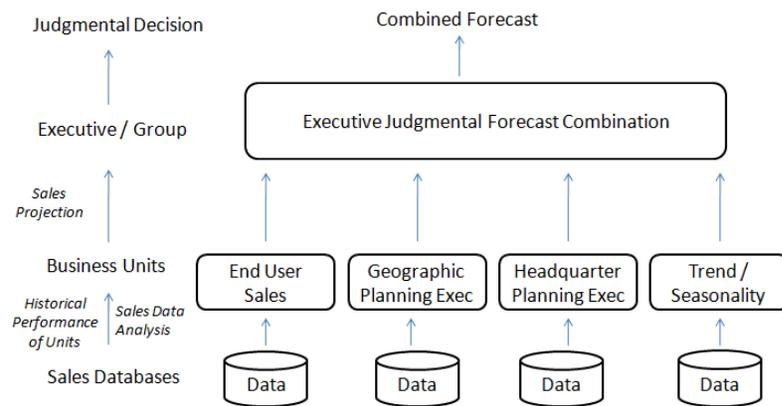


Figure 2: Traditional Business Approach to Forecast Combination

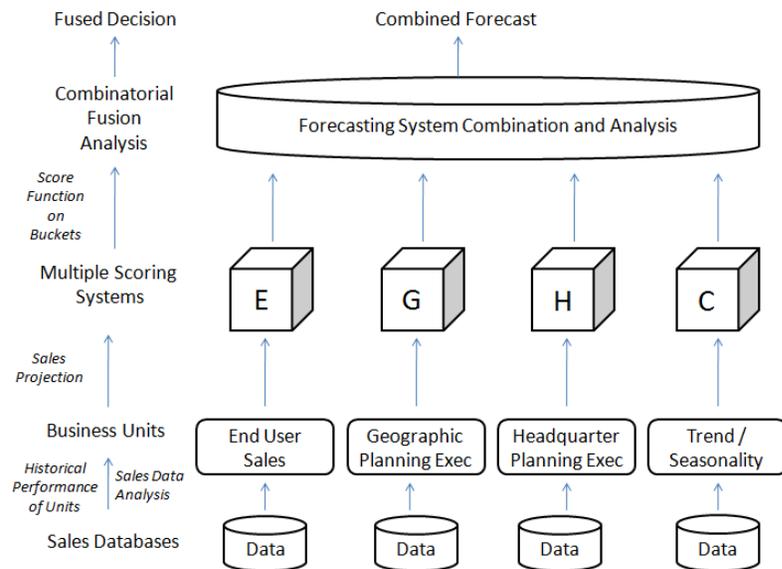


Figure 3: Forecast Combination with MSS and CFA

One of the novelties of this method is to impart a score function that is consistent with the judge's choice, as well as scores that reflect the fact that the farther away a bucket (candidate) is from the prime choice, the lower the score should be, and if possible, the score bears some physical meaning. One choice we made is that the score function is the probability of having the actual beyond the bucket or candidate value. This is defined as follows:

$$s_X(d_i) = \frac{1}{\sqrt{2\pi}\sigma} \int_{d_i}^{\infty} e^{-(x-d_m)^2/(2\sigma^2)} dx \quad \text{if } d_i \geq d_m$$

$$s_X(d_i) = \frac{1}{\sqrt{2\pi}\sigma} \int_{-\infty}^{d_i} e^{-(x-d_m)^2/(2\sigma^2)} dx \quad \text{if } d_i \leq d_m$$

In the above,  $d_i$  takes on the additional role of being the value at the center of the bucket.  $d_m$  is the prime choice of the original judge. The score function defined above is based on the assumption that the statistical distribution characterizing the error of forecast for a given judge is modeled as a normal distribution with mean 0 and standard deviation  $\sigma$ . Given this assumption, it follows that when the judge makes a prediction  $d_m$ , the actual demand or sales for the quarter has a normal distribution with mean  $d_m$  and standard deviation  $\sigma$ . The poorer the prediction accuracy of this judge has been in history, the larger  $\sigma$  is, making the score function flatter and less discriminating between different candidates. Figure 4 shows the shapes of the score functions for these four judges for a particular quarter. These mean and sigma values are exactly the ones mentioned in Figures 4 and 5. The shapes and sizes of such score functions can be tweaked parametrically by numerical search to optimize the system performance, which is our next work item. The mean  $d_m$  (which is individual judge's forecast) and  $\sigma$  are shown in the lower half of Figure 4.

A rank function,  $r_X(d_i)$ , from  $D$  to  $N = \{1, 2, 3, \dots, n\}$  assigns a rank to each bucket after sorting the buckets in descending order according to its score given by  $s_X(d_i)$ . Given the score and rank functions for a system, we can capture its scoring behavior by computing its Rank Score Characteristic (RSC) function. An RSC function  $f$  for system  $X$ ,  $f_X: N = [1, n] \rightarrow R$  is given by  $f_X(i) = (s_X \circ r_X^{-1})(i) = s_X(r_X^{-1}(i))$  (Hsu and Taksa 2010, Hsu et al 2010). The goal in forecast combination is to create a new combined forecasting system that will possibly outperform each of the individual forecasters. It has been observed that combination is most beneficial when the individual systems have relatively good performance and the systems are diverse (Hsu et al 2006). The diversity among two scoring systems  $X$  and  $Y$  (bi-diversity (Hsu and Taksa 2010, Hsu et al 2006) can be measured by the

$$d(f_X, f_Y) = \sum_{i=1}^n |f_X(i) - f_Y(i)|$$

distance between their RSC functions,  $f_X$  and  $f_Y$ , over  $n$  ranks:

$$\sum_{j=1}^m \binom{m}{j}$$

Given  $m$  scoring systems and  $j \in [1, m]$ , there are  $\sum_{j=1}^m \binom{m}{j}$  system combinations. In this case, we have 4 forecasting systems, giving 15 possible system combinations, including individual forecasters, 2-combinations, 3-combinations, and 4-combinations. Each combined system can be derived either by score or rank combination. Combination by score is performed by taking the average score given by the score functions of each system for a particular bucket, and combination by rank is the average rank given by the rank functions of the systems being combined. The score combination for  $c$  systems:  $X_1, X_2, \dots, X_c$ , where  $c \in [1, m]$ , is defined as

$$s_{SC}(d_i) = \frac{1}{c} \sum_{j=1}^c s_{X_j}(d_i)$$

for each bucket  $d_i$  in  $D$ . Similarly, the rank combination of  $c$  systems is computed for each

$$s_{RC}(d_i) = \frac{1}{c} \sum_{j=1}^c r_{X_j}(d_i)$$

bucket as  $s_{RC}(d_i)$ . The bucket that yields the highest combined score is the winner. Sometimes, there could be ties. For forecasting problems, due to the symmetric nature of the score function, the buckets that tie often occur in a continuous stretch. We pick the center point on the tied buckets as the winner. Note that sometimes, the center point may not be at the center of a bucket. In such case, we take the actual center point even if it is not at the center of any bucket.

We now define the performance evaluation of the method. The performance evaluation is not only important for assessing the effectiveness of the method, it also is a key part of the methodology since it drives the selection of the best combination (one among the 15-4=11 combinations) that performs the best in training or testing (using backward simulation on historical data), so that combination can be applied to the current forecasting task at hand. Furthermore, it allows the iterative and automated optimization of the score function shapes or other system settings to maximize the performance. For each particular combination, the performance  $P$  is the forecast accuracy, defined as

$$P = 100\% - |Err/A|$$

where  $A$  is the actual or true value of the revenue for the quarter,  $Err$  is the forecast error with  $Err = F - A$  and  $F$  is the forecast. Therefore,  $Err/A$  is the percent error. Since  $|Err| \leq A$ , it follows that  $|Err/A| \leq 100\%$  and therefore,  $0 \leq Err/A \leq 100\%$ .

When we evaluate quarters already past, since we know the actual and the forecast,  $P$  is measurable. When the method is applied to several quarters, the performance is defined as the average of all the performances for these quarters.

Score function construction for the individual scoring systems (E, G, H, and C) is demonstrated in Figures 4 and 5. The score/rank combinations, and the performance evaluation of individual judges and score/rank combinations (2-, 3-, and 4-combinations) are illustrated in Figures 6, 7, and 8.

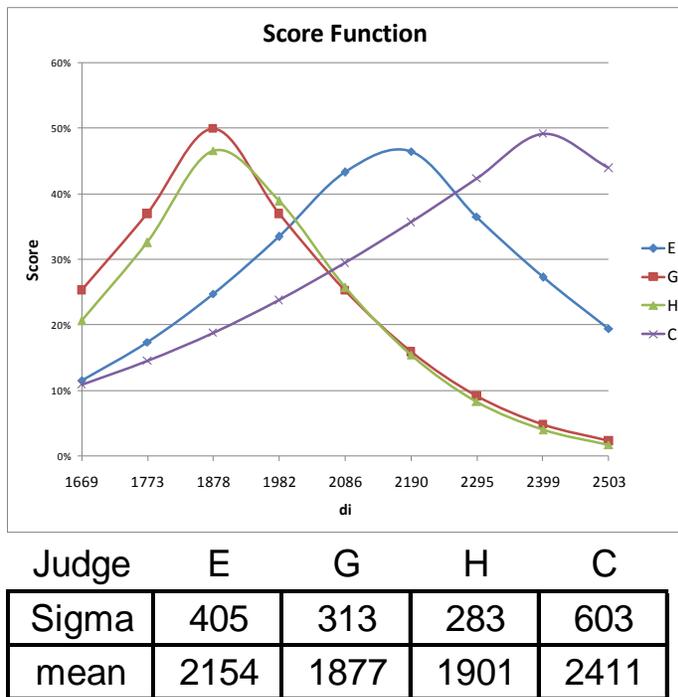


Figure 4 – Score functions constructed based on each unit’s sales projection for week 9 in Figure 1

From the results shown in Figures 9 and 10, we can see that the best average performance (95% after rounding) was achieved by Rank Combination of GC and EG, with 27% and 25% reduction of the error for the best judge H. Score Combination also achieved 95% performance for EH, it is a bit worse than the rank combination before rounding. But the biggest difference between the score and rank combination is that there are seven different combinations for Rank Combination that achieved significantly higher performance than the best individual judge (more than 5% reduction from the error of the best performing judge), while only three combinations for the Score Combination were able to do so. The average reduction of error across all 15-4=11 combinations is 10% for Rank Combination, double than that for the Score Combination. This means that rank

combination boosts up the performance more in general, and has a high chance of achieving more robust or better performance.

	forecast	2154	1877	1901	2411	2154	1877	1901	2411
	Original Score			Normalized Score					
buckets(di)		E	G	H	C	E	G	H	C
2503	2503	19%	2%	2%	44%	23%	0%	0%	86%
2399	2399	27%	5%	4%	49%	45%	5%	5%	100%
2294	2294	36%	9%	8%	42%	71%	14%	15%	82%
2190	2190	46%	16%	15%	36%	100%	28%	31%	65%
2086	2086	43%	25%	26%	29%	91%	48%	53%	48%
1981	1981	33%	37%	39%	24%	63%	73%	83%	34%
1877	1877	25%	50%	47%	19%	38%	100%	100%	21%
1773	1773	17%	37%	33%	14%	17%	73%	69%	9%
1669	1669	12%	25%	21%	11%	0%	48%	42%	0%

Figure 5 – Individual score functions for week 9

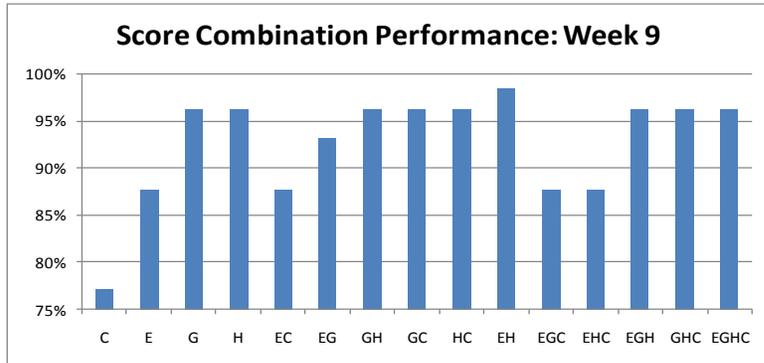
Rank Function of the Averaged Score Combination

buckets(di)	E	G	H	C	EG	EH	EC	GH	GC	HC	EGH	EGC	EHC	GHC	EGHC
2503	7	9	9	2	9	9	5	9	7	7	9	7	7	9	8
2399	5	8	8	1	7	7	3	8	3	3	8	6	6	7	7
2294	3	7	7	3	6	5	2	7	5	5	6	4	4	6	5
2190	1	6	6	4	4	4	1	6	6	6	4	1	1	5	4
2086	2	5	4	5	1	2	4	4	4	4	3	2	2	4	3
1981	4	2	2	6	3	1	6	2	2	2	2	3	3	2	2
1877	6	1	1	7	2	3	7	1	1	1	1	5	5	1	1
1773	8	2	3	8	5	6	8	3	8	8	5	8	8	3	6
1669	9	4	5	9	8	8	9	5	9	9	7	9	9	8	9
forecast	2190	1877	1877	2399	2086	1981	2190	1877	1877	1877	1877	2190	2190	1877	1877
performance	88%	96%	96%	77%	93%	98%	88%	96%	96%	96%	96%	88%	88%	96%	96%

Rank Function of the Averaged Rank Combination

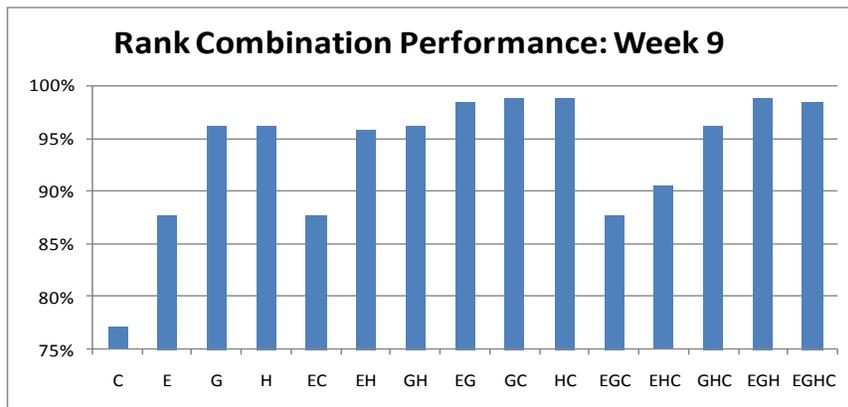
buckets(di)	E	G	H	C	EG	EH	EC	GH	GC	HC	EGH	EGC	EHC	GHC	EGHC
2503	7	9	9	2	9	9	5	9	8	8	9	8	7	9	9
2399	5	8	8	1	8	7	3	8	3	4	8	6	6	7	7
2294	3	7	7	3	6	5	3	7	7	6	6	4	4	7	5
2190	1	6	6	4	4	4	1	6	7	6	5	1	2	5	4
2086	2	5	4	5	4	2	4	5	7	4	3	3	2	4	3
1981	4	2	2	6	1	2	6	2	2	2	2	3	3	2	1
1877	6	1	1	7	4	4	7	1	2	2	2	6	6	1	2
1773	8	2	3	8	6	6	8	3	7	8	5	8	8	3	6
1669	9	4	5	9	8	8	9	5	9	9	7	9	9	8	9
forecast	2190	1877	1877	2399	1981	2033	2190	1877	1929	1929	1929	2190	2138	1877	1981
performance	88%	96%	96%	77%	98%	96%	88%	96%	99%	99%	99%	88%	90%	96%	98%

Figure 6 – Rank/Score Combinations



C	E	G	H	EC	EG	GH	GC	HC	EH	EGC	EHC	EGH	GHC	EGHC
77%	88%	96%	96%	88%	93%	96%	96%	96%	98%	88%	88%	96%	96%	96%

Figure 7 – Score combination performance for week 9



C	E	G	H	EC	EH	GH	EG	GC	HC	EGC	EHC	GHC	EGH	EGHC
77%	88%	96%	96%	88%	96%	96%	98%	99%	99%	88%	90%	96%	99%	98%

Figure 8 – Rank combination performance for week 9

## RESULTS AND ANALYSIS

We applied the methodology to four different quarters in history. Figures 9 and 10 below show the results for score combination and rank combination.

Week	E	G	H	C	EG	EH	EC	GH	GC	HC	EGH	EGC	EHC	GHC	EGHC
9	88%	96%	96%	77%	93%	98%	88%	96%	96%	96%	96%	88%	88%	96%	96%
9	97%	93%	93%	78%	98%	98%	97%	93%	93%	93%	93%	98%	98%	93%	93%
9	94%	94%	94%	86%	94%	94%	94%	94%	99%	94%	94%	94%	94%	94%	94%
9	93%	88%	88%	93%	88%	88%	93%	88%	88%	88%	88%	93%	93%	88%	88%
Average of week 9 performance	93%	93%	93%	84%	93%	95%	93%	93%	94%	93%	93%	93%	93%	93%	93%
Average Forecast Error	7%	7%	7%	16%	7%	5%	7%	7%	6%	7%	7%	7%	7%	7%	7%
Reduction of Error for the best single judge					-6%	-25%	2%	0%	-18%	0%	0%	-3%	-3%	0%	0%

<b>Average Reduction of Error</b>	<b>-5%</b>
-----------------------------------	------------

Figure 9: Test results with four quarters, using Score Combination

Week	E	G	H	C	EG	EH	EC	GH	GC	HC	EGH	EGC	EHC	GHC	EGHC
9	88%	96%	96%	77%	98%	96%	88%	96%	99%	99%	99%	88%	90%	96%	98%
9	97%	93%	93%	78%	98%	96%	97%	93%	96%	93%	93%	99%	99%	93%	96%
9	94%	94%	94%	86%	94%	94%	94%	94%	97%	97%	94%	94%	94%	94%	94%
9	93%	88%	88%	93%	88%	88%	93%	88%	88%	88%	88%	90%	90%	88%	88%
Average of week 9 performance	93%	93%	93%	84%	95%	93%	93%	93%	95%	94%	94%	93%	94%	93%	94%
Average Forecast Error	7%	7%	7%	16%	5%	7%	7%	7%	5%	6%	6%	7%	6%	7%	6%
Reduction of Error for the best single judge					<b>-25%</b>	<b>-7%</b>	2%	0%	<b>-27%</b>	<b>-18%</b>	<b>-9%</b>	1%	<b>-8%</b>	0%	<b>-17%</b>
<b>Average Reduction of Error</b>	<b>-10%</b>														

Figure 10: Test results with four quarters, using Rank Combination

One more thing that deserves attention is that, the forecasting task under test here is for forecasting worldwide sales revenue of personal computers and low end servers as a whole. When such forecasting task is applied to forecasting individual categories or models, the error will be higher, making the difference between the performance of the individual judge and the combined judge much more important and pronounced.

One important result or observation is that the new method outperforms the traditional statistically optimum combination (namely, a linear combination of all the judge's forecasts weighted by the inverse of historical forecast error variance, so that the larger the variance, the smaller the weight) significantly. For example, for the first quarter under test, the statistically optimum combination yields 86% accuracy or 14% error, which is almost three times worse (in magnitude of error) than the new method.

## CONCLUSIONS AND FUTURE DIRECTIONS

We applied the new method of forecast combination to predicting sales revenue for a pc and low end server manufacturer. Each quarter, four versions of revenue outlook, provided by four different functional units of the company responsible for revenue projection and supply decision, are available for the quarterly sales revenue at the beginning of each week during the first 12 of the 13 weeks of the quarter. A unified sales projection for the quarter needs to be made each week to help the company make business decisions. We test the performance and behavior of the methodology by applying it to a particular quarter in history and compare the accuracy of the outlook with the actual sales revenue to study how the combinatorial fusion of multiple outlooks helps in forming the quarterly sales revenue projection. In all the four quarters we tested, although any individual judge may do well in a particular quarter, it may not do well in all quarters. The new combination method, however, is much more robust and immune to such fluctuating performances. In the four quarters we tested, the new method outperforms each individual judge for each quarter as well as the average performance through the four quarters. More tests will be done to allow us to carry out optimization of the various system parameters of the methods such as the shapes of the score function, as well as how the diversity measure can be used to optimize the performance. For now, the diversity does not correlate well with the performance. We will explore changing the score function and see if the diversity would correlate better and if the performance can be optimized.

## REFERENCES

An, L., Chowdhary, P., Ettl, M., Huang, P., Kapoor, S., Pednault, E., Rosset, S., Tsai, R., Zadrozny, B. Order Trend Forecast for Demand Conditioning in a Sense and Response Environment, INFORMS Annual Meeting, Denver 2004.

Armstrong, J.S. Combining Forecasts. In Principles of Forecasting: A Handbook for Researchers and Practitioners, edited by J. S. Armstrong. Norwell, MA: Kluwer Academic Publishers, (2001), pp. 417-439.

Armstrong, J.S., Adya, M., Collopy, F. Rule-Based Forecasting: Using Judgment in Time-Series Extrapolation. In *Principles of Forecasting: A Handbook for Researchers and Practitioners*, J. Scott Armstrong (ed.): Norwell, MA: Kluwer Academic Publishers, (2001), pp. 259-282.

Franses, P.H. Merging models and experts. *International Journal of Forecasting* 24, (2008), pp. 31–33.

Gung, R., Leung, Y. T., Lin, G., Tsai, R. Dynamic Forecasting Today, *Operations Research/Management Science Today*, Vol. 27, No. 6, December 2002.

Houston, J. F., Lev, B. and Tucker, J. W. To Guide or Not to Guide? Causes and Consequences of Stopping Quarterly Earnings Guidance. *Contemporary Accounting Research*, 27 (2010): pp. 143–185.

Hsu, D. F. and Taksa, I. “Combinatorial fusion analysis for meta search information retrieval”, Chapter 8 “Web-based Support Systems”, Jing Tao Yao (Ed.), Springer, (2010), pp. 147-165.

Hsu, D.F. and Taksa, I. Comparing rank and score combination methods for data fusion in information retrieval. *Information Retrieval*, 8(3), (2005), pp. 449-480.

Hsu, D.F., Chung, Y.S., and Kristal, B.S. Combinatorial fusion analysis: methods and practice of combining multiple scoring systems, in: H.H. Hsu (Ed.), *Advanced Data Mining Technologies in Bioinformatics*, Idea Group Inc., (2006), pp. 32-62.

Hsu, D.F., Kristal, B.S., Schweikert, C. Rank-Score Characteristic Function and Cognitive Diversity, in *Brain Informatics*, (edited by Yiyu Yao et al), LNAI 6334, Springer, (2010), pp. 42-54.

Ivanov, A. Using prediction markets to harness collective wisdom for forecasting. *Journal of Business Forecasting*, 28(3), (2009), pp. 9-14.

Lee, Y., Tsai, R., Ettl, M., Konopka, J. “Optimization of Sales and Operations Planning for a computer manufacturer”, invited paper for Supply Chain Optimization Conference, Univ. of Florida, Gainesville, FL, Feb. 27-Mar. 1, 2003.

Lemke, C. and Gabrys, B. Meta-learning for time series forecasting and forecast combination. *Neurocomputing* 73, (2010), pp. 2006–2016.

Li, Y., Hsu, D.F., and Chung, S.M. Combining Multiple Feature Selection Methods for Text Categorization by Using Rank-Score Characteristics. 21st IEEE International Conference on Tools with Artificial Intelligence, (2009), pp. 508-517.

Lin, K.-L. et al. Feature Selection and Combination Criteria for Improving Accuracy in Protein Structure Prediction, *IEEE Transactions on Nanobioscience*, Vol 6, No. 2, (2007), pp. 186-196.

Lyons, D.M. and Hsu, D.F. Combining multiple scoring systems for target tracking using rank-score characteristics. *Information Fusion* 10(2), (2009), pp. 124-136.

Marmierab, F. and Cheikhrouhou, N. Structuring and integrating human knowledge in demand forecasting: a judgemental adjustment approach. *Production Planning & Control: The Management of Operations*. Volume 21, Issue 4, (2010), pp. 399-412.

McMunn-Coffran, C., Schweikert, C. and Hsu, D.F. Microarray Gene Expression Analysis Using Combinatorial Fusion. *IEEE BIBE*, (2009), pp. 410-414.

Mesterharm, C., and Hsu, D.F. Combinatorial Fusion with On-line Learning Algorithms. The 11th International Conference on Information Fusion, (2008), pp. 1117-1124.

Rieg, R. "Do forecasts improve over time?: A case study of the accuracy of sales forecasting at a German car manufacturer", *International Journal of Accounting and Information Management*, Vol. 18 Iss: 3, (2010), pp. 220-236.

Rowe, G. and Wright, G. The Delphi technique as a forecasting tool: Issues and analysis, *International Journal of Forecasting*, Volume 15, Issue 4, (1999), pp. 353-375.

Schweikert, C., Li, Y., Dayya, D., Yens, D., Torrents, M. and Hsu, D.F. Analysis of Autism Prevalence and Neurotoxins Using Combinatorial Fusion and Association Rule Mining. *IEEE BIBE*, (2009), pp. 400-404.

Tsai, R. Forecasting Demand using Dynamic Shipment and Orders Information, *INFORMS Annual Meeting*, Denver, 2004.

Tsai, R., Lee, Y., Ettl, M., Cheng, F., Ervolina, T., Konopka, J. Investment Decision and Risk Management Optimization for a Computer Manufacturer, invited paper for the technical session "Risk management and Demand Forecasting" at the Institute for Operations Research and Management Science (INFORMS), Annual Conference, Atlanta, Georgia, Oct 19-23, 2003.

Tsai, R., Lee, Y., Ettl, M., Ervolina, T., Konopka, J. Dynamic Risk, Investment and Demand Management, invited paper for the technical session "Risk management and Demand Forecasting" at the Institute for Operations Research and Management Science (INFORMS), Annual Conference, Atlanta, Georgia, Oct 19-23, 2003.

Vijayalakshmi, M., Menezes, B., Menon, R., Divecha, A., Ravindran, R., and Mehta, K. Intelligent sales forecasting engine using genetic algorithms. In *Proceedings of the 19th ACM international conference on Information and knowledge management (CIKM '10)*. ACM, New York, NY, USA, (2010), pp. 1669-1672.

Vinod, H.D., Hsu, D.F., and Tian, Y. Combinatorial Fusion for Improving Portfolio Performance. *Advances in Social Science Research Using R*, Springer, (2010), pp. 95-105.

Wolfers, J. and Zitzewitz, E. Prediction Markets. *Journal of Economic Perspectives*, Volume 18, Number 2, (Spring 2004), pp. 107–126.

Yang, J.M., Chen, Y.F., Shen, T.W., Kristal, B.S., Hsu, D.F. Consensus scoring criteria for improving enrichment in virtual screening, *J. Chem. Inform. Modell.* 45, (2005), pp. 1134–1146.

# ESTIMATING THE PROBABILITY OF WINNING A MAJOR COMPETITION

A. Vasilopoulos  
St. John's University, New York

## ABSTRACT

*Probability of success is a parameter which always plays an important role whenever an assessment is made of various business opportunities for any corporation. This paper presents a procedure for statistically deriving a probability of success equation, based on the outcomes of past and present corporate programs, which is a function of several important factors. Parametric plots of the equation allow the calculation of each program's probability of success, and indicate several other possible uses of the results.*

## INTRODUCTION

Probability of success is a parameter that always plays an important role whenever an assessment is made of various business opportunities for any corporation.

The probability of success,  $P_s$ , can be considered as a product of two factors;  $P_F$ (= Probability of program being **Funded**), and  $P(W/F)$  (=Probability that program will be won, given that it is funded).

In equation form

$$\begin{aligned} P_s &= P_F P(W/F) & (1) \\ &= P_F P(F, W) / P_F & (2) \\ &= P(F, W) & (3) \\ &= P(F) P(W) = P_F P_w & (4) \end{aligned}$$

because of the assumed independence of the two events.

Obtaining workable estimates for  $P_F$  and  $P_w$  is not an easy task. These estimates are almost always subjective in nature and, as a consequence, not very accurate. Also, the consistency of these estimates is questionable.

One method to evaluate  $P_w$  is to ask a committee, comprised of several members, to evaluate each program in a number of categories which have been postulated to represent the critical areas by which a contract is either won or lost. Each member of the committee does his/her evaluation independently, and each program or proposal is also judged individually. The outcome of past corporate competitions does not enter into this evaluation explicitly and, perhaps, not even implicitly. On the basis of this evaluation each committee member recommends to either Bid or Not Bid on the current proposal.

A separate methodology, consisting of a sequence of steps, is used to evaluate  $P_F$ . Our aim, at present, is toward finding a better method of obtaining  $P_w$ . No attempt will be made to modify  $P_F$  at the present time. Our efforts toward finding an acceptable solution to this problem have been twofold:

1) To use statistical methods (based on outcomes of past and present programs the corporation participated in) to evaluate  $P_w$ .

2) To use empirical means to evaluate  $P_w$ . This is accomplished by modifying the equal probability concept for each competitor by considering what each competitor has done in the general area of the program in the recent past.

The objective of this paper is to describe and evaluate a statistical method developed for the evaluation of  $P_W$ . The proposed method is substantially different from other methods used. Even though it too is somewhat subjective, because it requires a program manager's input, the method uses the outcomes of previous company programs to form a basis for the evaluation of the "probability of win" equation. The equation that has been selected as the best has been evaluated and the results appear in Figures 1-5. These figures, showing  $P_W$  in parametric form, can be helpful in pointing "the way to go" to increase  $P_W$ . The resulting estimates for  $P_W$  are consistent and at least as accurate as those provided by various other existing methods.

## DISCUSSION

The proposed method uses regression analysis to obtain  $P_W$  in the form of an equation. The data needed for the regression analysis are obtained from past and current corporate projects, as follows:

- 1) The six (6) categories below were postulated to represent the critical areas by which a contract is either won or lost. Five different levels of relative standing were postulated for each category.
  - a) Pre-proposal Effort
  - b) Competitive Position
  - c) Price Strategy
  - d) Desirability
  - e) Responsiveness
  - f) Customer Rapport
- 2) Fourteen (14) programs were selected for inclusion in the study, shown in Table 1 below as programs 1, 2, ... , 14, together with their outcomes.

**Table 1 - Programs included in the study and their outcomes**

Program #	Program Outcome
1	WIN
2	LOSS
3	LOSS
4	LOSS
5	LOSS
6	WIN
7	WIN
8	LOSS
9	LOSS
10	WIN
11	LOSS
12	WIN
13	WIN
14	WIN

- 3) Program managers were asked to evaluate their own programs on the six categories listed above, and also to state any reasons which they felt influenced the outcome of their respective programs. The grade on each category is a number between 1 and 5, with 5 being the best and 1 the worst ranking of the programs in each category.

Table 2 below is a list of the most important reasons stated by the program managers as having had an influence on the outcome of their programs.

**Table 2 Most Important Factors Influencing the Outcome of a Program**

- 1) Technical position relative to competition
- 2) Customer must be convinced that proposal management will continue with program if won
- 3) Be in a position to demonstrate rather than simply recommend solutions

- 4) Degree of confidence of customer in the company's top management .
- 5) Financial Stability of the company as viewed by the customer
- 6) Current Performance on other projects
- 7) Political Considerations
- 8) Cost Credibility
- 9) Selection of proper team
- 10) Quick and honest response to customer's questions

These are all valid recommendations and should be considered whenever a new proposal is being prepared. As a result of these recommendations "Political considerations" was also included as an additional category in the evaluation of the programs because the others are already covered by the previous six categories, thus making the total number of categories for evaluating each program equal to seven (7).

The number of programs included in the study constitute the sample size. For a truly statistical study a much bigger sample size is needed. But a bigger sample could not be obtained.

The independent variables in the regression analysis are the categories selected as influencing  $P_w$ . The X matrix is formed from the inputs provided by the program managers.

The dependent variable is the probability of win. The  $P_w$  vector is a column of ones or zeros, depending on whether the corresponding program was a win or a loss, respectively.

**Table 3** summarizes the data collected for this study. The step-by-step procedure for evaluating the "probability of win" equation is given in Appendix 1.

CATEGORIES AND VALUES								
Program	Outcome	X1	X2	X3	X4	X5	X6	X7
1	WIN=1	2	2	4	5	1	3	4
2	WIN=1	2	3	2	3	2	2	4
3	WIN=1	2	3	4	3	4	2	4
4	WIN=1	3	4	5	5	1	5	4
5	WIN=1	3	5	5	5	5	5	5
6	WIN=1	3	3	5	5	3	4	4
7	WIN=1	5	5	5	5	5	5	5
8	LOSS=0	3	5	5	5	5	5	1
9	LOSS=0	3	4	5	5	5	5	3
10	LOSS=0	3	3	5	4	5	5	3
11	LOSS=0	2	3	5	5	3	5	3
12	LOSS=0	2	3	5	5	4	4	1
13	LOSS=0	2	3	5	5	3	1	3
14	LOSS=0	3	3	4	4	4	1	3

where: X1=Pre-Proposal Effort;  
 X2=Competitive Position;  
 X3=Desirability;  
 X4=Responsibility;  
 X5=Customer Rapport;  
 X6=Price Strategy;  
 X7=Political Considerations.

When all the data were collected a regression routine, having the ability to search through all the possible combinations of the independent variables and come up with the best possible fit to the given data, was used.

Originally, with all the selected programs in the base, a single one-variable, physically realizable (i.e. with positive coefficients) equation resulted. When some of the more obviously inconsisted programs (i.e. programs

which were voted very high on each category but were losses) were removed from the base, the number of physically realizable equations that resulted increased rapidly. With five such programs out of fourteen removed from the base, we obtained the following number of physically realizable equations:

- Linear Regression
  - a) 6, 1-variable equations with positive coefficients
  - b) 3, 2-variable equations with positive coefficients
- Log Regression
  - a) 5, 1-variable equations with positive exponents
  - b) 6, 2-variable equations with positive exponents
  - c) 2, 3-variable equations with positive exponents

Of these 22 meaningful equations the one that was judged best is:

$$P_w = 0.0166 X^{0.322} Y^{0.668} Z^{1.5553}, \text{ where:} \quad (5)$$

X = Competitive position (Independent Variable X<sub>2</sub> in Table 3)

Y = Price Strategy (Independent Variable X<sub>6</sub> in Table 2)

Z = Political Considerations (Independent Variable X<sub>7</sub> in Table 3)

This equation has been completely evaluated, and the results appear in graphical form in Figures 1, 2, 3, 4, and 5. These curves can be used to find the probability of win of a new program when the parameters X, Y, and Z of the program have been estimated

For a fixed P<sub>w</sub>, there may be several combinations of the parameters X, Y, and Z that can result in this fixed level of P<sub>w</sub>. Figures 1-5 can be helpful in selecting the combinations of parameters which are most feasible. For example, if a given level of P<sub>w</sub> is desired, it may be easier to arrive at it by improving the position of the company in one area (say Price Strategy) than in another (Political considerations for example).

## INTERPRETATION OF RESULTS

- Using a threshold of h=0.5, the "probability of win" equation can accurately predict the outcome of every program in the base, except one (i.e. correctly predicts the outcome of eight out of nine programs in the base).
- Again, using a threshold of h=0.5, this equation accurately discriminates between wins and losses in three out of five programs left off the base. It should be remembered, however that the reason these programs were excluded from the base was the fact that their rating was completely out of proportion to their outcome. It is not suggested here that the ratings were wrong; only that to obtain a reasonable fit to a set of data, the data must appear to possess a certain relationship.
- In addition to the logarithmic equation presented above, two linear regression equations were identified as being able to do almost as good a job as the model proposed above.

These equations are:

$$P_w = -0.51 + 0.31Z \quad (\text{one-variable equation}) \quad (6)$$

$$P_w = -0.54 + 0.02X + 0.30Z \quad (\text{two-variable equations}) \quad (7)$$

These two equations, with a threshold of h=0.5, perform as well as the logarithmic model. They are much easier to use, and they would have been selected outright if it were not for the fact that for some values of the parameters X and Z these equations give a negative value for the probability of win. We can, of course, change these values to zero and use the equations. But then we could use the logarithmic equation, which does not present any such problems.

- As more programs enter the base (i.e. as the sample size increases) the ability of the equation to predict the outcome within the base will improve, and with it the ability of the equation to predict outside the data base should also improve.

## HOW TO FIND P<sub>w</sub>

To obtain  $P_w$  for a new program one must first obtain values for the three parameters: Competitive Position, Price Strategy, and Political Considerations. It is then a simple matter to read off the answer from the appropriate graph. Enclosed as Appendices 2, 3, and 4 are three separate charts marked, respectively:

- o Evaluating Competitive Position
- o Evaluating Price Strategy
- o Evaluating Political Considerations

Each parameter requiring evaluation has five different statements under it marked (T,F). Read each statement and decide whether it is true or false for the program under consideration. For each statement marked T, add 1 point to the value of the parameter being evaluated. If all the five statements are marked T, the value of the parameter is 5. If all the statements are marked F, the parameter is assigned the value 1.

When all three parameters have been evaluated, read off the corresponding  $P_w$  from the appropriate graph.

## HOW TO USE THE CALCULATED $P_w$

- If one is interested only in ranking several programs, simply evaluate the three parameters for each program and then use the appropriate graph to obtain the  $P_w$  for each program. The program with the highest  $P_w$  has the highest ranking.
- To rank several competitors for the same program, evaluate the three parameters for each competitor, and then obtain the  $P_w$  for each from the appropriate graphs. The competitor with the highest  $P_w$  has the highest ranking (has the best chance of winning), assuming that all competitors can be described by the same equation.
- If one is interested in achieving a predetermined level of  $P_w$  for a single program, the following procedure is suggested.
  - o For a fixed  $P_w$ , determine all the possible parameter combinations that would result in the desired  $P_w$ . These combinations can be found directly from the graphs for each fixed  $P_w$  (see Figure 6, which plots  $P_w$  versus  $N$ =Number of Parameter Combinations).
  - o Select from these combinations of the parameters that combination which can best achieve the desired  $P_w$ . For example, if a given level of  $P_w$  is desired, it may be easier to arrive at this level by improving the position of the company in one area (say Price Strategy) than in another (Political Considerations for example).

Using exponential curve fitting techniques an equation can be derived between  $P_w$  and  $N$ , and the result is:

$$P = 0.8785 e^{-0.02298N} \quad (8)$$

or

$$N = 5.637 - 43.5161 \ln P. \quad (9)$$

This equation is shown on figure 6, together with the curve resulting by plotting actual data.

## CONCLUSIONS AND RECOMMENDATIONS

The primary advantage associated with using the proposed methodology is that it offers a consistent way of comparing the win probabilities among Programs, and a means of evaluating the sensitivity of alternative strategies that can be tried for improving  $P_w$ .

How useful these equations can be depends to a large extent on how objectively and accurately a program can be evaluated to determine values for the parameters of the equation  $X$  (=Competitive Position),  $Y$  (= Price Strategy), and  $Z$  (= Political Considerations).

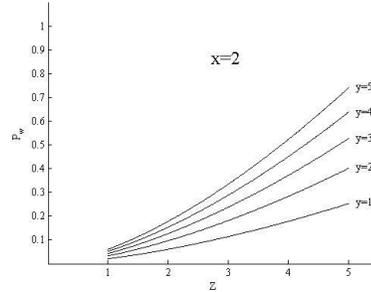
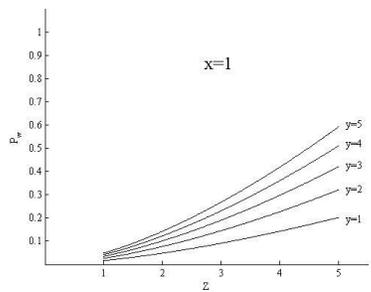
If this evaluation is done by someone intimately connected with the program, it will probably be biased but accurate. If it is done by someone outside the program, it will be more objective but perhaps less accurate. If the evaluation of several programs is done by the same outsider, the evaluation may not be very accurate but it will be consistent, and these equations will rank the programs consistently.

$$P_w = 0.0166 X^{0.322} Y^{0.668} Z^{1.553}$$

X = COMPETITIVE POSITION

Y = PRICE STRATEGY

Z = POLITICAL CONSIDERATIONS



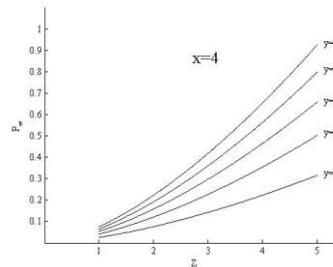
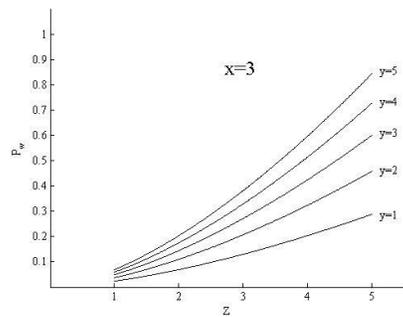
$$P_w = 0.0166 X^{0.322} Y^{0.668} Z^{1.553}$$

X = COMPETITIVE POSITION

Y = Figure 1

Z = POLITICAL CONSIDERATIONS

Figure 2



$P_w = 0$  Figure 3

53

X = COMPETITIVE POSITION

Y = PRICE STRATEGY

Z = POLITICAL CONSIDERATIONS

Figure 4

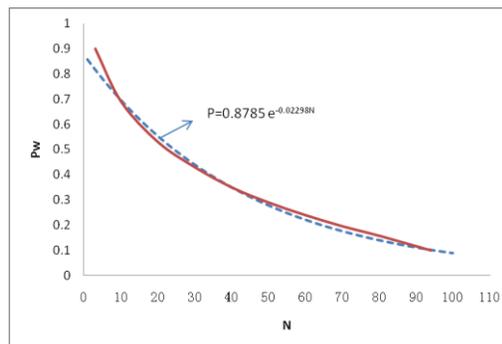
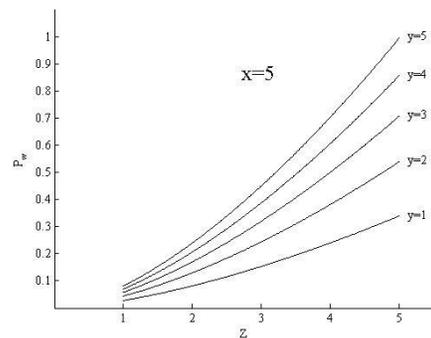


Figure 5

Figure 6

PROBABILITY OF WIN ( $P_w$ )  
VS

N=NUMBER OF PARAMETER COMBINATIONS  
EXAMPLE: THE # OF PARAMETER COMBINATIONS THAT CAN PRODUCE A PROBABILITY OF  
WIN  $\geq 0.5$  IS 23

## APPENDIX A: PROCEDURE FOR OBTAINING THE "PROBABILITY OF WIN" EQUATION

1. Identify the important factors affecting the probability of win of each program/project.
2. Select representative company programs of past and current status, both wins and losses.
3. Have the Program Manager of each program/project rate it in each of the categories included in Step (1), above, by assigning a numerical grade to each category.
4. These grades will form the X-matrix required in the proposed regression analysis.
5. The Pw-matrix is formed as a column of ones or zeros depending on whether the corresponding project was won or lost, respectively.
6. Obtain the best fit to these data,  
i.e.

$$Pw = b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n \quad (10)$$

by evaluating the coefficients  $b_i$  of equation (10) where:

$X_i$  : i-th important category in Step (1) above.

7. "Normalize" by dividing through by an appropriate constant to insure that  $0 \leq Pw \leq 1$ .
8. As new programs become available, either "modernize" the data base by deleting the "oldest" entries or enlarge the base. In either case a new regression equation is obtained, and therefore a new prediction equation.
9. To evaluate the probability of win for a new program/project do the following:
  - a) Have a committee of experts rate the new program/project on each of the categories of Step (1)
  - b) Average over the number of experts.
  - c) Use these averaged  $X_i$  as inputs into the "prediction" equation.
  - d) The "prediction" equation is the regression equation of Step (7).

## APPENDIX B: EVALUATING "COMPETITIVE POSITION"

- (T,F)  Procuring agency has higher confidence in this company's management than in the management of the competition.
- (T,F)  This company's financial position, as viewed by the procuring agency, is better than that of the competition's.
- (T,F)  This company's performance on current projects is better than the competition's.
- (T,F)  This company's technical position is better than the competition's.
- (T,F)  This company's proposed solutions not only are more innovative than those of the competition, but they can be demonstrated to work.

## APPENDIX C: EVALUATING "PRICE STRATEGY"

- (T,P)  This company's manufacturing cost is no higher than that of the competition's.
- (T,P)  This company's design cost is no higher than that of the competition's.
- (T,P)  This company's overhead cost is no higher than that of the competition's.
- (T,P)  This company's price per man month of effort is no higher than that of the competition's.
- (T,P)  This company's total price is lower than that of the competition's.

## APPENDIX D: EVALUATING "POLITICAL CONSIDERATIONS"

- (T,F)  Unemployment in this business area (location of company under study) is worse than the unemployment of the same business area in the geographic locations of the major competitors.
- (T,F)  No major contracts in this business area have been awarded in the corresponding section of the

- country in the past 5 years.
- (T,F) O This company is among the competitors that have not won a major contract in this business area in the last 5 years.
- (T,F) O This company's team is politically more acceptable than the competition's teams.
- (T,F) O The overwhelming majority of this state's Congressional delegation is making a concerted effort on this company's behalf.

## REFERENCES

Berenson, marc, l.; Levine, David, m.; Krehbiel, Timothy, c.; "Basic business statistics", Pearson-prentice hall, 9<sup>th</sup> edition, 2004

Black, ken " Business statistics", 4th edition, Wiley, 2004

Canavos, George, c.; "Applied probability and statistical methods", Little, Brown, 1984

Carlson, William, l.; Thorne, Betty; "Applied statistical methods", prentice hall, 1997

Chou, Ya-lun; "statistical analysis for business and economics"; elsevier, 1992

Freund, John, e.;Williams, Frank, j.; " Modern business statistics"; revised by: Perles, Benjamin, and Sullivan, Charles; Prentice-hall, 1969

Freund, John, e.; Williams, Frank, j.; Elementary business statistics: the modern approach; prentice-hall, 1982

Johnson, Robert "Elementary statistics" Duxbury press, 1973

Mcclave, James, t.; Benson, George, p.; Sincich, Terry; "Statistics for business and economics", 8th edition, Prentice hall, 2001

Salvatore, Dominick; "Theory and problems of statistics and econometrics", Schaum's outline series, Mcgraw-hill

Steel, Robert, g.d.; Torrie, James, h.; " introduction to statistics"; 1976, Mcgraw-hill

Vasilopoulos, Aa. "Business statistics – a logical approach. Theory, models, procedures, and applications including computer (minitab) solutions", Boston, ma; Pearson custom publishing, 2007

Vasilopoulos, A. & Lu, F. Victor. "Quantitative methods for business with computer applications", Boston, Ma; Pearson custom publishing, 2006

Vasilopoulos, A. "Regression analysis revisited", Review of business, St. John's University, Jamaica, Ny; 2005

# **THE LINK BETWEEN MARKETING INFORMATION, STRATEGIC MARKETING AND ORGANIZATIONAL SUCCESS: SOUTH AFRICAN PERSPECTIVES**

**Peet Venter, Mari Jansen van Rensburg and Johan Strydom  
University of South Africa, South Africa**

## **ABSTRACT**

*Quantitative research among 167 South African marketing decision-makers determined that the relationship between marketing information and strategic marketing clearly lies in the extent to which marketing information quality and segment (customer) insight influence overall perceptions of marketing information quality. There was little evidence to suggest any strong influences on financial performance, suggesting that marketing information and customer insight are important contributors to market orientation and thus indirectly to organisational performance, rather than direct contributors.*

## **INTRODUCTION**

As a boundary-spanning organizational function, marketing is highly dependent on internal and external information to support marketing decision-making. It is therefore not surprising that marketing research, with primarily an external focus, originated as early as the 1930s (see e.g. Taylor, 1936), followed by marketing intelligence (Kelley, 1965) and marketing information systems (Brien & Stafford, 1969). The apparent importance of information to support marketing decisions has endured, with the Marketing Science Institute (2010) suggesting that, in its view, the most important research priority in marketing is “using market information to identify opportunities for profitable growth”. While marketing research, marketing intelligence (and its ‘evolved’ form, competitive intelligence) and marketing information systems has enjoyed considerable research attention over many years, these topics have been remarkably absent from many of the top marketing journals. In particular, the interplay between marketing information, strategic marketing decision-making and organization success is an aspect that has not been adequately studied if we are to understand how marketing information adds value to the marketing function. For purposes of our analysis we use the term ‘marketing information’ (MI) to encompass both marketing intelligence and marketing information systems.

In this paper we are addressing two research questions in the South African context:

- 1) What is the relationship between marketing information practice and strategic marketing practice?
- 2) What is the relationship between marketing information and organizational financial performance?

In exploring this research question we next examine marketing information and strategic marketing practice.

## **LITERATURE REVIEW**

The importance of MI is put into perspective when the notion of market orientation is examined. The marketing concept suggests that, if you satisfy your customers’ needs, you will attain organizational objectives. The marketing concept manifests in organizations as market orientation, which Shoham, Rose and Kropp (2005) describe as the firm’s ability to anticipate, react to and capitalize on environmental changes, leading to superior

performance. In practice, this could be described as the gathering, dissemination and use of information in decision-making (Jaworski & Kohli, 1993). Market orientation has been linked positively to organizational performance in several studies. Kara, Spillan and DeShields (2005) found a positive correlation between market orientation and the performance of small service businesses in the USA while Aldas-Manzano, Küster and Vila (2005) found a positive relationship between market orientation and certain aspects of innovation in Spanish firms. Shoham et al. (2005) conclude that market orientation positively affects organizational performance and behavior in general. The conclusion from this is that marketing information can contribute to organizational performance.

Information technology (IT) has become a central component of marketing information gathering, dissemination and usage. Technologies such as the internet, intranets, and data warehouses have become critical to many organisations and can play a key role on the generation and dissemination of marketing information. It is not enough to generate marketing information, and in this regard several technologies are useful in the marketing environment. On the other hand, the development of systems to support marketing decision-making should also take cognisance of the needs of marketing decision-makers. There is a wide range of technology tools to support marketing decision-making (see e.g. Daniel, Wilson & McDonald, 2003, for a comprehensive review of IT in marketing).

It is also important to ensure the perception that the quality of marketing information is acceptable to marketing decision-makers. Conradie and Kruger (2006) suggest that quality in all aspects of information and information delivery is important. This may include timeliness, accuracy, clarity of presentation and completeness. There is a distinction between the inherent quality of the data, such as accuracy and reliability and the pragmatic quality of the data such as timeliness and format that makes it more useful to end-users.

In order to determine the relationship between marketing information practice and strategic marketing practice it is also important to determine what we mean by strategic marketing practice.

Based on the mainstream of academic literature, strategic marketing revolves around four key activities (confer Best, 2009; Cravens & Piercy, 2006; Venter & Jansen van Rensburg 2009):

1. Defining a market according to the customer need being addressed.
2. Segmentation, targeting and positioning that includes the division of a market into submarkets with similar characteristics, quantifying and qualifying the needs of the defined customer groups (or segments) and selecting attractive segments as market targets (targeting). Positioning entails the development of appropriate value propositions to meet the expressed needs and to gain a competitive advantage in the segment.
3. Formulating and implementing marketing strategies that encapsulate marketing objectives and strategies for each segment and the strategies and tactics to attain the objectives.
4. Measuring performance in each segment against marketing objectives.
- 5.

Leading authors suggest that value is the key to successful strategic marketing and considers marketing as a value creation entity that defines markets and understands value, determines value propositions, delivers and monitors value (Best, 2009).

Over the years, various authors have contributed towards the discussion on the need for strategic and marketing intelligence systems, how they should be developed (Goretsky, 1983) and an idealized design (Trim, 2004; Montgomery & Weinberg, 1998; Mockler, 1992; Rothschild, 1979; King & Cleland, 1974). Others have suggested that information specialists could participate more in the strategic decision-making process and have outlined conceptual processes for doing this (Trim & Lee, 2008). Most of this research has focused on the normative, in other words what it should be, rather than what it actually is. In our study, we attempt to focus on the practice of marketing information and strategic marketing.

Studies to determine the contribution of marketing or strategic intelligence to marketing decision-making have been scarce. Lackman, Saban & Lanasa (2000) conducted descriptive research on this relationship, with a limited geographical focus (western Pennsylvania). This study also did not address the relative complexity of marketing intelligence and focused on MI as one broad concept, rather than as a complex and interrelating set of subsystems and activities. Despite these possible criticisms, the study did confirm the important contribution of MI to the core elements of strategic marketing, suggesting that more research in the nature of the relationship

between MI and strategic marketing could be beneficial. This is something that we set out to explore in more detail.

## RESEARCH METHODOLOGY

A quantitative research approach was used in support of the broader objective of exploratory research, and seeking to establish a pattern of organizational behaviour around the practice of strategic marketing. In order to elicit a higher response rate, structured telephone interviews were conducted with the selected respondents using a survey approach. Computer-assisted telephone interviewing (CATI) was the primary data gathering method, using questionnaires with a predetermined set of questions. Respondents also had the choice of completing the survey in their own time online. This method reduced costs, increased timeliness and improved data quality (Couper, 2005).

A sampling frame of marketing decision-makers representing more than 700 organizations was compiled representing relatively high marketing spenders with more than 100 full time, permanent employees. This ensured that we targeted organizations with formal MI and strategic marketing processes. A questionnaire was designed that measured the following aspects:

- MI requirements and availability
- *MI practices and processes*
- *MI tools and functions, the extent to which it is used in the organization and its value to the strategic marketing process*
- *Strategic marketing practices and organizational performance*

Data was analysed in PASW (SPSS) software, using descriptive analysis as well as factor analysis and regression analysis. The analysis centred on five components of the questionnaire. First, the items relating to marketing information practices and strategic marketing practices respectively were subjected to factor analysis to reduce the data and reveal the underlying dimensionality of the data. Second, the identified factors were correlated with each other and with the two questions on the overall quality of marketing information and the overall financial performance of the firm. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used to determine the suitability of the item scales to factor analysis. Varimax rotation was employed to derive a simple, more explanatory structure, and factors with Eigenvalues less than 1 were screened out (Hair, Black, Babin, Anderson & Tatham, 2005). Factor loadings of 0.5 were used as a cut-off point, as were Cronbach's alpha coefficients of 0.7 as a measure of internal reliability for the identified factors. Correlation analyses using Spearman's rank correlation coefficient was used to assess the strengths of relationships between the identified factors and dependent variables.

## RESEARCH FINDINGS

A total of 167 respondents completed the survey. The companies represented in the analysis represented mainly the manufacturing industry (43.7%), followed by services (36.5%) and trade (19.8%). Approximately 17% of companies employed more than 1 000 full-time employees, and 27.4% of the companies employed between 500 and 1 000 employees. Companies that employed between 250 and 500 staff members constituted 27% of the sample and the remainder (28.5%) of companies employed between 100 and 250 employees. Respondents were generally in higher level management positions, with 8.4% of the respondents indicating that they were directors, 49.9% in a senior management positions and 43.7% of the respondents were middle managers. We concluded that the sample was generally representative of marketing decision makers in formal South African business organizations.

The first step was to subject the marketing information and strategic marketing practice item scales to factor analysis. For both scales the KMO test of sampling adequacy yielded a test statistic well above the level of 0.8, while the Bartlett's test of sphericity also yielded highly significant results. Visual inspection of the communalities suggested that these were generally in an acceptable range. The overall results of the analysis are represented in Table 1.

Analysis of the marketing information items revealed five factors explaining 60% of variance. However, two of the factors displayed low levels of internal reliability ( $\alpha < 0.7$ ) and were subsequently excluded

from the analysis. The remaining three factors are outlined in Table 1. Factor 1 relates to *MI quality*, i.e. those factors that determine the perceived quality of marketing information. Factor 2 addresses the *support that information technology (IT) provides to marketing information*. Marketing information is also about the usage of information in the way that it is shared and forms part of decision-making, and this element is the focus of Factor 3, *interdepartmental coordination*.

Analysis of the marketing information items revealed two factors Factor 1, *segment-based marketing* postulates that strategic marketing is based on the company's ability to clearly define markets and market segments. Specific segments should then be selected and served with specific objectives and strategies per segments. The second factor was labelled *segment insight*, as it relates to the overall understanding of the needs and opportunities found in each segment. These factors are in line with the requirements set by leading authors for successful strategic marketing, namely a clear market orientation (expressed through customer insight) and the STP formula as a prerequisite for successful marketing strategies.

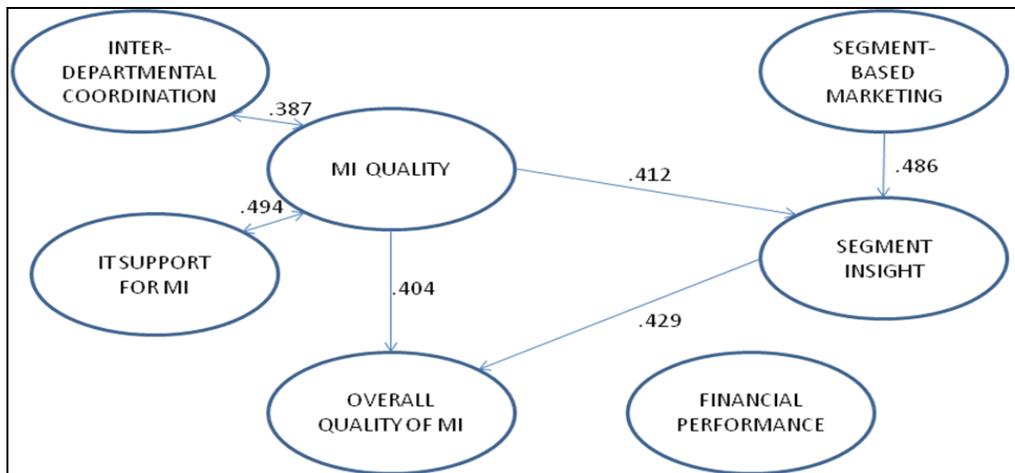
**Table 1: Marketing information and strategic marketing factors**

<b>Factors</b>	<b>Items</b>	<b>Loadings</b>
<b>MI Factor 1</b> <b>MI Quality</b> $\alpha = 0.806$ Mean = 3.08	It is easy for me to obtain market intelligence in the format I require	.679
	As a user of market intelligence my requirements are always taken into account when marketing information systems are designed	.676
	The IT dept really understands the information needs of marketing	.659
	Information is usually available to me by the time I need it	.623
	I routinely receive mark intelligence relevant to my responsibilities without asking	.705
<b>MI Factor 2</b> <b>IT support for MI</b> $\alpha = 0.737$ Mean = 3.14	IT makes it easy to get access to the right market intelligence	.640
	Our marketing strategy influences our IT strategy	.762
	IT assists me in making better marketing decisions	.825
<b>Factor 3</b> <b>Interdepartmental coordination</b> $\alpha = 0.737$ Mean = 3.89	We have interdepartmental meetings at least once a quarter discussing market trends	.807
	Marketing personnel discuss customers' needs with other divisions	.791
	Departments periodically plan a response to changes taking place	.689
<b>SM Factor 1</b> <b>Segment-based marketing</b> $\alpha = 0.778$ Mean = 4.3	We have a clear definition of the market(s) we serve	.769
	We have identified clearly defined market segments	.814
	We focus on specific segments that are attractive to us	.694
	We have specific marketing objectives for each market segment	.757
	We have a clear strategy for each of our chosen market segments	.720
<b>SM Factor 2</b> <b>Segment insight</b> $\alpha = 0.838$	We have a deep understanding of needs of each segment	.647
	We know exactly how we perform in our chosen segments compared to our competitors	.778

Mean = 3.8	Our information systems are geared to provide us with the information we require for segments for each segment	.814
	We have formal processes in place to identify marketing opportunities	.726

We followed the factor analysis with correlation analysis to determine the relationships between the five identified factors and two key variables: the perceived overall quality of MI and the financial performance of the organisation compared to its industry peers. The relationships between the factors and variables are depicted in Figure 1. In order to present the essential relationships, only relationships that are significant at the 95% level of confidence are depicted, as well as only those relationships with a moderately strong relationship (Spearman's Rho of higher than 0.35)

**Figure 1: Key relationships between factors and variables**



The findings depicted in Figure 1 suggest that MI quality and segment insight are two pivotal factors that play a mediating role. MI quality is influenced by interdepartmental coordination and IT support for MI, and in turn has a significant influence on the perception of the overall quality of MI. Segment insight is similarly influenced by segment-based marketing, and also has a significant influence on the perceived overall quality of MI. Segment insight is also influenced by MI quality. There are no particularly strong influences on the perception of financial performance.

## CONCLUSION

The process of analysis has identified five factors from the MI and strategic marketing data respectively. The analysis of the relationship between these factors and two measures (overall quality of MI and financial performance) suggested that MI quality and segment insight are two pivotal mediating variables that determine the overall perceived quality of MI. MI quality is influenced by the level of IT support and the extent to which interdepartmental coordination takes place. In other words, MI quality is influenced by the activities that enable the gathering, dissemination and usage of MI.

Segment insight is determined by MI quality, as well as segment-based marketing activities. This suggests that the mere activity of segmenting-targeting-positioning has little value if segment insight is not achieved. This supports the notion that market orientation is key to the success of the organisation.

The findings thus emphasise the key role of MI in the organisation. However, there was no strong evidence of influences on organisational performance, suggesting that there are perhaps many more variables that affect performance, making it difficult to isolate just a selected few influences.

## REFERENCES

- Aldas-Manzano, J., Küster, I. & Vila, N. 2005. Market orientation and innovation: an inter-relationship analysis. *European Journal of Innovation Management*, 8(4): 437-452.
- Best R. J. 2009. *Market-based management: strategies for growing customer value and profitability*. (5<sup>th</sup> ed.). New Jersey: Pearson Prentice Hall.
- Brien, R. & Stafford, J. 1969. Marketing information systems: A new dimension for marketing research. *Journal of Marketing*, 32(3): 19-23.
- Conradie, P.J. & Kruger, P.S. 2006. *The necessity of information quality for effective business intelligence*. SA Journal of Industrial Engineering, 17(1): 129-147.
- Couper, M. P. 2005. Technology trends in survey data collection. *Social Science Computer Review*, 23(4):486-501.
- Cravens, D. W. & Piercy, N. 2006. *Strategic Marketing*, (8<sup>th</sup> ed.). New York: McGraw-Hill.
- Daniel, E., Wilson, H. & McDonald, M. 2003. *Towards a map of marketing information systems: An inductive study*. European Journal of Marketing, 37(5/6): 821-847.
- Goretsky, M. E. 1983. *Frameworks of strategic marketing information needs*. Industrial Marketing Management, 12(?): 7-11.
- Hair, J. F., [Black](#), B., Babin, B., Anderson, R. E. & [Tatham, R. L.](#) 2005. *Multivariate data analysis*. (6<sup>th</sup> ed.). New Jersey: Pearson Prentice Hall.
- Jaworski, B.J. & Kohli, A.K. 1993. Market orientation: antecedents and consequences. *Journal of Marketing*, 57(July):53-70.
- Kara, A., Spillan, J. E. & DeShields, O. W. Jr. 2005. *The effect of a marketing orientation on business performance: a study of small-sized service retailers using MARKOR scale*. Journal of Small Business Management, 43(2): 105-118.
- Kelley, W. T. 1965. Marketing intelligence for top management. *Journal of Marketing*, 29(4): 19-24.
- King, W. R. & CLELAND, D. 1974. Environmental systems for strategic marketing planning. *Journal of Marketing*, 38(4): 35-40.
- Lackman, C., Saban, K. & Lanasa, J. 2000. The contribution of market intelligence to tactical and strategic business decisions. *Marketing Intelligence & Planning*, 18(1): 6-8.
- Marketing Science Institute. 2010. Research Priorities 2010-2012.
- Mockler, R. J. 1992. *Strategic intelligence systems: Competitive intelligence systems to support strategic management decision making*. S.A.M. Advanced Management Journal, 57(1): 4-10.
- Montgomery, D. B. & Weinberg, C. B. 1998. *Towards strategic intelligence systems*. Marketing Management, 6(4): 44-52.
- Rothschild, W. E. 1979. *Comment on the need for a strategic intelligence system*. Journal of Marketing, 43(4): 53-54.

Shoham, A., Rose, G.M. & Kropp, F. 2005. Market orientation and performance: a meta-analysis. *Marketing Intelligence & Planning*, 23(4/5): 435-454.

Taylor, M. D. 1936. *Progress in marketing research*. Journal of Marketing, July Vol?: 56-64.

Trim, P. R. J. 2004. *The strategic corporate intelligence and transformation model*. Marketing Intelligence & Planning, 22(2/3): 240-256.

Trim P. R. J. & Lee, Y. 2008. *A strategic marketing intelligence and multi-organizational resilience framework*. European Journal of Marketing, 42(7/8): 731-745.

Venter, P. & Jansen van Rensburg, M. 2009. *Strategic marketing: theory and application for competitive advantage*. Cape Town: Oxford University Press.

# **TECHNICAL ENGINEERING DOCUMENT MANAGEMENT: MANAGING CRITICAL DOCUMENTS WITHIN AN OIL PIPELINE AND TERMINALS COMPANY**

**Conceição Maria Sande Vieira,  
Salvador University – Unifacs, Brazil**

## **ABSTRACT**

*The starting point of this research work is the belief that in nowadays society – known as information/knowledge society – one of the main challenges for an organization is to identify, validate, and make available the necessary, up-to-date, and correct information for its collaborators, partners, and stakeholders. Since Information and Communication Technologies (ICT) have moved beyond data management to content management, more and more organizations have been moving towards the automated management of document lifecycle. Development of new content management solutions in organizations requires new content production strategies and changes in business processes and work practices. Therefore, the identification and effective management of critical documents have become one of the main pillars supporting organizations in a competitive world. In this context, this paper discusses the role of technical engineering document management based on the case of the Oil Pipeline and Terminals Business Unit of Transpetro, with special attention to the importance of strategic information contained in a certain category of documents – the critical documents category. It aims at presenting a conceptual framework for identifying and managing critical engineering documents in competitive organizations, as a contribution for the advancement of knowledge in the field of strategic content management.*

## **INTRODUCTION**

Nowadays, information and knowledge have become critical, strategic assets for most organizations. All organizations today, local and global, large and small, use information systems to achieve their business objectives and value propositions, such as operational excellence, customer and supplier intimacy, better decision making, and innovative and safe products and services. A new social structure has been created based on electronic data processing technologies, and supported by multiple computers linked in networks.

In this scenario, organizations face the challenge of having the relevant information, accurate and accessible for decision-making processes related to their business strategies and operations. On the other hand, every day they generate more and more new information that needs to be treated and managed with strategic focus.

Development of new content management solutions are enabling entrepreneurs and innovative traditional firms to create new products and services, to develop new business models, and to transform the day-to-day conduct of their businesses. From this perspective, some businesses, even whole industries, are disappearing while new businesses are springing up.

In other words, each business has its own information value chain, in which raw information is systematically acquired, and transformed through processes and routines that add value to the previous information. In competitive organizations, documents stand out as being one of the most important ways by which the necessary

information will flow to ensure the effective management of their business processes. In addition, information systems are part of a series of value-adding activities for acquiring, transforming, and distributing information that managers can use to improve decision-making and enhance performance aligned to organization's value propositions (Treacy and Wiersema, 1997).

Aligned to that vision, the identification and effective management of critical documents have become one of the main pillars supporting organizations in a competitive world. In this context, this paper discusses the role of technical engineering document management based on the case of the Oil Pipeline and Terminals Unit of a whole-owned subsidiary of a large Brazilian energy company – Transpetro.

This paper discusses the role of technical engineering document management in competitive organizations, specially the importance of strategic information contained in a certain category of documents – the critical documents category. It aims at presenting a conceptual framework for identifying and managing critical engineering documents in competitive organizations, as a contribution for the advancement of knowledge in the field of strategic content management.

## THEORETICAL BACKGROUND

Van Wegen and De Hoog (1996) point out that the value of information is a function of its effect on decision-making process. In general, the real value of information can be directly associated to how information helps decision-makers to pursue and achieve their objectives and goals within their organizations. According to these authors, the quality of information has been assessed taking into account the following three dimensions:

- *Content*: information should be accurate, relevant, and complete;
- *Time*: information should be timely and current;
- *Form*: information should be provided at the appropriate level of detail and in the most appropriate form.

In other words, information should have certain characteristics to make it valuable, as being accurate, verifiable, timely, organized, meaningful, useful, and cost effective. As postulated by Laudon and Laudon (2006) and summarized here in Table 1, these quality attributes indicate the undoubted importance of the role of information in contemporary organizations.

**Table 1: Quality attributes for assessing the value of information**

Attribute	Definition
Accuracy	The accuracy level depends on the use of information. In some cases, it is sufficient that information is just correct. In other occasions, it must be accurate and detailed as much as possible. Inaccurate information often is worse than no information, once inaccurate information can lead to incorrect decisions.
Relevance	Meaningful information is relevant to the person who receives it. Because certain information is meaningful only to specific individuals or groups, unnecessary information should be eliminated.
Availability	Possibility of immediate access to information.
Reliability	In a statistical sense, the reliability of information is the percentage of times that it is conducted within the limits considered accurate by the system.
Timeliness	The need for timely information can change for each business decision. Some decisions require weekly or monthly information while other decisions require daily information. Timeliness is an aspect of information that depends on the situation.
Verifiability	Verifiable information means that the information can be confirmed by the user.
Cost-effectiveness	Cost-effective information costs less to produce than the value of the resulting information. Most organizations periodically review the information they produce in reports to determine if the reports provide valuable information. Based on that review, the companies can determine whether to continue, scale back, or even eliminate these reports.

Source: Laudon and Laudon (2006).

Since the late 1990s, after the adoption of new information and communication technologies (ICTs), organizations experienced a fast, partly uncontrolled growth of information assets in many forms and media such as text documents, engineering drawings, XML, still images, audio and video files, and many other file types and formats. Since then, practitioners, consultants, and professional communities have actively discussed the

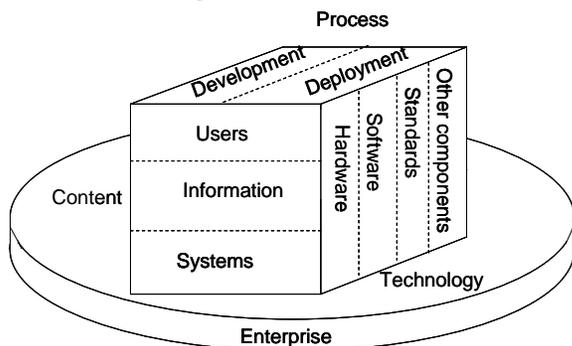
problems related to content management in organizations and a great number of tools have been made available. Among them, Enterprise Content Management (ECM) technologies have been widely adopted. In this paper, we define ECM as technologies used to manage the content of assets like documents, web sites, intranets, and extranets in organizational or inter-organizational contexts (Smith & McKeen, 2003).

The main benefits of ECM technologies depend on their application area, but the following benefits can be considered for all areas: (i) quality improvement of business processes, in general; (ii) distributed, ready access to the data by users and systems, including the ability to onramp content to line of business systems, ERP systems, CRM systems, and others; (iii) the ability to eliminate mail delay, mail costs, and mail loss; (iv) the ability to introduce forms interfaces, automated workflow, and more automatic routing of content; (v) the ability to capture and retain the document image and thereby eliminate paper; and (vi) the ability of online sharing of information, and enabling decision-making processes with more participants and with less risks. According to Tyrväinen et al. (2006), ECM can be viewed from four perspectives (Figure 1): content, technology, enterprise, and process.

The content perspective refers to the identification of content items, their semantics, structuring, and organization, as well as the creation and use of content. Within the technology perspective, we can include the development of hardware, software, and standards for content management in organizational context. The enterprise perspective is concerned with organizational, social, legal, and business issues of content management. Finally, from the process perspective, one can consider the development and deployment of new content management solutions in a given enterprise.

For the purpose of the present work, we will focus especially on the content perspective. Tyrväinen et al. (2006) argue that although the word ‘content’ has a number of meanings, it always refers essentially to something contained in an entity. Compared to the use of the terms ‘data’ or ‘information’, content clearly is associated with a container. Content is often opposed to some other aspect of the container, for example, structure or form or representation, and carries the most substantial semantics of the entity.

**Figure 1: Constituent elements of a Enterprise Content Management System**



Source: Tyrväinen et al. (2006).

The content perspective comprises three views, as follows:

- *Information view*: it refers to the semantics of the content, and how the content is represented and made accessible to users. It includes issues such a clustering content of an information repository into meaningful content units, granularity of content, metadata, text transformations, content search and retrieval, and content representation;
- *User view*: it focuses on the relationship between content and users, including both users creating and maintaining content and users reading and using the content;
- *System view*: it focuses on various systems in which the content resides and is made accessible to the users, on the granularity of content used for processing and storage, on interoperation of systems within and across organizational borders, and on formats related to these.

Development of new content management solutions in organizations requires new content production strategies and changes in business processes and work practices. From this perspective, the complexity and overload associated to information contained in technical engineering documents; the need to comply with the legal and

organizational requirements for achieving operational excellence; and the need for more efficient management of technical risks and commercial strategies; constitute key issues for anyone involved in managing documents within a competitive organization. In the next section, we provide a conceptual overview of technical engineering documentation management as a basis for introducing and presenting the case study developed during the academic research.

## **TECHNICAL ENGINEERING DOCUMENTATION MANAGEMENT**

The technical engineering documents comprise a corporate collection with special characteristics. Based on the author's experience as IT consultant and academic researcher, the main characteristics of this type of documents are:

- document size variety;
- the need to update their content every time the situations that they represent suffer any type of intervention;
- the need to support the documents during their creation and revision by a workflow process, which consists of preparation of the draft; incorporation of comments and textual graphics; approval of comments; the final document generation; approval and archiving;
- the demand for human resources with specific capabilities for managing the collection.

Besides the above-mentioned characteristics, Baldam et al. (2002) consider 'timeliness' as a prominent attribute associated to technical engineering documents' quality. According to them, "a technical document will always be in accordance with the life of the equipment/facility/process to which it relates. [...] In some legal cases, such as nuclear installations and others, a permanent custody may be required."

In a world characterized by globalization, where information and communication technologies play a key role, it has become crucial to support the documents regarding new engineering projects carried out in different countries with. This support improves the capacity of organizations involved to act on information flows, and to make available documents in electronic format, in real-time (Joia, 1998).

The technologies that integrate ECM system are: Document Management (DM); Workflow and Document Imaging; and Computer- Aided Design (CAD). They support the management of technical engineering documents in order to meet the information demands within a globalized context of engineering activities. The new macro process based on ECM technologies dramatically changes the concept of corporate technical file.

## **MANAGING CRITICAL DOCUMENTS WITHIN AN OIL PIPELINE AND TERMINALS COMPANY: THE CASE OF TRANSPETRO**

The primary focus of this study was to present the experience of Transpetro in adopting an innovative conceptual framework for identifying and managing critical engineering documents, focusing on its entire collection comprising over 345,000 technical engineering documents. To that end, the author used the case study approach for an in-depth study of strategic content management implementation in Transpetro's Oil Pipeline and Terminals Business Unit.

Case studies have been employed in sociological studies in business before, offering understanding of phenomena in a real-life context. Case studies are used to collect data in order to gain a sharper understanding of a subject and what might be important for further, more extensive research later (Yin, 2009). Yin suggests that case studies describe events within a framework, where problems or issues emerge as the case is analysed and developed. Stake (1995) points out that information generated from case studies often resonates experientially with a broad cross section of readers. Tellis (1997) proposes the case study as a reliable method for study of information technology issues, as those discussed in this paper.

This study is a combination of an exploratory case study and a narrative case study. Exploratory case studies are used to understand processes, where the authors wish to explore unfamiliar phenomena before designing and implementing a larger study. Exploratory case studies allow researchers to identify questions and research issues, develop measurable constructs, and develop measures. In turn, narrative case studies present findings, focusing on perceptions, actions, and reactions of subjects. According to Yin (2009), the present case study is single and holistic. The analytical unit is the Oil Pipeline and Terminals Business Unit of Transpetro.

Transpetro is the largest oil and gas transportation company in Brazil. It works with transportation and storage activities of oil and byproducts, ethanol, biofuels and natural gas. It is responsible for a network of more than 11,000 kilometers (7,000 mi) of oil and gas pipelines, connected to terminals and an oil tanker fleet. The company is a fully owned subsidiary of Petrobras, established on 12 June 1998, as per legislation (Act n° 9.478/1997) which restructured the oil sector in Brazil. In addition to Petrobras, Transpetro provides services to several distributing companies and to the petrochemical industry.

The strategic management model adopted by Transpetro is supported by Balanced Scorecard (BSC) tool, created by Kaplan and Norton (1996). This tool is able to carefully define and monitor business strategies and results, in order to ensure competitiveness and profitability. Based on this conceptual framework, Transpetro has defined its value proposition as being '*operational excellence*'. This value proposition, in turn, comprises the following attributes: cost, quality, and timing of operational processes; excellence in relationships with suppliers; and the speed and efficiency of supply and distribution processes. These attributes are highly dependent on effective information systems, especially those related to the management of technical engineering documents. In 2001, Transpetro began to develop studies regarding the potential use of ECM technologies for management of its entire collection of engineering documents that belonged to the Oil Pipeline and Terminals Business Unit. These documents were geographically dispersed in many cities and in multi-site locations in Brazil. The need for adopting new procedures for managing properly these documents, with the use of updated technology resources, was mainly due to the following circumstances: (i) difficulties in locating and retrieving documents, 2) need for compliance with the legal requirements established by the National Oil, Gas, and Biofuel Regulatory Agency (ANP); and (iii) need for aligning the generation and processing of technical engineering documents to the state-of-art of ECM technologies, in order to improve process efficiencies by making needed information readily and reliably.

During the preparation of a project plan focusing on the implementation of ECM system within the Oil Pipeline and Terminals Business Unit of Transport (with the author acting as coordinator and technical consultant), it was perceived that the engineering documents could be classified into different degrees of importance. These differences indicated the need for new content production strategies and changes in business processes and work practices concerning technical engineering documents. In turn, the introduction of innovative ECM tools, new practices, and procedures required a robust conceptual and practical background, justifying both purposes and intentions.

Within this perspective, in the last quarter of 2002, Transpetro carried out a benchmarking study in cooperation with Enbridge Pipeline Inc. focusing on pipeline integrity, but also including relevant issues on the use of ECM technologies in collections of technical engineering documents. Enbridge Pipeline Inc., a Canadian company, is a leader in energy transportation and distribution in North America. This company operates, in Canada and the U.S., the world's longest crude oil and liquids transportation system. Enbridge also has a growing involvement in the natural gas transmission and midstream businesses.

Throughout the analytical phase concerning the introduction of ECM technologies for improving the Transpetro's technical engineering document management, it was possible to learn about the policy of the Canadian company regarding the management of its design and engineering documents. According to Buchanan (2002), the Enbridge collection of technical engineering documents has been segmented into 11 categories, each one with a specific management format.

The convergence of these factors – the perception of different degrees of importance associated to Transpetro's technical engineering documents, and the existence of a document taxonomy and classification currently used by Enbridge, which included an specific category concerning critical documents – led the author to identify an opportunity to carry out an academic MSc. project focusing on the development of a conceptual framework for strategic content management, which could be purposeful for Transpetro (Vieira, 2004). On that

occasion, it was assumed that the resulting conceptual framework could be implemented by Transpetro and would significantly improve its process of technical engineering document management. Specific objectives of the MSc. project were to: (i) conceptualize and identify the critical documents within the collection of technical engineering documents; (ii) identify strategic information considered necessary to ensure operational continuity and excellence; (iii) define the accessibility and reliability of the strategic content of these documents; and (iv) present the constituent elements of a management model for this particular category of documents.

Transpetro had at that time a collection containing over 345,000 technical engineering documents. All operations related to design; conceptual and basic projects; construction and maintenance of industrial installations of pipelines and terminals were subject to specific engineering projects. In turn, the technical information that was necessary to enable these industrial installations to operate within proper conditions was generated throughout specific engineering projects. The set of documents generated during the development of these projects was called '*Collection of Technical Engineering Documents of Oil Pipelines and Terminals Business Unit*'. Such a collection has been considered vital to ensure continuity of business and to improve decision-making processes at institutional level, both managerial and operational.

As mentioned before, the information contained in these documents may be classified into different categories, according to their degree of importance for decision-making in different organizational levels. For the purpose of this case study, the most important category is that called '*critical documents category*'. All the information classified under this category must be permanently updated in function of changes occurring in pipeline and terminals' installations.

Following a case study protocol, as conceived by Yin (2009), it was possible to systematize the knowledge for an effective management of technical engineering documents and build up a conceptual framework that would be the basis for a management model concerning the particular category of critical documents (See Table 2).

For the field research phase, a questionnaire was designed to gather data from a potentially large number of respondents within the Oil Pipelines and Terminals Business Unit. It comprised six dimensions, deployed into 25 questions, as follows:

- *Concept of documents* (questions 1 to 10): to survey the perception of respondents concerning the concept of critical document within the technical engineering documentation of Transpetro; the identification and importance of these critical documents; and users.
- *Conditions for establishing the reliability of the content of critical documents* (questions 11 to 16): to identify the meaning of verifying the content of a critical document; to identify the people responsible to attest its reliability; and requirements associated to its permanent update.
- *Conditions to ensure the accessibility of critical documents* (questions 17 to 19): to investigate the existence of facilities necessary to enable appropriate access to critical documents and, if so, to identify what were these facilities.
- *Technological support* (questions 20 to 22): to identify whether the ECM system, with its current capabilities on that occasion, allowed management of critical documents, and if not, what would be the functionalities of this system for the effective management of critical documents.
- *Human resources to manage the critical documents* (question 23): to check if Transpetro had human resources (quantitative and qualitative) to manage critical documents, and, if not, what should be the required qualifications;
- *Critical success factors associated to the management of critical documents* (questions 24 to 25): to identify the critical success factors that should be considered to support a future model for managing critical documents (Rockart, 1979; Boynton and Zmud, 1984; Popo, 2001).

The results from the field research phase indicated that the content of critical documents could be considered as strategic assets for Transpetro, once it was perceived as crucial resources for maintaining or even improving the competitive position of the enterprise compared with congener enterprises. It was also found that this strategic information constitutes the basis for decision making in different organizational levels of Transpetro. As a strategic content, it must be available and reliable, according to the most of answers (95%).

Critical documents were defined by respondents as those which allow: (i) safer operations of the oil and terminal units; (ii) prompt and accurate decisions for any emergency situations; (iii) to map potential problems that can generate a need for interventions in equipments and operational sites; (iv) to leverage technical expertise and collaborative culture within the company through access to right information.

The results from the field research also allowed the proposition of a management model for the category of critical engineering documents, whose constituent elements are presented in Table 2.

**Table 2: Constituent elements of the management model for the category of critical documents**

<b>Element</b>	<b>Function</b>
Governance	To maintain a professional group officially designated and coordinated by a Transpetro's manager. The attributions of each member of the group must be registered in a matrix of responsibilities concerning management of the category of critical documents.
Technological support	To support the use of ECM technologies; workflow, electronic email; and intranet, providing all required integrations between them. ECM system should enable the identification of critical documents during the process of indexing the technical engineering documents. The processes of creation and revision of critical documents should be supported by a workflow technology, since it will enable traceability of all critical documents. During the process of creation of new documents, it must be included a task of indexing new critical documents into ECM immediately after their approval. During the process of revision of existing documents, the interface with electronic email must be kept. An automatic notice should be sent to the ECM manager, when required updates of critical documents are delayed. The technological resources should be provided continuously for technical and managerial teams, which depend on strategic information contained in critical documents for decision-making in their respective areas and business processes.

**Table 2: Constituent elements of the management model for the category of critical documents (Cont.)**

<b>Element</b>	<b>Function</b>
Procedures for creating and updating critical documents	To create a procedure for creating and maintain critical documents continuously updated and aligned to the evolution of technological resources and responsibilities, focusing on the specific category of critical documents.
Procedures for creating and updating critical documents	To create a procedure for creating and maintain critical documents continuously updated and aligned to the evolution of technological resources and responsibilities, focusing on the specific category of critical documents.
Performance indicators	To keep management performance indicators (number of critical documents that were updated and those that are pending updating) published monthly in the Intranet and considering the progress month by month. This mechanism allows the monitoring of the management process of critical documents for the elimination of bottlenecks and their continuous improvement.
Mechanism for monitoring, evaluating and updating the management model	To create and maintain an institutional mechanism (corporate procedure) for monitoring, evaluating and updating the management model concerning the category of critical documents. This procedure, in turn, should be permanently updated in total alignment with the evolution of technological resources and changes on responsibilities of those involved the management of engineering documents that are considered critical for business operations.

## CONCLUSIONS

From the perspective of competitive organizations adopting or intended to adopt ECM technologies, the conceptual approach here presented, and illustrated by the study case of Transpetro, reinforced the importance of identifying and managing critical documents, with particular attention on the criticalness of technical engineering documents for strategic purposes.

It was found by an illustrative case study that the importance of identifying and managing critical documents can be directly associated to the efficiency of decision-making processes at different organizational levels. Decisions are taken by professionals from different activities within the enterprise: engineering, pipeline

and terminals' operations; maintenance; inspection and reliability of pipelines; and conformity assessment regarding attendance to legal requirements.

The lack or the unreliability of such information, or even the difficulty to access and retrieve them, could undermine the performance of those activities and the decision-making processes *per se*. Consequently, these negative impacts of lack, delay or unreliability of critical information can lead to financial losses, besides increasing the risks of accidents that could affect the work force, local residents in the disaster zone and cause environmental damages.

From the case study results, we conclude that, in function of the importance of critical documents for Transpetro, its effective management can be achieved from the segmentation of the collection prioritizing this documentary category. To that end, the requirements that must be observed and attended are: (i) the availability of critical documents for access according to user's specific needs; (ii) efficiency of retrieval process concerning these critical documents; and (iii) the reliability of their contents.

We suggest that the new conceptual approach presented in this paper – *the segmented management for collections of engineering technical documents* (focusing on the category of critical documents) – could be applied to other documentary collections at Transpetro, assuming that they can also contain critical documents.

Finally, we strongly believe that not only Transpetro, but also other organizations that possessed similar documentary assets, could improve their decision-making processes with strategic information identified and recognized as such. The adoption of this conceptual approach aligned to business unit's competitive strategy could significantly change the manner in which business has been conducted, in order to give the organization a sustainable competitive advantage.

## REFERENCES

Arthur, M.H. *Expanding a digital content management system: for the growing digital media enterprise*. 1st ed. New York: Focal Press, 2006, 168 p.

Baldam, R. et al. *Gerenciamento eletrônico de documentos*. São Paulo: Ática, 2002.

Boynlon, A.C.; Zmud, R.W. An assessment of critical success factors. *Sloan Management Review*, v. 25, n.4, p. 17-27. 1984.

Buchanan, K. *How Enbridge Pipelines Inc. manages pipelines records*. Presentation for Transpetro. Mimeo. Rio de Janeiro: Enbridge, 2002.

Enbridge Pipeline Inc. *Critical drawings process*. Mimeo. Calgary: Enbridge, 2000. 14 p.

Joia, L.A. Large-scale reengineering in project documentation and workflow at engineering consultancy companies. *International Journal of Information Management*, v.18, n.3, p. 215 - 224, 1998.

Kaplan, R. S.; Norton, D.P. *The Balanced Scorecard: translating strategy into action*. Boston: Harvard Business School Press, 1996, 344 p.

Laudon, K. C.; Laudon, J. P. *Management information systems: managing the digital firm*. 9th ed. Upper Saddle River, NJ: Prentice Hall, 2006.

McGee, J.V.; Prusak, L.; Pyburn, P.J. *Managing information strategically: increase your company's competitiveness and efficiency by using information as a strategic tool*. New York: John Wiley & Sons, 1993.

Mohitpour, M.; Golshan, H.; Murray, A. *Pipeline design & construction: a practical approach*. New York: The American Society of Mechanical Engineers, 2000. 645 p.

Nonaka, I.; Takeuchi, H. *The knowledge-creating company*. New York: Oxford University Press, 1995, 304 p.

- PoPo, P.; Wagner, C. Critical success factors revisited: success and failure cases of information systems for senior executives. *Journal of Decision Support Systems*, v. 30, n.4, p. 393- 418, 2001.
- Rockart, J.F. Chief executives define their own data needs. *Harvard Business Review*, v. 1979, n. 2, p. 81-93. 1979.
- Smith, H.A.; McKeen, J.D. Developments in practice: enterprise content management. *Communications of AIS*, v. 11, n.33, p.1–26, 2003.
- Stake, R. *The art of case research*. Newbury Park, CA: Sage Publ., 1995.
- Tellis, W. Application of a case study methodology. *The Qualitative Report*, v. 3, n. 1997. Available in: <<http://www.nova.edu/ssss/QR/QR3-2/tellis2.html>>. Retrieved: May 2011.
- Treacy, M.; Wiersema, F. *The discipline of market leaders: choose your customers, narrow your focus, dominate your market*. New York: Perseus Books, 1997, 205 p.
- Tyrväinen et al. Characterizing the evolving research on enterprise content management. *European Journal of Information Systems*, v. 15, p. 627–634, 2006.
- Van Wegen, B.; De Hoog, R.. Measuring the economic value of information systems. *Journal of Information Technology*, v. 11, n. 3, p. 247-260, Sept 1996.
- Vieira, C.M.S. et al. *Gerenciamento eletrônico de documentos para a documentação técnica de engenharia da Transpetro: relatório do projeto conceitual*. Salvador: Petrobras, 2001. 203 p.
- Vieira, C.M.S. *O gerenciamento dos documentos críticos do acervo da documentação técnica de engenharia: o caso da Unidade de Dutos e Terminais da Transpetro*. MSc. Dissertation. Universidade Federal da Bahia. Salvador, 2004, 199 p.  
Available at :< <http://www.bibliotecadigital.ufba.br>>. Retrieved : May 2011.
- Von Bertalanffy, Ludwig. *General system theory: foundations, development, applications*. 13<sup>th</sup> paperback printing. New York: George Braziller Publ., 2001.
- Yin, R.K. *Case study research: design and methods*. 4<sup>th</sup> ed. Thousand Oaks: Sage Publ. 2009. 209 p.

# STRATEGY FOR FORWARD MOMENTUM: SOCIAL NETWORKING

**Anandasothy Vignarajah**  
**Johns Hopkins University, USA**

## ABSTRACT

*The importance and impact of social media on each of the rebellions in recent times have shown us how we communicate during moments of historic crisis and transformation. What we have witnessed on the ground in Tunisia and Egypt has challenged our preconceptions, as did the evidence that emerged from Libya and Bahrain. The author looks at some of the features of social networking websites and the fundamental problems with today's social networking services. Some of the popular ones looked at are: Twitter, Facebook, and Myspace, A possible solution would be to build social networking into the fabric of the next generation Internet itself.*

## DEFINITIONS

Social Network is a social structure made up of one or more nodes with a specific type of interdependency.

Network analysis – is an analytic approach which has moved to be a paradigm.

Ning – online platform for people to create their own social networks.

## INTRODUCTION

Social Network views social relationships in terms of network theory consisting of nodes and ties called connections, edges, or links which are individual actors within the network, and ties are the relationships between the networks. The concept of social networking was envisioned by engineers who laid the foundation for the Internet. In 1968, Licklider and Taylor referred to social networking as geographically separated members, who were working together grouped in clusters or working individually (Kirkpatrick, 2010).

Network analysts generally find it impossible to directly observe anything other than interaction and relations, thus social networks are the only structures capable of constituting an acceptable starting point. Most relations originate within circles (family, organizations) from which they become progressively independent. Network effects are not characteristic of the “higher” categories of profession and formal education (Grossetti).

Research on networks usually distinguishes between structural and functional network aspects. They also describe qualitative and quantitative aspects of a network. Important structural aspects in theory and research are the size and composition of the network. Functional network aspects refer to the quality and the content of a communication relationship. There are social networks for visually impaired and blind adolescents that are catered for a group of 15 persons on small networks (Kef, Hox & Habekothe). Facebook is one among them that is committing to make it more accessible for visually challenged users.

The virtual community became a reality with the use of the Internet, chat rooms, and computer bulletin boards. In 1992, the French launched an online Postal service called the Minitel. In 1988, IBM and Sears launched a commercial online called the Prodigy. The World Wide Web (WWW) advanced the notion of an

online community a little later. Services like the TheGlobe.com, Geocities, and Tripod emerged and users were able set up home pages which could link to pages created by other users. In 1995, Classmates.com helped people to be identified by their real names to find and communicate with former school friends. In 1997, a New York based startup called sixdegrees.com inaugurated a service based on real names. In 1997, Boyd and Ellison articulated a true social network, where users “can construct a public or semi-public profile” and “view and traverse their list of connections, and those made by others within the system”.

In 1945, Vannevar Bush was excited just to imagine the possibility of a hyperlink (Turow & Tsui). With an MIT-trained electrical engineer who cofounded the Raytheon in the 1920s, Bush headed the Office of Research & Development (ORD). During World War II, his office oversaw the development of radar, the proximity fuse, and the atomic bomb. As the main force behind the establishment of the National Science Foundation, he pushed the federal government to fund what he called “The Endless Frontier”. Other technologies shared his enthusiasm. In the mid 1960s, Ted Nelson, the technology philosopher coined the word hyperlinks. These foundations paved the way for the links that most Internet users know of today – the highlighted words on the web page that takes them to other places on the Web. These “embedded” links are only the tip of an iceberg of types of instant connections. A healthy way to promote a healthy society offline as well as online is to pay close attention to the links. We need to think in terms of what political, economic, and social factors provide guidelines in linking mainstream media with individuals such as bloggers and wikipedians (Turow & Tsui). The hyperlinks were used to express social relationships before social networking sites like Friendster, Orkut, MySpace or Facebook. Club Nexus was launched by a Turkish computer science student Orkut Buyukkkten while at Stanford. These are some of the early findings of social network websites.

## **Social Hyperlinks**

The social links provided information contained in each home page, as to which could be linked and which could not be linked. Web server software was developed soon by Mosaic communications with a layer of security, which none had provided so far. It would be embedded in its browser called the Secure Sockets Layer. They would use 40-bit digital keys to encrypt on-line communications.

## **Network Models**

Social selection in network occurs when individuals form social relationships on the basis some of the characteristics they possess. The models are networks of relational ties which depend on attributes of the actors who are members of the network (Robins, Elliott, & Pattison). A social network is constituted by a set of relational ties among a set of actors. By actors, we mean the individuals among whom relational ties may exist. An actor is presumed to develop relational ties with some but not necessarily all. These ties come about for they recognize qualities in each other that may stimulate a social linkage between them. The qualities are referred to as actor attributes. Individual attributes shape patterns of relationships. Some of the social networks are looked at here.

## **LinkedIn**

LinkedIn is a business-oriented social networking site. Founded in December 2002, and launched in May 2003. It is used for professional networking. It has 100 million registered users, spanning more than 200 countries and territories worldwide. Employers can list jobs, and others can use it to search for these opportunities. LinkedIn Answers questions like Yahoo Answers and the service is free. Due to corporate policies it is restricted in some countries like Cuba. The site is available in English, French, German, Italian, Portuguese, and Spanish.

## **Plaxo**

It is an online address book and social networking service. Sean Parker, Minh Nguyen, and two Stanford engineering students Todd Masonis and Cameron Ring founded it. It provides automatic updating, where users and their contacts store the information on Plaxo’s servers. A Plaxo plug-in supports major address

books including Outlook, Mozilla Thunderbird, and Mac OS. In 2007, Comcast partnered Plaxo in the launch of its universal communication service. It is a subsidiary of Comcast.

## **Friendster**

Jonathan Abrams, a programmer with Ryze, built and launched it in February, 2003. Friendster is a social networking website where users share videos, pictures, messages and comments. It is among the top 1,000 global websites based on web traffic. It was created and launched before MySpace and Facebook. Tom Anderson, MySpace co-founder was an avid Friendster user.

## **Ryze**

Ryze is a free a social networking website designed to link business professionals and was launched in late 2001 by Adam Smith. It claims to have 500,000 members in 200 countries with over 1,000 external organizations hosting sub-networks on the site. It is intended to evoke a manner in which members would “rise” up to improve the quality of their personal networks (Kirkpatrick). Member profiles focused on work accomplishments, networking with their co-workers and business contacts. They levied a fee for searching their databases for professional gains. It prospered among the San Francisco tech cognoscente.

## **Flickr**

Flickr is an image hosting and video hosting website acquired by Yahoo. It is a popular website used by bloggers to host images which they embed in blogs and social media.

Flickr was developed by Ludicorp, a Vancouver-based company, and launched in February, 2004. By 2008, Flickr permitted paid subscribers to upload videos limited to 90 seconds and 150 MB in size. It also had the ability to upload and view HD videos permitting an upload of normal resolution videos.

Flickr’s functionality includes Really Simple Syndication (RSS) and atom feeds, which are web-based formats to feed an Application Programming Interface (API) that permits independent programmers to expand their services. The functionality of the site depends on standard Hyper Text Markup Language (HTML) and Hyper Text Transfer Protocol (HTTP) features enabling wide compatibility among other platforms and browsers. Flickr is popular with Macintosh and Linux users who are not able to access photo-sharing sites which require Windows and Internet explorer.

## **SixDegrees**

SixDegrees is a social network service which was active from 1997 to 2001. It is open to the public again by the site administrators and former owners after “heavy re-building, restructuring, and overall maintenance” is completed.

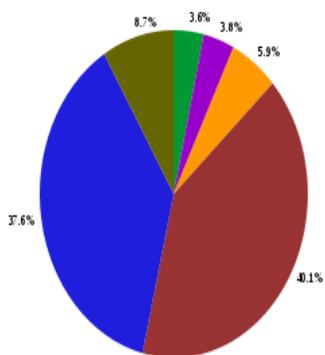
## **Twitter**

Twitter is a website, created in 2006, referred to as a social networking and micro-blogging service permitting users to send and receive messages called tweets. They are texts up to 140 characters displayed on the user’s profile page. It is compared to a web-based Internet Relay Chat (IRC) client. Users may use group posts by topic or use of hash tags or phrases prefixed with a “#” sign. Similarly, the “@” sign followed by a username is used for replying to other users. In order to re-post a message from another Twitter user, and share it with your own followers, the re-tweet (RT) function is used in the message. It permits pictures and videos to be seen without leaving twitter itself, by clicking individual tweets which contain links to images and clips from a variety of supporting websites including YouTube and Flickr.

It is estimated that it has 200 million users and is referred to as the short message system (SMS) of the internet. It generates 65 million tweets with 800,000 search queries per day. People who Twitter are not

necessarily friends. You can sign up to follow anyone’s tweets; the names users give its telegraphic updates. A large percentage of Twitter accounts use aliases or company names. And unlike Facebook, Twitter connections are one-way. Twitter is a broadcast platform – perfect for companies, brands, bloggers, celebrities, and any information you want a lot of people to know about. Twitter, like Facebook opened itself early as a platform for other applications. Many users tweet and view the tweets of others on independent sites like TweetDeck. Twitter, upped Facebook in 2009. It enjoyed the placement Facebook had in 2007 and 2008. By mid-2009, Twitter had 50 million members.

Tweets are publicly visible by default. Senders can restrict their message delivery to their followers. Users can tweet via the Twitter website, compatible external smart-phones or by short message service (SMS). While the service is free, accessing through SMS may incur phone provider fees. As a social network, it revolves around the principle of followers. Users can subscribe to other users’ tweets which are referred to as followers or tweeps.



**Figure 1:** Content\_of\_Tweets.svg

**Table 1: Content of Tweets according to Pear analytics:**  
**[San Antonio based Market analysis firm]**  
 From August 2009 for 2 weeks (10 AM – 5 PM)

Pointless Babble	40.1 %
Conversational	37.6 %
Pass along Value	8.7 %
Self Promotion	5.9 %
News	3.9 %
Spam	3.8 %

San Antonio based research group Alexa’s web traffic analysis using data for a 2 week period in August 2009 from 10 AM – 5 PM ranked it worldwide among the 10 most visited websites for web-trafficking. In February 2009, Compete.com ranked it as the third most used social network. Nielson.com ranked Twitter as the fastest growing website with an annual growth of 1,382 percent increasing from 475,000 visits to 7 million followed by Facebook. It has a retention rate of forty percent. According to an industry analyst Jeremiah Owyang, studying social media, Twitter is mainly used by older adults who may not have surfed on any other social website. According to Quancast Corporation for research and investment information, 27 million people have used Twitter since September 2009.

The centralized client-server architecture has not scaled with user demand, resulting in server overload and significant loss of availability. To enhance scalability, some decentralized architecture has been built-in like Fehr and Cuckoo. Twitter released several open source projects developed while overcoming technical challenges to their service, notable among them are Gizzard Scala Framework for creating distributed data-stores, and the distributed graph database FlockDB. Twitter Web Interface uses Ruby on Rails which is an open source application framework for the Ruby programming language. There are numerous tools for adding content and conversations including Tweetdeck, HotSuite, and Twitterfeed. Based on an analysis by Sysomos, half the tweets are posted using web interface, mostly by third party applications. In 2009, Twitter added a search bar and a side bar for “trending topics”, meaning the most common phrases appearing in messages. All the messages are instantly indexed. With this newly launched feature, Twitter has become unexpectedly a very important website, which has a discovery engine for finding out whatever is happening right now.

When Twitter experiences an outage, users see the fail whale error message showing eight orange birds using a nest to hoist a whale from the ocean captioned, “Too many tweets. Please wait a moment and try again”. Twitter has been used for an array of purposes in many different industries and scenarios. It has been used to organize

protests referred to as “Twitter Revolutions”, notable among them are 2011 Egyptian turbulence, 2010 - 2011 Tunisian protests, 2009 – 2010 Iranian uprisings, and the 2009 Moldova unrest. Twitter has also been used in emergencies and political campaigning. Twitter is also used for direct communication among social groups and organizations with the help of “hashtags”. For example, #edchat at the end of a tweet would mean that it will be viewed by all users following the topic like an ongoing chat among educators. It is also used increasingly for making TV more interactive and social, referred to as “virtual water cooler” or social television. Twitter has been used successfully to watch TV events like Oscars, Super Bowl, and other awards.

Twitter messages are public, but users can also send private messages. Twitter collects personally identifiable information about the users, and shares it with third parties. It reserves the right to sell the information as an asset if the company changes hands. It does not display any advertising, but can target users based on their history of tweets. Security vulnerability was reported on April 7, 2007. Within a few weeks, Twitter introduced an optical PIN for its users to authenticate their SMS-originating messages.

## **MySpace**

In 2002, a complete infrastructure of finance, human resources, technical expertise, bandwidth, and server capacity was available for the site, with no typical startup issues for the project. A team of programmers and resources were provided by eUniverse who used its users and e-mail subscribers to move it to the top of social networking websites. It was to be for online data storage and sharing, and intended to be used as a web-hosting site.

MySpace is a social networking website. Its headquarters are in Beverly Hills, California where it shares an office building with its immediate owner News Corp. Digital Media owned by News Corporation. It became the most popular social networking site in U.S. in June 2006, a position which it has held till 2008 when overtaken internationally by Facebook on April 19, 2008, in the Alexa rankings. MySpace redesigned many of the features of its site in both layout and function. The first function to be redesigned was the home page with status updates, application, and subscribers. In the Profile 2.0, the simplification of the navigation bar also made it easier to find the features quickly. Profile 3.0 enabled users to have more creativity with a simpler interface, simpler creation methods and theme buildings, and module control. In the newer profile, building templates has become simpler without the use of custom Hyper Text Markup Language (HTML) and Cascading Style Sheets (CSS). Users can upload photos from their computers or find background images on the Internet by using a Uniform Resource Locator (URL). HTML and CSS can still be used on the profile, but a HTML or CSS module must be added.

MySpace operates solely on revenues from advertisements. It is second only to Yahoo in its ability to collect data about its users. They can also customize their user profile pages with HTML but not JavaScript. Users can also change the appearance of their home page by entering CSS into one of these fields to override the page’s default style sheet using MySpace editors. There are several independent websites offering MySpace layout design utilities with a user selection option, so a user can preview what their page will look like using them.

## **Facebook**

Sophomore Mark Zuckerberg, a sophomore computer science major, arrived at Harvard’s Kirkland House in 2003 dragging an eight foot long white board, which was his brainstorming tool. There was only one wall in the four-person suite that would hold it, the hallway on the way to the bedrooms. The white board became a tangle of formulas and symbols as he made multicolored lines on it with markers in hand. He spent endless hours writing software code. He wrote an Internet software called Course match to help students to pick their classes. Zuckerberg took ideas from his own register.com, Course Match and Facemash. Facebook was launched in February of 2004. He took ideas from the social network Friendster where he was a member, and MySpace, a social network launched in Los Angeles in August 2002. By 2008, the Facebook was five years old, and with the inclusion of photos and the News Feed, and its expansion with the application platforms and the translation tools, it had fundamentally altered and transformed the user experience. The most significant was the change to two separate components of your profile, the “wall” where friends sent you direct public messages, and the personalized News Feed displaying information about you. At the top of your profile was a box called “publisher”, an enhanced version of the old shot – photos, videos, and links to articles and sites of interest on the

Web. Whenever, they shifted to a new version, the company gave users a trial version which they could run parallel to the old version.

In 2008, Zuckerberg aimed at embedding Facebook into the very fabric of the Internet. With a fundamental change to its platform, the company launched Facebook Connect, which was appealing to the software developers to start building on top of Facebook in a new way. Connect permits you to use any site on the Web using your Facebook account. This lets you take your identity with you wherever you go online. Connect sends back information to Facebook feed, which is a way to project information about the actions you take on those sites back to your Facebook friends as if they were actions inside Facebook. Along with the “like” button, it enables Facebook to transmit information to many friends or any website that wants to take advantage of it.

Facebook Connect and the platform outside offer what could turn out to be a universal Internet log-in. By November 2010, about 150 million Facebook members were using it and it included the top 100 websites in the world including the largest content website Yahoo, the big media site CNN, hot startups like TechCrunch, and devices like iPhone. When discussants log in under their real name, dialogues become more civilized. There is no charge to use Facebook’s platform, but customers expect it to change. By February 2011, 600 million users were using it to create personal profiles, and add users as friends, exchange messages including automatic notifications when they update their profiles. Users are also able to join common interest user groups organized by workplace, school, or colleagues or others with common characteristics.

Connect can also become a vehicle for advertising, though the possibility has been downplayed by executives so far. Zuckerberg, said about his company policies, “History tells us that systems are most fairly governed when there is an open and transparent dialogue between the people who make decisions and those who are affected by them. We believe history will one day show that this principle holds true for companies as well, and we are looking forward to moving in this direction with you”. In 2009, Facebook had 200 million active users, and with the revised Statement of Rights and Responsibilities, the Facebook Consumerist pronounced itself satisfied and Internet activists were impressed. Jonathan Zittrain , a professor at Harvard Law School and author of “The Future of the Internet – and How to Stop It”, wrote an admiring article noting that Zuckerberg had encouraged Facebook’s users to view themselves as citizens of Facebook.

In March 2009, Facebook explicitly wanted to co-opt with Twitter. The changes were not visible on the user’s profile with its “wall”, but on the home page where you first get in with information about your friends, there is a publisher box at the top of the page just like the one on your profile. The New Feed is updated in real time (like Twitter), and it is not based on an algorithm (so is Twitter). The old News Feed depended on software that watched your past behavior and guessed what you wanted to do. Facebook also added filters on the left side of the home page to help you control what appeared in your stream. A new feature was also added to the redesign, new privacy settings enabling you to open parts or all of your profile to everyone on the Facebook.

By April 2009, Facebook released something called Facebook Open Stream Application Programming Interface (API), laying the groundwork to transform the way people used its service. The Stream API is a companion to Facebook Connect. If you consider Connect as a way to extend Facebook’s platform across the Web, the Stream API represented a way to distribute the experience of being on Facebook outside the service itself. Some managers say Facebook on the Internet could become like an Intel chip inside a PC – something that you use, but seldom think about. They think of it as a piece of software which in effect contains your friends – a persistent and potentially live connection to any of them. As we traverse the real world, most people will carry devices with an Internet connection always available to them: Facebook’s iPhone, Blackberry, and Google Android applications as well as those on other mobile phones used by more than 200 million users worldwide. In the future, the main way people use Facebook will be on a mobile device. In August 2009, Facebook acquired FriendFeed. By bringing the FriendFeed’s technology and Google’s ex-founders (star coders), Facebook wants to significantly bolster its ability to compete with Twitter. It became the top social network in 2010, with more people visiting it than Google the week ending March 13, 2010. It became the top social network in most English speaking countries including U. S., U.K. and Canada, and in 8 individual markets in Australia, Philippines, Indonesia, Malaysia, Singapore, New Zealand, Hong Kong, and Vietnam. It also won the “Best Overall Startup or Product” for the third year in a row.

## CONCLUSION

As the saying goes, “the net does not forget”, it is important for management to mitigate the risk of employees engaging in abusive or ingenuous conduct. Social networks may influence attitudes and behaviors, but the measurement of network characteristics has systematic problems (White & Watkins). Facebook and MySpace have become so pervasive for communication that many people of all ages barely use email anymore. From SixDegrees to Friendster to Facebook, social networking has become a familiar and ubiquitous part of the Internet. There are others like the YouTube which is a video-sharing website whose users, upload, share, and view videos. It uses Adobe Flash Video, and HTML5 (Hypertext Markup Language) to display a wide variety of user generated video content including those by CBS, BBC and others as a part of their YouTube partnership program. It is not a social network, but it has enhanced the technologies of today.

Economic sociologists stress the protective and beneficial role of social networks. Social ties improve transaction outcomes. White-collar criminologists focus on the harmful and exploitative nature of social networks. They prove social ties facilitate successful economic crimes (Baker & Faulkner). Ethan Beard, a Google veteran, the marketing boss of Facebook’s platform compares the evolution of Facebook with its additional connections and while monitoring every user’s interactions with them, he makes a comparison to Moore’s law, the prediction by Intel’s Gordon Moore back in 1960, that the number of transistors that could fit on a computer chip would grow exponentially over time. Ethan thinks there is a similar exponential phenomenon in social networking (Kirkpatrick). Social network could develop to an extent in the future, where you will know which of your friends on Facebook is at the match. Or which ones at the match have been at a match prior to that with you. Facebook Platform marketer Ethan Beard is of opinion he will be able to tell Tivo to record whatever shows your friends are recording. Shopping is another arena. It will be interesting if when you are contemplating an expensive purchase like a house in a particular development, or a car, or camera, and which of your friends had contemplated it. One of the developer’s will probably have Facebook tell you that. Or you may have some auxiliary memory built in that can tell you when you visit a place, looking down memory lane, when you were there last.

## REFERENCES

Baker, W. E., & Faulkner, R. R. *Social Networks and loss of capital*, University of Michigan & University of Massachusetts, *Social Networks, an International Journal*, v26n2, (May 2004.)

Freeman, L. C. & Breiger, R. L. (Eds). *Ethical Dilemmas in Social Network Research*, *Social Networks an international journal*, v27, n 1 (2005).

Grossetti, M. *Where do social relations come from?* University of Toulouse, France, v27n4 (2005).

Havlin, S. & Cohen, R. *Complex Networks: Structure, Robustness, and Function*, Cambridge Press. (2010).

<http://en.wikipedia.org/wiki/File>

<http://en.wikipedia.org/wiki/LinkedIn>

<http://en.wikipedia.org/wiki/MySpace>

<http://en.wikipedia.org/wiki/Twitter>

Israel, S. *Twitterville*, Penguin Group, (USA) Inc., NY. (2009).

Jayachandra, *Re-Engineering the Networked Enterprise*, Systems Design Series, McGraw-Hill, Inc. (1994).

Kadushin, C. *The Motivational Foundation of Social Networks*, *Social Networks, An international Journal of Structural Analysis*, v4n1, ( Jan 2002)

Kef, S., Hox, J.J. & Habekothé, H.T. *Social Networks for visually impaired and blind adolescents. Structure and effect of well-being*, University of Amsterdam, Netherlands, *Social Networks*, v22n1 (2000).

Kirkpatrick, D. *The Facebook Effect, the Story behind the Social Network*, Simon & Schuster, Inc. (2010).

Leinhardt, S. (Ed.). *Social Networks a developing Paradigm* Carnegie-Mellon University, Pittsburg, PA (1977).

Perkins, B. A. & Perkins, M. C. *The Internet Bubble*, Harper Business, Harper Collins Publishers, NY.(1999).

Robins, G., Elliott, P., & Pattison, P. *Network Models for Social Selection Processes*, *Social Networks*, An international Journal of Structural Analysis, v23n1, (Jan 2001).

Sandler, D. R. & Wallach, D. S. Birds of a FETHR: Open, Decentralized micropublishing, Proceedings of the 8<sup>th</sup> International Workshop on Peer-to- Peer Systems (IPTPS '09)(2009).

Schroeder R., *Being There Together, Social Interactions in Virtual Environments*, Oxford series in Human – Technology Interaction, Oxford University Press, (2011).

Searle, J, R. *Making the Social World: The Structure of Human Civilization*,, Oxford Press.(2010).

Turow & Tsui, (Eds) *The Hyperlinked Society: Questioning Connections in the Digital Age*, (2011).

Quittner, J. & Slatalla, M. *SPEEDING the Net*, Atlantic Monthly Press, NY. (1998).

White, K. & Watkins, S. C. *Accuracy, stability and reciprocity in informal conversational networks*, University of Pennsylvania, *Social networks*, an International journal for Social Network Analysis, v22n4. (2000).

# **ECONOMIC RESULTS AND MARKETING INCENTIVES ON INSURANCE MARKET**

**Nada Djordjevic Vignjević**  
**State University of Novi Pazar, Serbia**

## **ABSTRACT**

*Over the past five years of extensive political and economic reforms, Serbia has developed into a stable democratic country with a fast growing market economy. Western-oriented, democratic political parties have a strong majority among citizens and the Government is shaping an attractive environment for doing business, while legislative activities are intensely bringing the legal framework in line with the EU regulations. As a member of the International Monetary Fund, Serbia exercises a sound and consistent economic policy resulting in strong economic growth, state budget surplus, and rapid export expansion. The country's progress is fully supported by leading international development institutions, such as the World Bank and the European Bank for Reconstruction and Development, while the processes of the European Union and the World Trade Organization accession are under way. On the insurance field, in the next period there is strong competitive fight, on the insurance market, involved by entrance of foreign insurance companies, mostly by buying domestic insurance companies. The insurance market significant developing in the next period, involved by the entrance of foreign insurance companies.*

## **MARKET POSITION OF THE CENTRAL BANK, BANKS AND INSURANCE BUSINESS HOUSES**

For all the financial markets one of the most important factor is the formation of credit potential changes in the level of central bank credit activity in the current period, whereas in the case of under-developed financial systems to the most important course. In addition, central bank credit is the primary activity in two ways: 1. immediately credit the commercial banks and 2. the central bank creates money by crediting the state.

In the first case of commercial banks are not obliged appropriations received the mandatory reserves of the central bank loans. Once the commercial bank the funds invested by forming a new deposit of potential commercial banking, which creates the obligation of banks to set aside the potential of the newly formed deposit reserve requirements. In the second case it is permissible institutional funding model deficitnog state, where the periodic excess expenditure over revenue funded debit state with the central bank. Since the state of water resources in the account of the central bank approved a loan is recorded as a deposit with the central State Bank.

Once the state starts spending of these funds, it is transferred to the deposits of the economy by commercial banks. Now that commercial banks are obliged to deposit the amount of increased resources set aside additional reserve with the central bank. In both cases the central bank's credit growth, first act in the full amount of the increase in financial resources of banks, that in the next moment caused an obligation to set aside the business of banking reserve requirements at the central bank, in proportion to the newly established deposit potential. In these cases there is no change in the rate of compulsory reserves, but the quantum of statutory reserves changes only on the basis of the increase of deposits in commercial banking.

This further means that if the central bank keeps monetary policy expansionary, the more will be created over the potential rate of credit growth of banks. ( <sup>1</sup> There are two major factors forming the potential

bank credit arising from the credit-deposit relationships of the central bank and commercial banks. First, the foreign relations of a country induce foreign exchange transactions with foreign countries, that is. overflow deposits based on transactions with foreign countries. In fact, current account deficit with other countries at a given time (period) causes the reduction of foreign exchange reserves at the central bank, while the economy to withdraw funds on demand deposits with commercial banks. Conversely, if there is a surplus in the balance of foreign exchange transactions, the level of foreign reserves by central banks is increasing, along with the increase of demand deposits in national currency at commercial banks.

The inter-relationship of the central bank and commercial banking and insurance, there is a potential factor in the formation of credit of commercial banks in case of spill-over of funds between the commercial banking system and central-banking system. The point is that similar to the business banking and the central bank has a deposit system that included:

- Required reserves
- Liquidity reserves of commercial banks,
- deposits of the state (and institutions) and
- blocked by deposits of the economy that are drawn from the credit potential of banks.

Bearing in mind the dynamic relationship of the central bank and commercial banks, there may be spill-over funds to the central bank and charged to commercial banks, which will manifest as a reduction of deposit resources, time and credit resources of banks. Conversely, the current overflow of central bank deposits in favor of the deposit potential of banks, effecting as a potential increase in time deposit and credit resources of banks. Finally, as a potential factor in the formation of credit reports and overflow deposits at commercial banks and the amount of cash in circulation. The starting point is the assumption that the program of cashflow is only by the Central Bank through commercial banks and the total amount of cash found in the population. Accordingly, the total mass emitted cash is in the balance of central bank liabilities. Also, the insertion of cash in circulation is done by commercial banks through the payment of salaries and the expense of demand deposits of commercial transactors, as well as the withdrawal of savings at the expense of citizens' deposits at commercial banks. The opposite course is going conversion of cash in demand deposits in banks through various forms of consumption of the population and the payment of money in savings deposits at commercial banks.[1, 236-239] Given that these processes are dynamic, the banks are conflicting with periodic balance deficits in cash, especially at the time of payment of wages, which exceeds the cash reserves of the formation and implementation of modern forms of payment in the form of deposits with various banks. At the time of reduction of demand deposits and savings deposits due to their conversion into cash, reducing the potential credit. The proportion between the amount of demand deposits and cash, and their mutual conversion, depends on the level of income, as well as the financial preferences of the population in terms of ratio between savings and consumption, ie. between savings deposits at banks and cash stocks.

## **OFFER OF FINANCIAL SERVICES**

Dealing with crisis and preventing future crises is as much a matter of politics as it is a matter of economics. There is large scale to eliminate market imperfections as well as a call for new regulation.

Political paralysis is inevitable if the government does not make reforms given inconsistent demands of particular interests. Restoration of prosperity needs a new set of arrangements based on trust between all interest groups and between the generation in crisis and the following generations. The policy model in crisis, however, does not automatically guarantee success. Success is conditioned upon the ability of the government to properly assess the nature of emerging economic trends and design (and implement) a viable, country specific anticrisis program. Objectives of the anticrisis program must address the core causes of the crisis and going-forward solutions. In other words, exit from the crisis must bring the economy to a sustainable growth path by balancing threats and opportunities. Sustainability is the new global trend. Its fuel is competitiveness. Sustainability includes economic, social and environmental perspectives (so-called "triple bottom line"). Sustainability assumes balance between maximizing the achievement of objectives for all stakeholders in the business ecosystem (business, social, and more broadly defined environment with open-minded clients) and certain set of limits.

Tensions between policy makers and business executives in a crisis are truly daunting. From one side, the government has been charged with driving prosperity by fostering economic growth. Most of business executives understand that this tenet requires primarily the market forces rather than the state.

On the other side, the government must maintain a social safety net and education. Also, government takes on a large role, from setting the rules and enforcing them to providing infrastructure (physical and social) for recovery. Some parts of social infrastructure like education and healthcare have crucial roles in competitiveness improvement. In playing its role the government must eliminate short termism. The argument for the government to think with a long term view is even greater than for business executives, knowing transition.

Progress in four transition sub-processes is not. For the most part, privatization has been complete. Macroeconomic stability (single digit inflation) has maintained for almost a decade now. However, institutions reforms have not been completed yet and reinstitution which hinges upon new investment has been postponed. The global economic crisis amplified consequences of preexisting structural problems in an uncompetitive economy. Let's now drill into the complications. The output is a crucial problem. The GDP in 2009 was at 69 percent of real GDP level recorded in 1989, the last previous year. Moreover, the equivalent level of industrial production is below 40 percent. Furthermore, more than percent of GDP is government related. The economy not only important but also uncompetitive. The trust in economy as a manifestation of the quality of domestic economy has evaporated. The lack of confidence in domestic economy feeds continued EUR indexation. **More 70 percent of all business transactions are denominated in EUR.**

## THE ROLE OF STATE AND MACROECONOMIC LIABILITIES

This further increases demand for foreign exchange and tilts the equilibrium towards depreciation of local currency. Currency risk is another big problem. It is a trigger for growing credit risk exposure or threat of that is not manageable.

Output gap and high unemployment are advertised unemployment rate (ILO defined 2009 was 16.9 percent). It masked the real demand employment. Official unemployment rate does not include people who had dropped out of labor force and to even keep looking, people from grey and people who had to accept only part-time. Upward of a third of all unemployed are considered long term (or structurally) unemployed and to rejoin the workforce any time soon. Many unemployed chose currency as well as large country risk. Consequently, cumulative rate is very high. [2, 421-432]

The central bank continually expresses high paternalism *vis-a-vis* commercial banks. The price of maintaining the high profitability expectation for commercial banks is the ballooned balance sheet of the central bank (triggered from liability side). It could be another inflation push factor. But as long as the unemployment rate remains high, the threat is as much deflation as inflation. With the ballooned balance sheet all solutions for the central bank to stimulate investments are coming from an empty space. If it takes out liquidity rapidly, expanded claims for the governments in crisis will raise debt to GDP ratio. Today, in OECD countries the debt level, on average, is approaching 80 percent of GDP which is a looming time bomb.

Moreover, in 2014, debt levels will likely rise to 120 percent of GDP. The developing world has an additional factor toward a bigger role of the government, growing demand for investments in physical and social infrastructure in order to catch up to the developed world. Generally, the role of the government expands every time when society needs collective and long term actions. An anti-crisis program is the collection of interrelated initiatives with the purpose to eliminate the crisis distortions. It is a causal and chronological order of different initiatives reflecting certain set of principles. According to J. Stiglitz [3, pp: 59-62], a well designed anti-crisis program reflects the following principles:

(1) it should be fast, (2) it should be effective, (3) it should address the country's long term problems, (4) it should focus on investments, (5) it should be fair, (6) it should deal with the short run exigencies created by the crisis, and (7) the stimulus should be targeted on areas of job losses.

## **Serbia: The Story in Short**

Serbia's economic crisis is different in so many ways from any other. The economy entered the 2008 global crisis with the legacy of its own structural problems. Its root cause is related to incomplete transition reforms curve is a perverse triple -shaped curve, which after typical fall never record level. As the summer rolled into autumn, the number of unemployed to grow to 20.1 percent. Serbia's economy financial and real sectors are tuned. Transitional strategy neglected the real sector, financial sector was in focus. Previous particularly refers to industries producing tradable goods as well as strategic sectors, mostly energy and networks. Two facts provide support to these claims. Low competitiveness of the Serbian real sector is best illustrated by the low share of exports in GDP (18 percent in 2009). For a country of similar size sustainable level is more than 50 percent. In the same year, the share of public and private foreign debt in GDP was at dangerous 75 percent, quickly approaching the 80 percent level of high indebtedness. With the weakening of the industrial base, middle class jobs in Serbia have been disappearing. Another defect of this strategy is growing income inequality. Service based economies tend to be less equal than manufacturing economies. The *Gini* coefficient as a measure of the difference between top and bottom earners is two thirds higher for the service sector than for manufacturing sectors. Financial sector in Serbia is bank centric. Capital markets are shallow because they have played only the infrastructure role in privatization. After completion of privatization, capital markets are in retardation. In banking sector retail dominates the corporate business line. In the corporate line, lending is not based on small and medium-sized businesses, which are the basis for job creation in any economy, but instead concentrates on the state sector or investment banking. The central bank does not play the role of lender of last resort but it has jumped during the last crisis into the deposits guarantee function (limited to EUR 50 thousands). The prime rate is on a high 8.5 percent level. On the other side, commercial rates are influenced with high level of obligatory reserves (40 percent of deposits in foreign currencies).

## **STRATEGIC MARKETING SERVICE PROVIDERS IN THE MARKET**

The first phase of value creation and delivery of course the choice of the value of a task of strategic marketing of insurance companies. Segmentation, targeting and positioning are the essence of strategic marketing. Creating and communicating value are a thing of tactical marketing. The space between marketing strategy and the insured to whom it is directed and filled with tactical activities. The aim of marketing strategy for the insurance company can increase profitability (to sell insurance to existing clients - increasing loyalty), and increase market share in the old or new markets or both markets (to attract new policy holders). Also, the goal of marketing strategies of insurance companies can be both connected to a target which is mostly practice. Before formulating marketing strategies to the objectives of which would be directed to segmentation, targeting and positioning is necessary to perform situational analysis of the insurance company. Situational analysis provides relevant information on the sale of insurance policies, insurance company costs, competitive insurance companies and various factors in the macro environment.

Market segmentation is the process of identifying significant differences in the characteristics of customers in order to divide the market into two or more groups of consumers for the purpose of: 1) selection of the parts market to serve the company and 2) to create products and programs to meet the different needs of each customer group. The benefits of market segmentation strategy are manifold: 1) allows for better identification of marketing opportunities, 2) facilitates the marketing mix adjustment instruments target specific consumer groups, 3) help better allocate marketing resources, 4) directs the positioning of products to the consumers and to competition; 5) directs the product development plan.

Market segmentation is not aggregate and indicates that there are different demand curves where until recently it was assumed that there is only one. With a strategy of differentiating the company tries to control the market and isolate its products from competitors price of other companies, using a very intensive promotion as a marketing tool. Segmentation strategy starts from the heterogeneity of the market and the fact that there are a number of smaller homogeneous markets for different preferences of consumers. Segmentation as a strategy of adaptation of products to the needs and demands of customers. Segmentation strategy is gaining market in depth In order to create the insurance market segmentation strategy it is necessary to work a greater number of activities and make more decisions. Activities begin with the

identification of dimensions for market segmentation, to create the profile relative to the market segments and on the basis of these activities provide the total market potential for each segment. Within each segment, identify the factors of competition, and then define the marketing mix for serving each segment, offering a complete range of insurance products often entering the banking sector and business.

Marketing environment consists of external factors, which directly or indirectly affect the supply of inputs of the organization and generating output. Marketing environment can be understood as a set consisting of six categories of power: political, legal, legislative, social, economic and technological. Regardless of whether you are changing quickly or slowly, the forces are always dynamic environment.

For insurance companies change in the environment creates uncertainty, threats or favorable conditions [5, 306-309] is quite easily foreseeable future, companies can assess what will happen. One can safely say that the same will continue modifying their marketing strategies in response to changing environment. Directors of marketing in insurance companies must be ready not to miss changes in the forces of the environment and to take advantage of favorable opportunities and disadvantages ready for the environment, otherwise the company can be found in big problems.

Analysis of the environment [6, 54-59] is a process of evaluation and interpretation of information obtained by market research. Management evaluates the company's information as to the accuracy, attempts to resolve inconsistencies in the data and, if warranted, determine the meaning of certain knowledge. Through analysis, marketing director of the company is trying to describe the current changes in the environment and provides them in the future.

Evaluation of change manager should be able to identify threats and opportunities associated with favorable fluctuations in the environment. Understanding the current state and taking into account the threats and opportunities coming from the changes in the environment, helps marketing managers to ensure that the assessment activities and results of marketing efforts undertaken in the present and develop marketing strategies for the future.

In dealing with the forces of the environment in marketing, can be used two general approaches: accept power environments such as those that can not be controlled by, or oppose them and try to shape them. If the forces of the environment seen as the same, which is impossible to control, the company remains a passive and reactive to the environment. Instead of trying to influence the environmental forces, some directors are trying a marketing factors that affect the expected service to the propaganda, advertising and pre-verbal experience.

**External marketing** has a direct impact on the promotion of insurance services [6, 286-299] and indirect - through design service offers insurance in accordance with the requirements and desires of the insured and the creation of marketing mix elements on previous experience and oral propaganda. Since the indirect result of the impact of previous results, it is based on real possibilities and capabilities of the company, which contributes to the formation of previous expectations in most cases is completely objective.

Through external communication explicitly give the insurance company promises regarding the future of insurance services, its quality and satisfaction of the insured. Promoting the services offered, [8, 13-17] the company has direct influence on the formation of previous expectations. As the level of previous expectations are higher, the quality must be higher to keep it insured and those perceived. Implies [9, 28-32] the necessity to increase the expected increase in objectively measured performance quality, so that a higher perceived quality. Otherwise, the insured tend to perceptions of low quality, even in conditions in which quality is measured objectively satisfactory. The reason lies in the fact that they are not fulfilled (unreasonably) high expectations (at the same time is really small and the initial inclination of a potential policyholder to complete the insurance, but also higher ahead of his indignation when the quality of delivered services is not at the level of promise).

## CONCLUSION

In the future for the Insurance companies and insurance market in Serbia, there would be a strong competitive struggle in the insurance market, due to the entry of foreign insurance companies in the market, most likely, the purchase of existing insurance companies. Insurance market growth is expected in the future, which

will require, as noted the entry of foreign insurance companies. It is expected that strong competitive struggle, and this will require intensive use of market research, both by the current leaders, and those companies that want to become leaders in our market insurance.

## REFERENCES

Bruno Solnik & Dennis McLeavey, International Investments, fifth edition, Pearson Addison Wesley, 2004.

Frank K. Reilly & Keith c. Brown, Investment Analysis Portfolio Management, seventh edition, USA, 2003.

J. Stiglitz, Freefall, Norton, New York, 2010.

Law on Investment Funds, Official Gazette of the Republic of Serbia, no. 46/06, 2006.5.

Nada Vignjević-Đorđević, Marfin - Marketing in finance, Europress, Beograd, 2005.

Nada Vignjević-Đorđević, Nebojša Žarković, Insurance - law, institutions, management, Finegraf, Belgrad, 2010.

Robert Slater, Finance, Investment, Stock trading – Soros unauthorized biography, USA 1992.

Spread publication of the Statistical Office of Serbia and National Bank of Serbia

SMMRI research results in 2008. year.

[www.fmainvest.com](http://www.fmainvest.com)

[www.deltainvestments.co.yu](http://www.deltainvestments.co.yu)

[www.hrportfolio.hr](http://www.hrportfolio.hr)

# CONSTRUCTION COMPANIES AND BUSINESS NETWORKS IN RUSSIA

**Nina Vladimirova,  
National Research University, Russia**

## ABSTRACT

*Under the conditions of open innovations, technologies, knowledge and competences exchange which go beyond the borders, the nature of competition between the companies acting on different national markets has undergone changes. The establishment of long-term trusting relationships with local organizations and communities becomes one of the primary challenges for companies entering new markets. This article describes the results of a research of Finnish companies working in the Russian construction sector. The author defines the role of network aspects in companies' strategic processes and illustrates how strategy and cooperation vary according to construction project stages.*

## NETWORK ASPECTS IN STRATEGIC MANAGEMENT

As the companies pass the borders, so do interorganizational ties becoming full-fledged players on the international markets. Achieving and preserving competitive advantage is hardly possible without experience, knowledge and best practices exchange between the companies' representatives as well as internal organizations. Under conditions when developing strategic partnerships is one of the obligatory factors for a company's success, developing and implementing strategies for business expansion outside the national market require considering new factors which reflect the type of cooperation with the network partners, institutional and industry-specific peculiarities.

Construction sector is a strategic sector of economy. It represents a system of jointly working branches of material production which ensure the construction process. Historically, the construction complex has been characterized by a number of ties existing between companies, institutions and governmental authorities which predetermine the results of joint projects. Together with international construction companies, engineering and design bureaus, foreign suppliers of equipment and materials enter the Russian market. The issues of companies' management in the situation of a great number of various types of cooperation and development of strategic partnerships come on agenda.

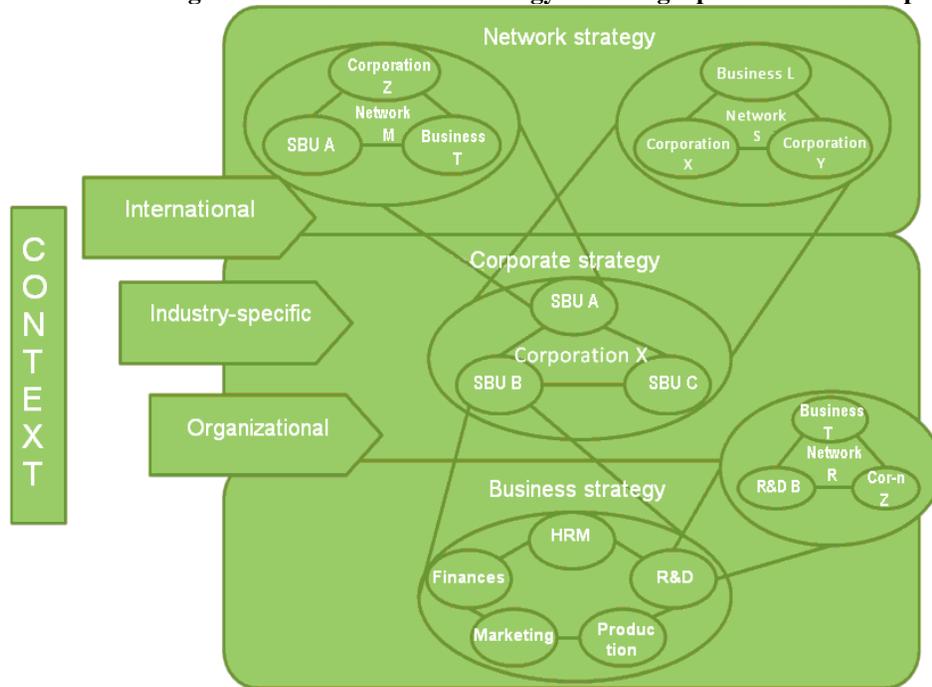
The existing researches in the field of developing international strategies evaluate the importance of interfirm cooperation in the sphere of decision-making process. However, the fragmentary types of research works, obscurity of their practical application make it impossible to form a unified approach to forming and choosing strategic alternatives on the new international markets.

During the last 15 years a large number of publications have appeared which examine various aspects of network relations: classification of the networks (Möller and Rajala 2007, Achrol 1997, Castells 1996, de Man, 2004), mechanisms of their development and managing (Möller and Rajala 2007, Gulati et al 2000, Kogut 1990, Dyer and Singh 1998, Jarillo 1993), evolution of relations (Ford 1997), role of informal communications inside a firm (Hakansson and Shenota 1995, Dyer and Singh 1998).

Developing a network on a new national market largely depends on the strategies (corporate, business and functional ones) of the headquarter company, implementing of which influences in its turn the choice of partners on a specific market. The strategy of a network level acts as an integral one (de Witt, Meyer, 2005) linking separate elements of a strategic process into one whole (fig.1).

Within a framework of a company one can specify several networks in which the company is involved. Decisions related with cooperation in certain networks can be made on different management levels. Thus, a company may be a part of one or several, which is more often, networks. If the organization is diversified, each of the businesses can act within their own network. And finally, some of the subdivisions, for instance, R&D or marketing departments, can develop relations within a framework of cooperation with research institutions or consulting agencies. That is why a network level strategy unifying different networks has a complex compound dynamic structure, and networks between external and inner networks of a company influence implementing of the strategies of all the levels.

**Fig. 1 The role of network strategy in strategic processes of a company**



In spite of a large number of publications dedicated to the issues of cooperation, the mechanism of including network relations into the company's strategies has been given almost zero attention. This article would attempt at including the network aspects of management into a company's strategic processes.

## METHODOLOGY

The article reflects the results of the research of Finnish companies working in the Russian construction sector. It specifies the peculiarities of companies' strategic processes (making decisions and taking action) when business expands beyond the national borders. We use the definition of a business network as a model of cooperation between firms and institutions. Factors influencing choice of globalization strategies and legal and organizational forms of their implementing, establishing and developing partner relations when developing foreign markets, as well as decisions on strategic control of international branches (affiliates), are given with consideration for the role of strategic context. National, regional, industry-specific and interorganizational conditions of doing business are examined as contextual factors.

The research is based upon a complex of quality and quantity methods of data analysis. Tools of quality analysis include structured interviews with medium-level managers and executives in Finnish building companies and their Russian affiliates. The interviews featured 40 questions on different issues of the company activities which influence strategic process. In addition to the interview we used companies' inner documents as well as secondary information: companies' sites, materials of World Economic Forum and World Bank.

## RESEARCH FINDINGS

The results obtained in the research make it possible to conclude the following: expanding a model of partnership cooperation on the Russian market is obstructed by barriers which appear due to considerable difference in institutional, economic, socio-cultural factors, legal regulations and standards.

### **Barriers to developing network in Russia**

The results obtained in the research make it possible to conclude the following: expanding a model of partnership cooperation on the Russian market is obstructed by barriers which appear due to considerable difference in institutional, economic, socio-cultural factors, legal regulations and standards.

Level of technology development, dynamic integration and participation in global processes while preserving national interests make Finland rather an information society country. Key peculiarities of such society is generating knowledge with help of information technologies, implementing network relations in different industries, developing infrastructure for an effective performance of a network. The Russian economy is currently at the development level typical of an industrial society. Characteristic features of this level are traditional market mechanisms and more strict organizational structures.

Considerable differences between Scandinavian countries and Russia also consist in underdevelopment of financial, social and legal institutions the goal of which is to ensure contracts executing, investors, intellectual and other property protecting, as reflected in World Bank's Ease of Doing Business index, where Russia is ranked 120, and Finland 16.

Differences in the development of institutions bring about difficulties related to intransparency of tenders and building orders procedures. Moreover, the business stability is threatened by a high level of corruption and economic crimes especially in the construction sector, as noted by the interviewers and reflected in a number of foreign and domestic researches. Transparency International agency ranked Finland as the world's fourth least corrupt country, Russia – 154 out of 180, and the situation in Russia has a tendency to worsen. Intransparency of management conditions while receiving orders, especially municipal ones, obstructs implementing joint programs on regional and city modernization.

Institutional socio-cultural conditions of doing business predetermine differences in firms' behavior in forming partnerships on the Russian and Finnish market. Finnish companies are mostly oriented towards relational contracts - business relationships of trust between the parties when the contract is not formal. On the contrary, Russian companies aim at setting up regulations of joint activities prior to beginning of works and overseeing every possible detail of a future project. Thus, a paradox appears, when relations with local, regional and governmental authorities are strictly regulated and transparent in Finland and other Scandinavian countries, while in Russia this is a sphere of informal relations with a high degree of intransparency and corruption. At the same time the rules of network cooperation adopted by the foreign companies and based upon trust within the partner cannot be implemented due to cautiousness of Russian companies in the beginning of joint business.

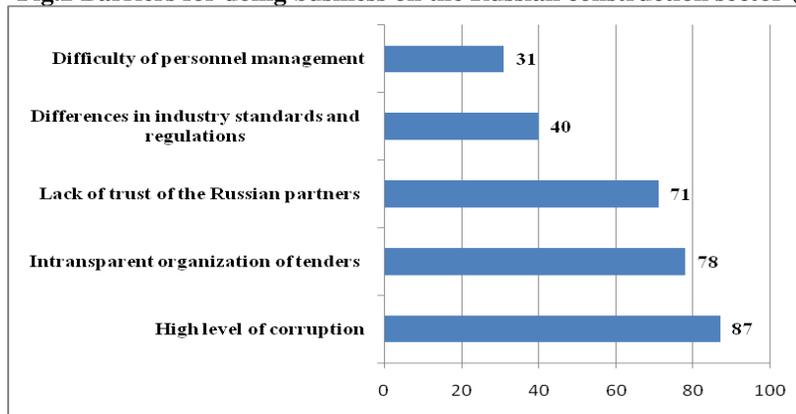
As construction complex has regionally specific, the noted factors appear differently in Russian regions. However, the research shows that practically all respondent companies establishing partnership strategies come from peculiarities of national culture and socio-political situation in Russia, not taking into account specific situation in separate regions and cities.

From the position of strategic management and control over affiliates there appear difficulties brought about by legal regulations and peculiarities of the law regulating business of foreign companies on the Russian market. Central-office companies evaluate foreign affiliates in the view of organizational hierarchy, limiting its rights and obligations from the viewpoint of the position of a given business unit in the whole system of the company. However, in accordance with the law on Foreign Investments in the Russian Federation, the representatives of the company are separate legal entities, and their directors are entitled with all the rights and obligations of general directors. This results in a problem of discrepancy between management and legal structure which causes not only difficulties in personnel management but also obstructs forming and implementing partnership.

Conclusions made by the author are given proof by the empiric research which allows it to single out major factors obstructing doing business in Russia (fig.2). The following barriers were identified by the respondents:

The analysis of companies' strategic processes shows that decisions for network cooperation are of tactical character and are independent from the general strategy of the company. Finnish companies entering the Russian market are oriented at long-term contracts without building a network, at the same time recognizing the importance in interorganizational cooperation and its influence on the whole activity of the company. Thus, the analysis shows the necessity of developing a complex model of a strategy of expanding business outside the national market which would take into account not only external context factor, but also a structure of inner cooperation between the affiliates of the company, as well as influence of different groups of partners.

**Fig.2 Barriers for doing business on the Russian construction sector (percentage of respondents)**



## Strategy transformation of a construction company

Two main alternatives can be pointed out from the perspective of provided products and services (Bartlett and Ghoshal 1995):

1. *multinational* strategy, based on account and usage of specific national features of concrete segments on the world market
2. strategy of *globalisation* providing application of standardised approach towards realization of competitive advantages with negligible changes in relation to national markets.

The choice of strategy is defined by two major factors: possibility of standardization of world market and efficiency of economy of scale. Implementing these strategies, a company makes decisions on degree of core competences' centralisation, considering requirement for coordination and bureaucratic costs (Morrison, Ricks and Roth 1991).

The research tackles distinctive features of each stage of a building project in regard of two factors: necessity of global integration and consideration of local differences.

One of the specified features of construction sector is a project type of business. The composition of factors influencing an international strategy of construction companies is subject varies at different levels of a project. Five stages of a building project can be defined: preconstruction, contract award, building and construction works, exploitation and substantial completion.

At the stage of preliminary preparation receiving the very order for building a project becomes the crucial factor. Not only the political decisions of the receiving part are of great importance, but also the influence of the local public authorities which can either support or obstruct the whole project. The other crucial aspect appearing at this stage is the projects' funding. Local resources are not always enough for implementing large-scale projects especially when entering the markets of developing countries. In some cases there is a necessity of receiving an access to the international financial and investing groups. Conversion of part of the funds into local

currency, legal tax restrictions, profits transfer into the basing country, credit security, country-specific risks also shift the international strategy to the deeper consideration of local factors.

Despite the fact that building standards differ, the access to the more advanced building technologies is crucial for obtaining the contract. One of the reasons of the investments increase of the developing countries to the developed ones is the access to unique technologies and growth of competitiveness when most technologically developed companies enter their markets. Some specific projects require strengthening relations with local institutions for the venture's success. At the same time large projects require established connections between two or several national institutions in order to gain access to the funds or other recourses for better stability of the competitive advantage. Thus, at the stage of preliminary preparation of the project both global integration and consideration of local differences are of importance.

At the stage of signing contracts, despite the synergy of standardization processes, local-specific factors prevail. The budget would mainly include local component parts and units, including raw materials, equipment and human capital. Although tenders require global resources, for example, in case of inviting international banks, the core of decision remains at the receiving country. Signing the works contracts, negotiations and organizing work also take place at the building site.

Building and operation of the objects include project managing, resources distribution, works production, composition of a system of measurements and evaluation parameters, supervision and training the personnel. This stage is influenced by local factors. Global integration is necessary only for securing communication between affiliates and providing some technical services.

At the stage of building commissioning maintaining partnership relations with local business communities and customers remains important as the strategy presupposes not only single projects but expanding the number of building objects in the receiving country. Thus, cooperation has a cyclic character as they help to receive orders in future and bring the process back to the initial stage.

The analysis of possible international strategies shows the importance of the factors, global integration and consideration local differences, at each stage. However the degree of their influence varies depending on the building process stage and is of a cyclic character.

Following the *global* strategy, a building company focuses on distribution of its resources and receiving synergy from their usage. At the stage of preliminary preparation the company emphasizes the importance of lobbying the national government for the company's interests, inviting international financial institutions, centralized purchases and international transfer of technologies and best practices. The stage of building project estimation and commissioning is performed by one of the foreign affiliates of the company in the receiving country. The requirements of the work with partners and clients are often standardized.

*Multilocal* strategy presupposes more independent activities of the affiliates. At the stage or preparing the project strategic priorities are aimed at receiving support from the local government, usage of local financial funds, inviting local companies for executing exploration and design works. However general planning and developing standards takes place in the head office.

*Multinational* strategy is characterized by a high degree of decentralization of operations, including marketing and financial ones. Each foreign affiliate possesses unique knowledge and technologies necessary for this competitive market. All stages of building are controlled and implemented by the company's affiliates with the usage of local resources and firms.

*Transnational* strategy combines the characteristic features of the both strategies with maximal consideration of the local differences and usage of global integration synergy. In practice following this strategy is connected with considerable expenses and difficulty of managing the affiliates in different countries.

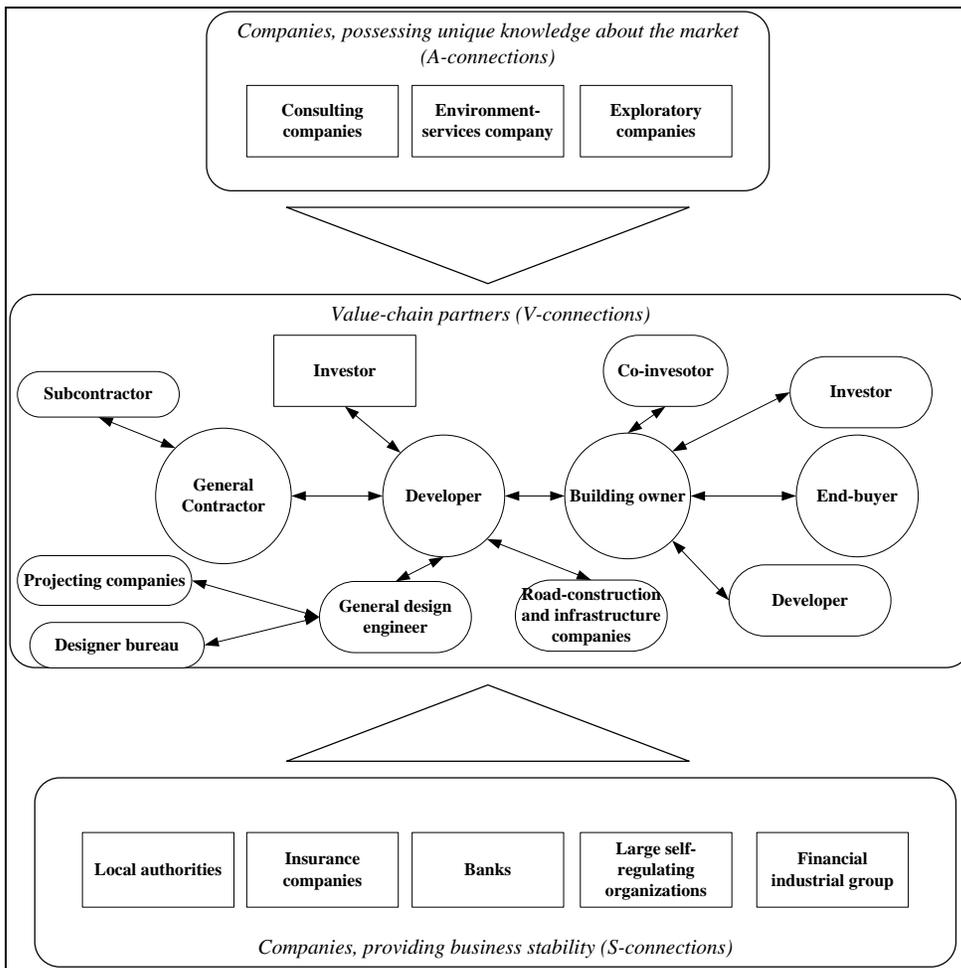
Thus, despite following one of the international strategies, the correlation between the arguments in favor of either globalization or consideration of local differences is subject to change depending on the building stage.

## DISCUSSION AND CONCLUSION

Simultaneously with the transformation of international strategy the priorities in establishing partnership relations also change. Depending on the specific features of the market and singled out obstacles, possible structure of partnerships can be singled out. The building companies are pressed by the deadlines of project completion, therefore it is necessary to build stable relations in the framework of creating the value (in accordance with characteristics specified in the model – relations of V type). The author specifies possible partnerships in the framework of each cooperation types (fig.3).

Quality control and control over the dates of the project completion require the company’s tough approach when selecting the contractor and designer. This is the reason to let the participants of the inner network – daughter affiliates of the head company-the management control over the project. Simultaneously, the Russian construction market has a number of companies who have the knowledge on the requirements and standards in the constantly changing legislation. Therefore, local companies are invited to ensure access to the necessary strategic assets (licenses, knowledge about the market). Business sustainability is defined through access to financial resources and relations with insurance companies. Market of insurance for building works and the banking industry are in the formative stage, so when the company enters the Russian market it should firstly develop relations with representatives of foreign financial and insurance institutions. Establishing permanent relations with local authorities and regulators is one of the key components of doing business in Russia.

**fig.3. possible partnerships in the framework of different types of cooperation**



Building sector is characterized by a dozen of interrelations influencing the dates of building projects completion. Within a framework of a value chain complex interactions are being formed the participants of which can combine different roles. The interactions have both external and inner character, i.e. a corporation's affiliate working at the certain marking or planning to enter this market can act in the capacity of the general contractor.

Correspondingly, the process of forming and changing a strategy should always have a structured and cyclic character and reflect not only changes of the inner environment but also the specific features of the industry in which the company acts.

Thus, the results of our research suggest the following conclusions. Specific characteristics of the business, in particular, project character of organization and management of works in the construction sector, limit choice of clients and suppliers after works beginning under projects. However, the stability of the partnerships within construction projects promotes greater stability of construction companies in the financial crisis. The company international strategy, in particular degree of localization or globalization, changes depending on stages of the project and influences a choice of priority partners in the new market.

## REFERENCES

- Achrol, R.S. "Changes in the Theory of Interorganizational Relations in Marketing: Toward a Network Paradigm", *Academy of Marketing Science Journal*, Vol. 25, No.1 (1997): 56-71.
- Bartlett, C. A. & Ghoshal, S. *Transnational management (2nd ed.)*. Chicago: Richard D. Irwin, Inc. ,1995.
- Castells, M. *The Rise of the Network Society*. Cambridge, MA: Blackwell, 1996.
- De Man, A-P. *The Network Economy. Strategy, Structure and Management*. Cheltenham.UK and Northampton, USA: Edward Elgar, 2004.
- Dyer, J.P. and Singh, H. "The Relational View: Cooperative Strategy and Source of Interorganizational Competitive Advantage", *Academy of Management Review*, Vol.23, No.4 (1998): 660-679.
- Gulati, R., Nohria, N. and Zaheer, A. "Strategic Networks", *Strategic Management Journal*, Vol. 21: 203-215.
- Ford D., editor. *Understanding Business Markets: Interaction, Relationships and Networks*. London: The Dryden Press, 1997.
- Hakansson, H. and Shenota, I. (editors). *Developing relations in business networks*, London: Routledge, 1995.
- Jarillo, J.C. *Strategic Networks: Creating the Borderless Organization*. Oxford, UK: Butterworth-Heinemann, 1993
- Kogut, B. "International Sequential Advantages and Network Flexibility" in *Managing the global firm*, London and New York: Routledge, 1990: 47-68
- Möller, K., Rajala A. "Rise of Strategic Nets – New Modes of Value Creation", *Journal of Business Research*, Vol.58, No. 5 (2007): 895-908.
- Morrison A., Ricks D., Roth K. "Globalization versus regionalization: Which way for the multinational?", *Organizational Dynamics*, Vol. 19 (1991): 17 - 29.

# CORPORATE ELITES AND CONTEXT

**Sibel Yamak and Ali Ergur and Artun Ünsal**  
**Galatasaray University, Turkey**

## ABSTRACT

*This paper focuses basically on the business networks. Businessmen's associations together with their respective ideologies and member profiles are investigated to have an understanding of the business networks of the corporate elite. Thus, the study aims to identify the networking patterns of new and established business elites to assess the impact of the changing conditions whose fundamental traits appear to be liberal economic policies and an accentuated concept of religion. In this study, we basically compare and contrast elites' networks to understand the relative influence of individual differences and the contextual changes.*

## INTRODUCTION

Studies on business elites seem to have attracted limited attention in spite of the calls of prominent authors (see for ex. Pettigrew, 1992; Whittington, 2004; Savage and Williams, 2008). Whittington (2004:62) stresses the need for a sociological agenda interested in "understanding strategy's elites" since their actions may have important repercussions for society. Drawing on perspectives from sociology, management and political science, this multidisciplinary study aims to unfold the impact of the liberal policies and conservative forces prevailing in the Turkish context on business networks of the corporate elites. The adoption of liberalization policy in 1980 and Islamic tendencies increasingly surfacing in the same period makes Turkish business milieu a valuable setting to investigate the impact of the context on corporate elite's business networks. Businessmen's associations together with their respective ideologies and member profile are investigated in a way to assess the impact of the changing conditions whose fundamental traits appear to be the liberalization of economic policies and an increased emphasis on religion.

## CONTEXTUAL CHARACTERISTICS

Turkey is a civil law country and its legal system contributes to the central role of the state in the Turkish business system (Yamak and Ertuna, 2011). Consistent with the predictions of the Legal Origins theory, the economy is mostly guided by state desired allocations rather than market based outcomes (La Porta et al., 2008). Turkish business context is typically characterized by the family-controlled, diversified big business groups (Guillen, 2001) whose development was encouraged by the state. The state formed partnerships with these businesses, provided credits from state banks and low cost inputs, and protected them from foreign competition (Bugra, 1994). The intricate nature of the relationship between the state and the business firms necessitates a careful handling of this link and enforces owning families to take part in the management of their companies (Bugra, 1994).

These basic characteristics of the business system in Turkey continue in spite of the major macroeconomic policy shifts. Turkish economic policy reached a breaking point in the beginning of 1980. The preceding decade was subject to high inflation rate coupled with the erratic regulatory regimes caused by political instability which made high levels of uncertainty the basic characteristic of doing business in Turkey (Yurtoglu, 2004). Abandoning import substitution policy that has been focusing on the domestic market, a trade liberalization program based on export promotion was launched in the early 1980s (Yurtoglu, 2000). Turkey was to adapt herself to the realities and requisites of the global economy and the globalization process, which demanded a "restructuring" of the national economy. Therefore, the system of mixed economy was abandoned,

state economic enterprises were privatized, and a series of neo-liberal policies were launched in order to quit the existing “nationalist development model” in favor of the transition to global capitalism (Türe, 2008: 89). As a consequence several initiatives were taken. In 1986, Istanbul Stock Exchange was founded. With these large scale reforms supported also by the majority of the economic elites, the control on foreign currency was abandoned, the value of the Turkish Lira was determined by the market, foreign capital entry controls was suppressed and attempts to develop capital from Islamic, especially Arab countries were made (Öniş, 2004). The same period was also a characterized by an attempt to combine Islamic identity with liberal economy (Lacinok, 2007). This tendency further enforced by the victory of pro-Islamist parties in 1990’s and 2000’s. For example, the pro-Islamist AKP that have been governing since 2002 promised to respect integrally the neo-liberal economic policies deployed since the 1980’s. The Anatolian conservative entrepreneurs, weary of AKP’s predecessor’s politically risky discourses (pro-Islamic parties have already been banned several times by the Constitutional Court, on grounds of anti-secular activities destined to install an Islamic regime) needed a political organization which allied Islamic belief with pragmatism, but gave priority to private enterprise, free market, competition and profits (Kumbaracıbaşı, 2009).

Following the liberalization, the industrial production, primarily limited to Istanbul and Marmara region became scattered throughout Anatolia, thanks to the proliferation of export oriented small and medium size enterprises operating in various industrial zones that reflected the dynamism of the ambitious entrepreneurs passing from local to global markets, even without transiting by the national one (Keyman, and Lorasdağı, 2010). This proliferation was also stimulated by the large businesses of the Marmara region, which outsourced part of their production to the Anatolian companies (Buğra and Savaşkan, 2010) while competing in international markets.

Transition to liberal economy and the attempts to combine Islamic identity with liberal economy influenced considerably business networks. A proliferation of the businessmen associations with a religious accent characterized the period following the economic and social transformation. The new Anatolian conservative economic and political elites who once felt that they were socially and culturally “excluded” savored their common triumph, and displayed openly their interests in securing their proper seats among the established elites. The religiously conservative entrepreneur groups, not only those dwelling in Anatolian cities but also those operating in Istanbul and Marmara region were also willing to improve their social networks. As an alternative to the “Turkish Association of Industrialists and Businessmen” (TUSIAD-Türkiye Sanayici ve İşadamları Derneği) founded in the 1971 by the modernist established economic elites of the Istanbul area, the Anatolian entrepreneurs, close to then leading pro-Islamist Welfare Party (RP), created in 1990, MUSIAD (Müstakil Sanayici ve İşadamları Derneği) “The Association of Independent Industrialists and Businessmen” (Pamuk, 2008). The first three letters of the denomination of “Müstakil” meaning independent could also be read as “Muslim”. While TUSIAD’s membership size is relatively small and composed of large firms mainly located in Istanbul and surrounding areas, MUSIAD’s membership size is larger and geographically spread and mainly composed of SMEs (Öniş and Türem, 2001). However, TUSIAD’s members manufacture 65 percent of total industrial production. Their share in total exports is about 85 percent (Buğra and Savaşkan, 2010). MUSIAD has close ties with the pro-Islamist parties and intends to play a pressure group role in favor of its members at governmental spheres (Buğra and Savaşkan, 2010). Another example of network for religiously conservative businessmen is the one known as “Anatolian Tigers”, ASKON (The Association of Anatolian Lions Businessmen), founded in 1998. Though sharing similar cultural characteristics with MUSIAD, ASKON was basically an Anatolian organization. While the former had the ambition of uniting Turkey’s all religiously sensible entrepreneurs, the motto of ASKON, who represents small and medium sized Anatolian industrial enterprises and local liberal professionals, is “fair wealth”, symbolizing its main principles: integrity, respect of business ethics, freedom, refraining from waste, quality production, fair distribution of revenues, and loyalty”.

Another business network “The Confederation of Turkish Businessmen and Industrialists” (TUSKON), that shelters religiously conservative entrepreneurs was founded in 2005. But its founders and members belong to Fethullah Gülen’s religious community, and keep a certain distance with MUSIAD and ASKON (Buğra and Savaşkan, 2010). Gülen maintains a “concept of the secular world as “dar-ul hizmet” (the abode of service to mankind), which he substitutes for the traditional notion of dar-ul harb (the abode of war against infidels) (Mango, 2006). This perspective is similar to the basic tenet of Opus Dei that all work should be performed as divine service” (Mango, 2006). In TUSKON Islamic references are kept in second plan while nationalist

discourses are deployed: Islam is characterized as an important element of Turkish nationalism (Buğra and Savaşkan. 2010: 104). TUSKON especially provides network for local KOBİ's willing to reach to foreign markets and find also raw materials for their productions. The impressive educational institutions created by Gulen's followers in five continents, from Asia to Africa, from Australia to USA are also of help for additional contacts for infiltrating global markets (Buğra and Savaşkan. 2010). In these schools the instruction language is Turkish along with English and the curriculum familiarizes students with Turkish culture.

A widely shared common idea about the role of the religion in Turkey is that it functions as a basis for the generation of a closed and defensive world conception. Consequently, religion has long been conceived as the main theme of a polarization between a modern attitude and a conservative posture (Mardin, 2004: 82). Nevertheless, recent studies expose a series of data asserting that religion in Turkey does not only coalesce with a self-protectionist anti-modernism, but rather it furnishes instruments to a personal inner guide-line through a rapidly changing society and facilitates the integration in a world of global fluencies. (Göle, 1991; 2000). In this study we study its impact on business world.

## METHODOLOGY

Drawing upon the view that "elites are those groups that hold or exercise domination within a society or within a particular area of life" (Scott, 2008:32) we have defined business elites as the leading executive figures (such as chairperson, vice chairperson and CEO) of the holding companies whose affiliates are listed among the largest 500 companies in Turkey. This definition is also consistent with previous studies which perceive corporate elite as "a configuration of capitalists (major shareholders and top executives) and organic intellectuals occupying positions of ultimate authority within leading corporations" (Carroll, 2008:47).

The sample of the study was drawn from the owners and the managers of the largest Turkish companies for a larger study on elites in 2010. A sub sample of 36 interviews is used for the present analysis. Elite networks are assessed through the membership to the largest businessmen associations in Turkey namely. TUSIAD, MUSIAD and TUSKON. The data concerning businessmen associations are gathered both through interviews and secondary information sources. This is an exploratory study which assumed an interpretive paradigm. An interpretive qualitative study consists of a research design involving the exploration of a research topic or theory rather than being a test of it (Myers, 2009:23). Discourse analysis is conducted to analyze the data.

## FINDINGS

Given the multidisciplinary nature of the work we draw on the theories from sociology, political science and management. Thus, elite theories (Carroll, 2008; Scott, 2008) social network perspectives are used to unveil the context-elite networks relationship. Capitals of Bourdieu (1979) are utilized to assess characteristics of network members as well as their actions towards domination. Drawing on Bourdieu's theory we tried, among other key issues, to understand, in the limits of this article, the importance of the social capital as well as economic and cultural ones in Turkish business elites' context. Our analysis on the formation, structure and functionality of the business associations in Turkey revealed both an articulation with the network-basis perspectives, especially the one developed by Granovetter, and a reevaluation and a micro-adaptation of the Bourdieusian notion of social capital in today's changing Turkish business world.

A theoretical abstraction of our results gave way to a middle-range model concerning the formation and the functions of existing and emerging networks in Turkish business system. Different business networks (in form of businessmen's associations) accomplish specific functions, with sometimes complementing and mostly conflicting interests. Nevertheless they are subject to the same contextual forces (general situation of the world economy, equilibrium of the international relations, political stability at the national level, crises and social movements, ideologically-driven trends) at the same historical moment, while each one represents a different stage of the organizational evolution (e.g. while the long established one is at the peak of its integration with the global market and is sufficiently mature, the one succeeding it is in the phase of growth while it acquires, with a high motivation, the necessary dispositions for being more active in global market). They are also subject to differing imprinting effect of their foundation time. We observe that founding time seems to institute a different organizational habitus in each association. TUSIAD was born in 1971 in an unstable context characterized by

social unrest and employer-employee conflicts where social democrats and liberal conservatives used to compete for the government. It was founded to reveal the social existence of the private sector rather than to go after the special interests of business people (Bugra, 1998). Both MUSIAD and TUSKON emerged after 1980 where religious tone was remarkable in the discourse of the governments. Each network is born as a semi-reactionary movement towards the cultural codes represented by the older one. Every network is constituted of main components and the systematic cooperation evokes the establishment of (and around) a social capital, allowing in, those who share the same cultural codes (cultural capital) and exclude those who do not. Similarly those not sharing the same characteristics do not dare or want to become a part of the network. This was quite evident in the discourses of the businessmen who did not join TUSIAD. "TUSIAD is too big for us" *Chairman and CEO in a holding from Istanbul.*

In fact, there are significant discrepancies between the economic, social and cultural capitals of the adherents of TUSIAD, MUSIAD and TUSKON in our sample. Given the overlaps between the MUSIAD and TUSKON members and the commonalities in their religious tone we preferred to put them together. Our findings show that TUSIAD membership is associated with the largest economic power. Its members in our sample are usually from companies whose sales exceeded 500.000.000 or even 1.000.000.000 USD. The association with relatively smaller size companies is worth nothing in the cases of MUSIAD and TUSKON members. The divergence between the respective cultural capitals of these different networks' members is also considerable. TUSIAD members appear to have an undergraduate degree often from a university in USA or UK. They are also likely to have a graduate degree. The majority of TUSIAD members are also graduates of prestigious high schools where the instruction language is a foreign language. This is consistent with the fact that majority of this group seem to be able to speak more than one foreign language. Among this group, there seems to be a trend about collecting paintings and (to a much lower degree) antiquities as well as establishing private universities bearing the name of the family. MUSIAD and TUSKON members in our sample seem to differ considerably from TUSIAD members along the cultural capitals. Large majority does not have an undergraduate degree and none a graduate degree. The distance of the university to the city of dwelling appears as a major problem causing this limited time in educational institutions. The expectation that the older son should work in the family business was another reason which prevented further studies.

However, it is also worth mentioning that the children of MUSIAD and TUSKON members seem to achieve better education levels. They have undergraduate degrees and some of them prefer US universities. Thus heirs have a better education record and are able to speak foreign languages. Half of the TUSKON members in our sample do not know any foreign language. Most of them seem to have spent little time abroad and only for business trips. When we evaluate the presence of elite tastes as defined by Bourdieu we see that such tastes are inexistent. For example, none of them collects paintings or antiquities in contrast to TUSIAD members. However, the trend of establishing universities is also observed among TUSKON members. They get together with similar others to create new universities usually for a "foundation" and get actively involved in the board of trustees. Their more collectivistic orientation is worth noting.

Significant differences are also observed along the social capital dimension among TUSIAD and MUSIAD/TUSKON members in our sample. The notion of social capital appears to be the underlying concept of Bourdieu's thinking on the phenomenon of domination (Bourdieu, 1979). He conceptualizes social capital as a sum of actual or potential resources deriving from the very fact of possessing a more or less institutionalized network of durable relationships. The latter are also shaped in a process of *interconnaissance* or *interreconnaissance* which means that the social capital implies an affiliation with a group which is not only a set of common features, but also a system of permanent and useful links (Bourdieu, 1980: 2). Social capital creating useful links display various characteristics for the businesspeople networks we analyzed. One of the dimensions we wanted to assess it is the father profession. In the case of TUSIAD members, the father profession appears to be industrialist. On the other hand "merchant" or "craftsman" appears as the father profession for MUSIAD/TUSKON members in our sample. There is only one exception who is farmer. Another dimension to assess social capital is the city of birth. Interestingly, we see that more than half of the TUSIAD members in our sample were born in cities other than metropolitan areas. On the other hand, all the MUSIAD/TUSKON members in our sample were born in non-metropolitan areas.

Given the findings of our study we develop a model which is composed of interconnected parts. Therefore, a network involves the articulation of interconnected parts which are: needs and functions, that

necessitate a form of organization, based on the use of cultural signs and a shared habitus to nurture trust system which generates legitimacy, credibility, economic cooperation and ideology.

The whole process, at the end, turns into a form of domination which leads to an exclusion of those who are not culturally conform and generates a feeling of incompatibility on the part of those who hit the barrier of the domination. Consequently, a new network defining itself 'other' than the one preceding it, emerges as sufficient need is condensed around a motivational force towards global market. This being 'other' is explicitly encoded in cultural assets. However, different networks meet on the aims of an economic mutuality for a growing business and global integration. This is how we can explain the synchronic existence of a series of networks, diverging culturally or ideologically, but completing thus an evolutionary landscape of the business world. As mentioned above these businessmen networks differ in the type and level of their needs. TUSIAD members are big players and they are well connected with the rest of the world. They have mostly western cultural references. On the other hand, MUSIAD/TUSKON members seem to be less familiar with the foreign markets and cultures. However especially in the case of TUSKON this is being overcome thanks to the schools of Gülen all over the world (Buğra and Savaşkan, 2010) which are attended, especially in less developed countries, by the children of local elites.

On the other hand, network theory claims that human behavior even concerning economic relations, is not conjugated only in terms of instrumental rationality, but also of sociability, approval, status and power (Granovetter, 1985). Instead of emphasizing the affective features of the human action which is constructed upon similarities and familiarities engendering trust in human relationships, Granovetter initially stressed that action develops rather in a network of seemingly less-affective ties, namely weak ties, that the use by actors results in a type of relationship involving greater number of individuals (Granovetter, 1973: 1369). He also argues that not every weak tie but rather, the ties capable to establish direct and unique links between unconnected actors (bridges) have the capacity to shape an effective relationship (Granovetter, 1985: 208). Although the emergence and development of business networks in Turkey, have some divergent aspects vis-à-vis Granovetter's weak ties approach, the crucial role played by bridges in a network of business relationships seems to display similarities. Instead of communal relationships based on proximity, familiarity, traditionally-determined trust systems, newly emerging networks of businessmen in Turkey, offer, to their adherents a quite different type of cooperation. Although they seem to have an implicit ideologically-driven motive in their formation (religious orientation, conservatism, protectionism, secular and modern conception of the world, etc.), they, in fact, tend to form a new kind of ad hoc action group to resist the pressures and necessities of the globalization. Biggart and Delbridge (2003) with their typology of exchange systems, point out an alternative perspective. By a distinction between price system (universalistic instrumental rationality), associative system (particularistic instrumental rationality), moral system (universalistic substantive rationality) and communal system (particularistic substantive rationality), they classify major forms of exchange based on the openness level of the group towards outsiders (universalistic/particularistic) and their relation with the instrumental logic (direction of the calculus between means and ends). Most of the Turkish business associations seem to be characterized by a blend of moral and communal system. Especially the newly rising ones, appear to prioritize the in-group harmony through an apparent ideological or moral motivation, paving the way to an integration with a global price system. Granovetter (1983) has further developed his initial theoretical model with other empirical data, which confirm that weak ties in inter firm relationships facilitate the creation of cooperation and coordination in the national network of economic actors.

Burt (2005) proposes in his both challenging and complementing approach to Granovetter, a consideration of a relatively under-estimated aspect of network system and focuses on "structural holes". He accentuates the contribution of the network relationships to the enrichment of the social capital. According to Burt, a network rich of holes (unconnected persons or clusters of relationship) is more promising than that paved of familiar connections, because relatedness depends on the communicative capacity offered by the discontinuous network. Unknown, unexplored identities and beliefs can be an effective source to multiply the social capital (Burt, 2005: 17). On the other hand, Townley (2002:561) criticized the taken-for-granted characteristic of the modernist rationalistic and mechanical models that try to analyze the macro-structures, but often under-estimate the importance of the "micro-physics of power". Instead, she proposes a notion of organization which is complex, interactive and dynamic, consisting of multiple and complex interactions and circular causality. In fact, in this study we wanted draw attention to power and domination within and around the businesspeople networks in Turkey. Lounsbury and Ventresca (2003) claim that Bourdieu's approach to the

conception of capital and consequently to the meaning of social relationships instigated the rise of a new structuralism in management studies. This approach emphasizes the comprehension of the connection between intraorganizational networks and broader societal dynamics that influence the prospects for voice in specific surroundings. The impact of Bourdieu's theory on the producing of domination through social capital has thus interwoven a wide range of critical reflection in the management and organization studies. Based on these perspectives, the present study investigates the inner dynamics of the Turkish businessmen networks as well as the supportive or inhibiting forces in the context contributing to their survival. The changing political and economic climate after 1980 facilitated the rise and growth of new networks. The rise of Islamic tendencies at the government level further encouraged new businessmen networks which seemingly base their discourse on religion. This supportive environment was also reflected in the comments of the interviewees from MUSIAD/TUSKON.

In fact, our research focusing on the transformation of the economic elites' networks following the contextual shift delineates a significant change in the relative position of the religion among Turkish businessmen. Despite the manifestation of nuanced attitudes, religion (the Islamic faith) in general seems to have become the primary common denominator in the new elites' networks. According to the findings of our study, the newly emerging economic elites, who are mostly from a provincial-origin, adopt a more or less manifest religious attitude in their self-expression and manners. Majority of MUSIAD/TUSKON members in our study state that they fully live the religion. However, they are highly motivated for constituting business networks that aim integration with global liberal market, instead of preserving the reactionary conservative point of view. The existing metropolitan-origin established business networks display mundane and western-oriented cultural characteristics while the new formations rather use religious themes and the explicit conservative attitude as a kind of ingredient of articulation with the capitalist relations at the world scale. In other words, conservatism functions, in rapidly changing social-economic context of Turkey, as a protecting cocoon, a kind of anti-shock armor for the sufficiently motivated individual who desires to be integrated into the global market, but who does not dispose the necessary cultural equipment that should support the logic of competitiveness. This might also be one of the main reasons that frequently generates an inner debate between conservatives-Islamists on being or not hypocritical about religion. (Vergin, 2000: 62) We think that from bottom up this is an inevitable conflict triggered by the social change and forms of adaptation shared by conservative strata. In spite of such a distance towards the non-material aspect of the globalization, the apparently conservative economic elite seems to approach to the values relative to a pluralistic point of view, a remarkable tendency to moral tolerance, a systematic recognition of cultural differences, often intellectually supported through the traditional humanism that the references are found in the traditional humanism reminiscent of the Sufi philosophy of Rumi or other historical Anatolian half-mythic and thus flexible stance towards Islam since centuries. In fact, Turkish Islam has a traditional orientation towards the state which facilitated its pragmatic and flexible tone. "In other words, because Turkish Islam, as represented by religious functionaries, has traditionally done the state's bidding, it accepted the secularist order without demur (Mango, 2006:56). This flexible stance is also visible in the discourses of the MUSIAD/TUSKON members "...I do practice my religion however I have many friends who do not. For example, I often go out with them for a dinner, they drink alcoholic beverages and I don't and I do not mind it. Everybody is free to do what he wishes..." Male, chairman in an Anatolian company. This trend may also be interpreted as yet another confirmation of the underlying attributes of a certain Volkislam, perpetuated by a series of mystical beliefs (Mardin, 1986: 114).

## CONCLUSION

While established metropolitan business elites adopt values directly linked to the global-liberal pluralistic ideology throughout a mostly western orientation in education and socialization, the newly emerging counterparts construct ties to the same economic rationale with the help of both the preservation of traditional seriousness, and the not-too-much-stabilized pluralism together with an implicit open-mindedness. It is observed that the degree of integration with the world-scale economic activities of the economic elites (exportation, distribution, provisory or permanent representation, production in foreign countries) enhances the capacity to develop global and liberal values. Nevertheless, in newly emerging Anatolian capital, this liberalism seems to realize itself as such, at least in most of the cases. On the contrary, what constitutes the appearance (manifest discourse as well as physical aspects) is more or less decorated with the well-known attributes and symbols of the Islamic conservatism. This is just at that point that the actual conservatism serves to establish social ties with

ideologically-driven businessmen associations or networks. Yet, we should also consider that ‘economic institutions do not emerge automatically in response to economic needs’ and structurally embedded individuals seem to have a major effect in the formation of institutional relations. (Granovetter, 1992:7) These increased networks, in exchange, provide them with their high motivation for the global liberal market, additional tools for the continuation of a growing commercial activity, while maintaining their conservatism in scope. The latter leads to a certain valorization of the attitude of respect for religious matters without creating an explicit contradiction between them and the liberal mind. To conclude, our findings show that contextual transformation had its repercussions in both business elite characteristics and elite networks. Both in-group characteristics and needs and contextual trends seem to influence business people networks. Domination desire and possibility of different groups is related to the fit between the social, cultural and economic capitals possessed by this group and the contextual forces.

## REFERENCES

- Biggart, N. W. & R. Delbridge “Systems Of Exchange” *Academy of Management Review* Vol.29 No.1 (2004): 28-49.
- Bourdieu, P. *La Distinction : Critique Sociale Du Jugement*, Paris: Les Editions de Minuit, 1979.
- Bourdieu, P. “Le Capital Social”, *Actes de la Recherche en Sciences Sociales*, Vol.31 (1980): 2-3.
- Buğra, A. *State and Business In Modern Turkey: A Comparative Study*, Albany, SUNY Press, 1994.
- Buğra, A. “Class, Culture And State: An Analysis Of Interest Representation By Two Turkish Business Associations”, *International Journal of Middle East Studies*, Vol. 30, (1998):521-539.
- Buğra, A. & O. Savaşkan “Yerel Sanayi Ve Bugünün Türkiye’sinde İş Dünyası” *Toplum ve Bilim*, Vol.118, (2010):92-123.
- Burt, R. S. *Brokerage and Closure: An Introduction to Social Capital*, Oxford: Oxford University Press, 2005.
- Carroll, W. K. “The corporate elite and the transformation of finance capital: A view from Canada” in *Remembering Elites*, :44-63 (Eds) Savage M. & Williams K. London:Blackwell. 2008.
- Göle, N. *Modern Mahrem*. Istanbul: Metis Yayınları, 1991.
- Granovetter, M. “The Strength of Weak Ties.” *American Journal of Sociology*, Vol.78, No. 6 (1973): 1360-1380.
- Granovetter, M. “The Strength of Weak Ties: A Network Theory Revisited” *Sociological Theory*, Vol. 1(1983): 201-233.
- Granovetter, M. “Economic Action and Social Structure: The Problem of Embeddedness” *American Journal of Sociology*, Vol. 91, No.3 (1985): 481-510.
- Granovetter, M. ‘Economic Institutions as Social Constructions: A Framework for Analysis’ *Acta Sociologica*, Vol.35 No.3 (1992): 3-11.
- Guillén, M. F. *The Limits Of Convergence: Globalization And Organizational Change In Argentina, South Korea, And Spain*. Princeton: Princeton University Press, 2001.
- Keyman, F. & Lorasdağı, B. K. *Kentler-Anadolu’nun Dönüşümü, Türkiye’nin Geleceği*, İstanbul: Doğan, 2010.
- Kumbaracıbaşı, A. C. *Turkish Politics And The Rise Of The AKP- Dilemmas Of Institutionalization And Leadership Strategy*, NY: Routledge, 2009.

- Lacinok, N. "Turgut Özal" *Türk Dış Politikasında Liderler*: 537-639, (Ed.) A.F. Demir. İstanbul: Bağlam, 2007.
- La Porta, R., Lopez-De-Silanes, F. & Shleifer, A. "The Economic Consequences Of Legal Origin," *Journal of Economic Literature*, Vol. 46, No.2, (2008.):285-332.
- Lounsbury, M. & M. Ventresca "The New Structuralism In Organizational Theory" *Organization*, Vol.10, No.3 (2003): 457-480.
- Mango, A. "Religion And Culture In Turkey" *Middle Eastern Studies*, Vol.42 (2006):997-1032.
- Mardin, Ş. *Din ve İdeoloji*, İstanbul: İletişim Yayınları, 1986.
- Mardin, Ş. *Türkiye'de Din ve Siyaset*, İstanbul: İletişim Yayınları, 2004.
- Myers, M. D. *Qualitative Research In Business And Management*, London: Sage, 2009.
- Öniş, Z. and U. Türem "Business, Globalization And Democracy: A Comparative Analysis Of Turkish Business Associations," *Turkish Studies*, Vol.2, (2001):94-120.
- Öniş, Z. "Turgut Özal And his Economic Legacy: Turkish Neo-Liberalism In Critical Perspective", *Middle Eastern Studies*, Vol: 40, No.4 (2004): 113-134.
- Pamuk, Ş. "Globalization, Industrialization And Changing Politics In Turkey", *New perspectives on Turkey*, (2008): 267-273.
- Pettigrew, A. "On Studying Managerial Elites" *Strategic Management Journal*, Vol.13, (1992):163-182.
- Savage M. & Williams,K. "Elites:Remembered In Capitalism And Forgotten By Social Sciences" in *Remembering Elites*:.1-24 (Eds) Savage M.& Williams K. London:Blackwell, 2008.
- Scott, J. "Taking Stock Of Elites: Recognizing Historical Changes" in *Remembering Elites*:.27-43 Savage M.& Williams K. (Eds) London:Blackwell, 2008.
- Townley, B. "Managing With Modernity", *Organization*, Vol.9, No.4 (2002):549-573.
- Türe, F. "Devlet: Liberalizmin Bir Serüveni", in *Devlet ve Sermayenin Yeni Biçimleri*:73-93 R. Gönül (Ed.) Ankara: Dipnot Yayınları, 2008.
- Vergin, N. *Din, Toplum ve Siyasal Sistem*, İstanbul: Bağlam Yayınları, 2000.
- Whittington, R. "Strategy After Modernism" *European Management Review*, (2004): 62-68.
- Yamak, S. & B. Ertuna "Corporate Governance and Initial Public Offerings in Turkey" in *Global Perspectives on Corporate Governance and Initial Public Offerings* A. Zattoni & W. Judge (Eds.), Cambridge University Press, Cambridge, 2011.
- Yurtoglu, B. B. "Ownership, Control And Performance Of Turkish Listed Firms", *Empirica*, Vol. 27, (2000): 193-222.
- Yurtoglu, B. B. "Persistence Of Firm-Level Profitability In Turkey," *Applied Economics* Vol.36, (2004):615-625.

## ACKNOWLEDGEMENT

The authors gratefully acknowledge the support provided by Galatasaray University through the research funding under grant no: 09.102.007

# ENTRY MODES AND BUSINESS STRATEGIES IN GLOBAL CONSTRUCTION MARKETS: TURKISH CONTRACTORS IN LIBYA

Mehmet Akif Yildiz, Consultant, Turkey  
Emanuel Gomes, The University of Sheffield, UK

## ABSTRACT

*International construction firms need to decide on the appropriate market entry mode and business strategies when undertaking projects overseas. This research aims to investigate the effective market entry modes for Turkish construction firms (TCFs) and the effective business strategies for managing projects in Libya. The research method is based on a structured questionnaire and the data was collected via postal and online survey. Interviews were conducted in order to gain a deeper understanding of the construction sector in Libya and to help design the questionnaire. This paper explores the modes of entry chosen by TCFs firms investing in Libya on the basis of internationalisation entry mode theory and the competitive advantage of the firm. Results show that establishing a wholly owned subsidiary in Libya has been the most effective entry mode for TCFs. Results also show that the adoption of a differentiation strategy through the provision of high quality and customized services, seem to be the most suitable competitive strategy followed by TCFs.*

## INTRODUCTION

Globalization fosters international business through an increasing movement of goods and services, flow of capital and mobility of workforce around the world (Hermann and Datta 2006). In this context, internationalisation is no longer an option but rather a requirement for firms seeking growth and global reach. However, internationalisation of the firm is a complex process as organisations face a variety of problems related to the specific characteristics of each international market. An important research strand considers *where* subsidiaries should be located (i.e., the location choice) (Chen and Chen, 1998; Dunning, 1988). The selection of an adequate entry mode has also received considerable attention (Buckley and Casson, 1976), and according to the literature, an entry mode is a way that a company uses to sell its products and services in a market which is out of its national borderlines. The existing body of knowledge acknowledges five major modes of entering foreign markets: exporting, licensing and franchising, strategic alliances (including joint ventures), and wholly owned subsidiaries. A third research strand focuses on how MNEs compete in the foreign market based on their strategic capabilities (Rugman and Verbeke, 2001). However, these three decisions are interrelated and affect one another, e.g. choice of location can influence the entry mode choice and this can subsequently influence the competitive business strategy to be adopted. In this respect, Madhok (1997) proposed that organizational capabilities of a company give the reasons and assumptions as to market entry mode choice. Chen views 'market entry mode and business strategies' as 'international strategies' and asserts that successful internationalisation depends on companies adopting coherent and suitable international strategies (2008:313).

The body of knowledge on market entry modes focuses mostly on manufacturing and retailing industries. In recent years, however, academics have recognised the need to study entry modes in the context of the construction industry. In this respect Chen states that "given that the construction sector has unique characteristics that do not allow for the direct transfer of concepts and theories applied to the manufacturing sector, there is a need for adapting this knowledge and for developing new concepts and frameworks to meet the unique characteristics of the construction sector" (2008: 303). As construction firms intensify their internationalisation process, two key questions are of particular interest to both scholars and business practitioners: Which entry modes are more effective for construction firms to penetrate foreign markets? And which business strategies should be adopted in emerging markets like Libya? The aim of this research is,

therefore, to investigate which are the preferred entry modes for Turkish construction firms (TCFs) to enter Libya and the most suitable competitive business strategies for managing projects in Libya. For this purpose, we will draw upon existing body of knowledge on international entry modes theory and related it with the competitive advantage of firm theory. Results should, therefore, have important managerial applications for Turkish firms expanding abroad, especially to Libya and other African countries. This study also aims to contribute to the existing body of knowledge on the internationalisation of the firm by providing insights on the interrelationship between entry mode decision and the choice of competitive business strategy in foreign markets.

The next session will provide a review of the existent literature on entry modes and competitive strategy. This will be followed by discussion about the methodological aspects of this research. Then we discuss the results of data analyses. The final section summarizes the key findings and contributions of the study as well as identifies avenues for further research.

## **THEORETICAL PERSPECTIVES ON ENTRY MODES**

The existing body of knowledge on international entry modes is divided into three main strands. An important research strand tend to focus on the study of entry modes through the theoretical lenses of the TCT (Transaction Costs Theory) (e.g., Blesa and Ripolles, 2007; Zhao, Luo, and Suh, 2004). Based on his review of the internalization theory, Dunning (2003) suggested that the international entry mode is normally designed to minimize costs, in terms of transaction cost theory.

However, following the RBV (Resource Based View) theory suggest that analysing entry mode decisions only on the basis of TCT is insufficient as firms internationalise not only with the objective to cut costs but also to gain advantages that will in turn increase profits (Pehrsson, 2008). In an attempt to understand the relationship between the two, Tsang (2000) compared the effects on international JVs of TCT and the RBV. His findings show that actually the two theories complement each other in terms of seeking the firm competitive advantage, with the TCT focusing on cost, and the RBV focusing on profit. Given their complementarities and since both explain the internationalisation activities of firms, some authors have used both to theories to underpin their research studies on entry mode decision (Delios and Beamish, 1999; Tesfom, Lutz, and Ghauri, 2004; Yu-Ching, Fang-Yi, and Chow-Ming, 2010).

Another important research on the topic, underpinned by the institutional theory, suggest that entry mode decision is primarily dependent on the target market economic, political, and social/cultural conditions (Ang and Michailova, 2008; Dikova and Witteloostuijn, 2007; Lee and Paruchuri, 2008). In their study, Geringer et al. (2000) asserted that generally external factors of the MNC affect the way they apply the entry strategy. Standing on this, it can be inferred that MNCs' subsidiaries should adopt more flexible resource allocation strategies, if any changes occur in their external environment (Buckley and Casson 1998). This is particularly important for MNCs entering into emerging markets (Meyer, 2001) as the institutional factors are more likely influence their operations. In line with this, Kwok and Reeb (2000) suggest entry mode decisions need to be informed by a good understanding of the differences between the institutional conditions of home and host countries (Kwok and Reeb 2000). For these reasons, recent studies on international entry modes in emerging economies have begun to use institutional factors in their theoretical constructs (Meyer, 2001).

Because entry mode decisions are complex and informed by a variety of factors, some studies have analysed entry mode decisions by integrating the various theoretical perspectives (Yu-Ching, Fang-Yi, & Chow-Ming, 2010). Meyer and Rowan (1977) have extended the boundaries of TCT by examining the relationship between firms and the surrounding environment. This more holistic views become particularly important in the case of emerging economies, in which the exploitation of resource-based advantages by MNCs may not occur due to the poor institutional environments normally characterized by high levels of uncertain and of government intervention (Luo, 2003). In this type of environments choices of entry mode are highly conditioned by higher levels of transaction cost associated to certain institutional environmental factors in the host country (Puck, Holtbrügge, and Mohr, 2009; Yu-Ching, Fang-Yi, & Chow-Ming, 2010). One of the main factors conditioning entry mode decision, especially in the construction industry is risk. When comparing to domestic construction, international construction projects hold significantly higher economic and political risks (Ashley and Bonner, 1987). *Political risks leave firms exposed* to practices of political authority within a country such as confiscation risk by political authority, regulatory changes, war and government's attitudes. The recent events in Libya are evidence of the potential impact of institutional political conditions on MNCs. Apart from political risk, MNCs

are also more exposed to economic risks such as currency devaluation/ revaluation, unfairness in tax system and others.

## Characterization of International Market Entry Modes

The existing literature on the topic identifies five major modes to enter a foreign market: exporting, licensing and franchising, strategic alliance (joint venture), wholly owned subsidiaries. Early studies on international entry modes tended to focus on making decisions with regards to licensing or foreign direct investment (Buckley and Casson, 1976). From the various entry modes, exporting is normally the first step, especially for Small Medium Enterprises because it helps firms to quickly expand and diversify their sales and obtain international experience. It is also the entry mode that carries the lowest risk. Licensing and Franchising are long-term contracts and involve technology and human resources transferring. Licensing allows the licensor firm to authorise the licensee firms to use its production processes, logos, trademarks and brand names in the specified market for an agreed period of time, against royalty fee. Strategic Alliances take place when partnering firms agree to share their capabilities and resources in the pursuit of mutually beneficial interests. The most common type of alliances used in the international construction industry are: Cooperative Joint Ventures (i.e. Project JV) and Equity JV (i.e. fully mature JV). Project JV takes place when two or more companies agree to undertake a project together with a specific business contract, which last until the project is delivered. Equity JV is a limited enterprise in which the JV partners share management, savings, risks and profits, based on their equity in venture. Depending on the institutional environment and legal system of the country, partners opt for more durable Equity JVs or shorter term Project JVs. JVs are more common in emerging and less developed countries because this entry mode reduces the level of risk while increases technology transfer, capital inflow and employment potential. A company's involvement in a foreign country can take place through "Wholly Owned Foreign Subsidiary" by establishing either a "Foreign Subsidiary" or a "Representative Office" in a foreign market, depending on the desired degree of control. The Representative Office option is preferred when firms want to gain understanding of market at first attempt. It allows firms to observe market, get into connection with local firms and consumers. However, in most countries construction companies are not allowed any commercial activity through representative offices. They are obligated to possess a firm which has to be registered in country's commercial system (UN, 1990).

## Entry modes and Competitive Advantage

Associated with the entry mode decision, is the selection of the firm's differentiation or cost leadership competitive strategy, which, according to Porter (1990), depends on its capabilities and resources. By differentiation strategy, firm aims to develop high value added products and services which will allow it to gain market share in particular segment of markets. Firms which have strong competitive advantages and promotion mechanisms are likely achieve this strategy. Value is offered through special, unique products and services to consumers. Cost leadership strategy involves minimum level of differentiation within a product and services provided by a company. The main aim of a company which implements cost leadership strategy is to achieve economies of scale with low price products and services through increasing number of sales (Hamel and Prahalad 1994). In contrast to Porter's generic strategies, Christensen (1997) asserted that apart from Porter's strategies (differentiation and cost leadership) companies should develop strategies which allow them to create new segments and eliminate competitors' existence in market. The main objective of a company should be to satisfy costumers' needs without considering which strategies are used by competitors. This can be realized by organization's top-level commitment and agreement on this issue.

The achievement of a competitive advantage, especially in the case of the construction industry, seems to be directly related to the strategic management of a firm's Human Resources (HR). This is the case because HR allow firms to increase their competitive advantage through raising distinctive functionality of workforce within the company (Barney 1991). In their research, Bjorkman et al. (2007) found the correlation between operation of HR practices and company performance, based on theoretical and experimental verification. Their study showed that the effect of global workforce flow in traditional HR practices leads to convergence in HRM in global business (Geary and Roche, 2001). Correspondingly, the administrative practices are getting more international and global according to institutional theory, which proposes that businesses are shaped under the influence of 'traditional industry mentality' or 'classic management requirements' without taking consideration

of cultural diversities (McGaughey and DeCiri, 1999). The choice of entry mode will determine, to a great extent the HRM policy and practices to be adopted. In the case of construction companies, there is a tendency of employing host country's workers due to cost related reasons and availability of large number of workers.

## RESEARCH METHODS AND CHOICE OF CONTEXT

The choice of examining the international expansion of TCFs into Libya is justified for two reasons. Firstly because the Turkish international construction services sector has undertaken between 1972 and 2010 more than 5000 projects in 81 countries worth \$161 billion. This reflects its comparative advantage in terms an advanced workforce, technical knowledge and ability to adopt new technologies, business experience and discipline, and the ability to capitalise on its political and cultural closeness with its neighbours (DTM, 2010). Secondly, Africa became an important geographical market for Turkish firms when in 1998 Turkey launched its Africa policy document entitled "Opening up to Africa Policy". More recently, the Istanbul Declaration on Africa, which took place in 2008, further encouraged the development of closer relations with African countries (SETA, 2008). In this context, Libya became the most attractive market for TCFs after Russia in recent times (IGEME 2008) and to date, more than 350 projects with a total value exceeding \$20 billion have been undertaken by TCFs in Libya. This became evident when in November 2009 the Turkish prime minister visited Libya accompanied by hundred Turkish business men representing various sectors. Among other benefits, this resulted in the promise of \$125 billion of investment in the construction sector by the Libyan government. Since Libya lacks capacity in terms of qualified labour force in the construction industry, it has been contracting foreign firms to undertake high magnitude, long-term projects. The percentage of projects carried out by Turkish contractors in Libya between 2003 and 2008 was of 10.9%, being the second largest percentage of the total projects carried out by Turkish contractors over the globe (DTM 2009). This context justifies, therefore, the need for this research in order to identify the best entry modes and competitive strategies for TCFs moving into Libya.

This research follows a survey, cross-sectional design. Data was collected through a self-administrated questionnaire, which was sent to TCFs operating in Libya. The population of TCF operating in Libya consisted of 151 firms operating in Libyan construction sector. The list of firms was obtained from the Turkish Tripoli Embassy's website. All the firms operating in related sectors such as architecture, construction consultancy, were excluded and only 121 firms were finally considered for the purposes of this research. A short pilot study with three firms was conducted to test the questionnaire before sending the final questionnaire to all firms. The data collection process took place between June and August 2010. Out of 121, only 90 firms could be reached due to incorrect and missing addresses of 31. Out of the 90 firms, 35 returned the questionnaire, representing a 40% response rate. The characteristics of the firms participating in the research are summarized in Table 1.

**Table 1: Characteristics of questionnaire respondent firms**

Characteristic		Turkish firms	
		Number	%
<i>Respondent type</i>	Senior executive	28	80
	Middle level executive	7	20
<i>Size</i>	Medium size	5	14.7
	Large size	30	85.3
<i>Number of respondents</i>	<i>N</i>	35	
<i>Response rate (%)</i>		40	

The questionnaire structure was as follows. Section one was composed by three demographic questions and a question regarding the chosen entry mode. Questions in section two were used to identify the factors that influence the investments of TCFs in Libya. Open-ended questions were asked in section two in order to investigate the factors that influenced and motivated TCFs move into the Libyan market. In section three, a five-point Likert scale ("1-not important at all" up to "5-very important") was used to assess the effectiveness of the various entry modes and competitive strategies.

## DATA ANALYSIS AND RESULTS

Data gathered through questionnaires were analyzed with SPSS 18.0, software for statistical analysis. One-way ANOVA, Kruskal-Wallis and Friedman tests were applied in this research for the interpretation of the data obtained. The Kruskal-Wallis test was applied to test one-way ANOVA. Before starting to interpret the entry modes based on the results gathered from Friedman test, validation of the Friedman test was conducted. A parametric test one-way ANOVA, an alternative of the Friedman non parametric test was applied so as to see whether difference between groups (i.e. entry modes) statistically meaningful. In Table 2, Wilks' Lambda test value (0.338) allowed to see that difference between comparing groups (i.e. entry modes) is statistically significant ( $p: 0.00 < 0.05$ ).

**Table 2: ANOVA Test Results for Entry Modes**

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Squared	Eta
mode Pillai's Trace	.662	5.668 <sup>a</sup>	9.000	26.000	.000	.662	
Wilks' Lambda	.338	5.668 <sup>a</sup>	9.000	26.000	.000	.662	
Hotelling's Trace	1.962	5.668 <sup>a</sup>	9.000	26.000	.000	.662	
Roy's Largest Root	1.962	5.668 <sup>a</sup>	9.000	26.000	.000	.662	

The next step was the assessment of the size effect. This allowed to investigate the degree of correlations and differences between groups or variables within sample. Results showed (see Table 2) that the sample used in this research has a considerable effect on result's validation ( $PSE=0.662 > .14$ ) which means either judgment towards obtained results have to be cautions or to get substantial results, more data needs to be collected.

Table 3, illustrates 10 potential market entry modes that can be used by TCFs to penetrate the Libyan construction market. It shows that the wholly owned subsidiary (EM1) has the highest score which indicates EM1 was found to be the most effective entry mode for TCFs to enter the Libyan construction sector. EM7 and EM3 were indicated as the second and third most effective entry modes.

**Table 3: Friedman Test Mean Ranks for Entry Modes**

	Mean Rank
EM1: Establish wholly owned subsidiary in Libya	7.21
EM2: Doing company merger or acquisition in Libya	4.70
EM3: Establish representative office in Libya	6.73
EM4: Form a joint venture with a Libyan firm	3.57
EM5: Form a joint venture with a Turkish firm	5.63
EM6: Form a joint venture with foreign company (not Libyan and Turkish)	4.99
EM7: Doing a strategic alliance with a financial institution	6.90
EM8: Doing a strategic alliance with a Turkish firm	5.14
EM9: Doing a strategic alliance with a Libyan employer invested in Libya	3.01
EM10: Doing a strategic alliance with a foreign firm invested in Libya	5.91

There are two options available for a construction firm to establish own its own subsidiary abroad. First option is setting up a new operation; second option is acquiring an existing firm in foreign market. This research revealed that TCFs are unlikely to form a merger or to make an acquisition in Libya, EM2 (see Table 3). Acquisitions involve high risks and potential issues such as managerial, organizational incompatibility make acquisitions unattractive option for TCFs. According to Friedman test results in Table 17, either establishing a representative office (EM3) or wholly owned subsidiary (EM1) in the Libyan market are the modes which have high potential of success. Firms that use these modes to enter the market should take consideration of all factors involved in foreign market activities. Another crucial point is that these entry modes (EM1 and EM3) require higher levels of initial investment and carry higher risks than other entry modes.

It can be inferred that big construction companies intend to do business alone without creating a venture with another company because they have enough resources and capabilities to overcome projects by their own and not willing to share revenue of projects. Additionally, these firms have full control upon their operations abroad and have full control on intellectual property and know-how which are important issues an international construction have to firm take care of (Bontempi and Prodi, 2008). The representative office is preferred when a

firm wants to explore and get an understanding of market in which it is planning to undertake further projects. Representative office of a construction firm in a foreign country will provide a positive impression to local stakeholders that its subsidiary is supported by a powerful foreign parent firm in comparison to local Libyan firms which may lack of experience and know-how.

In some circumstances, Libya's foreign policy obligates and promotes JVs between Libyan and foreign firms with the objective of developing the local sector (DTM, 2010). Our research results show that joint ventures (EM4, EM5 and EM6) are not effective modes for TCFs to enter the Libyan construction market. However, according to this research results, it is not effective choice (see Table 3). Though, JVs are not favoured by TCFs, they have potential benefits such as learning the culture, language and market conditions from local partners (Chen and Hennart 2002).

Results show that in general, alliances are not perceived as effective modes to enter the Libyan construction market, except the formation of an alliance with a financial institution (EM7) with the objective to finance the projects to be undertaken in Libya. In terms of forming strategic alliances with other construction firms, TCFs do not distinguish whether the partner is from their home country (EM8) or is a foreign company (EM10). However, TCFs are not so willing to work with Libyan firms (EM9) due to managerial, operational and inadequate capabilities. Forming alliances with the Libyan government needs to be evaluated separately from the alliances formed with Libyan firms because TCFs can secure their presence in market through working with government and thus, it will be a good reference for future bids. Furthermore, TCFs that formed strategic alliance with the government are protected from corruption and other issues that foreign firms may encounter in Libya.

## Business Strategy and competitive advantage

According to results, it is essential for construction firms to provide high quality special products and ultimate services (BS1 and BS2) to clients ( see Table 4). TCFs can also create differences by finishing undertaken projects within short period of time (BS4) and offering integrated customized services (BS3). Based on research results it can be inferred that differentiation is an essential strategy adopted by TCFs to compete in the Libyan market. Differentiation strategy allows firms to offer unique and special projects which are beyond market expectations to the clients. Apart from doing basic construction buildings, firms can also provide project management services as a source of differentiation in order to win bids in Libya where the market is very competitive and many foreign contractors can offer low prices in bids, especially Chinese firms. Nevertheless it is not enough to provide differentiated projects and services for TCFs to be successful, unless they are able to offer competitive prices. Because high quality and special customized services bring high costs which damage competitiveness of contractors. Results show that that TCFs need to offer competitive prices to undertake projects in Libya construction market (BS6).

Results showed that client satisfaction is another important subject that needs to be paid attention by TCFs (BS6) such as completing projects in shorter time scale, offering high quality products and services with competitive prices. This requires a very good HRM policy and practices to ensure that employees of TCFs are well trained to be able to very efficient and provide excellent quality, while being able to establish good rapports with clients.

**Table 4: Friedman Test Mean Ranks for Business Strategies**

	Mean Rank
BS1:Provide high quality products and services	10,84
BS2:Provide ultimate products and services	9,81
BS3:Provide integrated/ packaged services	7,76
BS4:Complete projects in a short time	8,50
BS5:Pay attention to client satisfaction	8,81
BS6:Offer competitive price	9,87
BS7:Employ globally	6,56
BS8: Employ a Libyan staff to manage project.	3,37
BS9:Assign a management staff from head office to manage project	11,24
BS10:Working with a Libyan subcontractor	4,44
BS11:Working with a Turkish subcontractor	9,67
BS12:Taking an share in the project	3,54

BS13:Arranged financial plan	9,23
BS14:Build network and contacts in Libya	11,83
BS15:Become member of a consortium in Libya	10,50
BS16:Turkey's political backing in international projects	11,01

Still related to HRM, results show that it is essential for TCFs to assign management staff from head office to manage projects in Libya (BS9). Assigning managers to a foreign market enables TCFs become more familiar and gain a deeper understanding of Libyan market. It also has the advantage of enabling a faster decision making process. Results show that TCFs do not favour employing Libyan managers (BS8) and working with Libyan subcontractors (BS10) for projects undertaken in Libya. Turkish engineers and architects have strong background on construction technologies that is why they are preferred by Turkish employers. Furthermore, due to lack of well educated and experienced Libyan staff in the construction industry, TCFs generally employ managers from Turkey. It was revealed that TCFs tend to work with Turkish subcontractors in their projects in Libya (BS11). However, bringing staff from Turkey to Libya increases the cost of the projects and reduces the competitiveness of TCFs in the market. Since costs would be significantly lower if TCFs could employ more local Libyan staff, HRM policies and practices would be required to train and improve the capability of local employees.

## CONCLUSIONS

This research findings show that the most suitable modes for TCFs to enter the Libyan construction market are the establishment of wholly owned subsidiaries and representative offices. Firms that entered the Libyan construction market through establishing a wholly owned subsidiary are the ones that have enough financial resources allow them undertake big projects without the need to form any ventures with other partners. Results show that JVs are not commonly preferred modes since they can carry various implementation issues, normally associated with disagreements between partners. Our findings show that forming JVs or other type of alliances with local Libyan firms is not favoured because of managerial disorientation, lack of knowledge and experience of Libyan firms on construction business in spite of political backing they can provide. This is in line with earlier research by Inkpen and Beamish (1997) showing that disagreements between JV partners are a common issue in international collaborative activity.

This research also shed some light on the effectiveness of competitive strategies to be adopted by TCFs in order to gain a competitive advantage in the Libyan construction industry. The most outstanding finding is that TCFs effectively use a combination of 'differentiation and cost leadership' strategies. This result contradicts Porter's argument that firms should only adopted one of the two strategies to avoid getting stuck in the middle. In the case of the Libyan construction industry, high levels of international competition forces firms to offer low price in bids and based on the requirements of the projects, to build high quality works. In such scenario, TCFs are recommended to create innovative works to achieve low cost competitiveness along with ability to deliver high quality projects. This innovative advantage can be achieved through the application of Christensen's (1997) 'Disruptive Innovation Strategy'. According to this model, firms should adopt a disruptive innovation strategy in order to enhance their core competence to allow them to gain a competitive advantage. Our research findings also showed that the adoption and implementation of HRM policies should be consistent with the choice of the entry mode and of the competitive strategy. This is particularly important in the context of Libyan construction market, characterised by high levels of international competition and limited availability of a skilled local labour force.

However, the recent events in Libya, i.e. the revolution against the Kaddafi regime, shows that the selection of the entry mode should not only be underpinned by Transaction Costs and the Resource Based View theories, but primarily by a good understanding of the institutional target market economic, political, and social/cultural conditions (Ang and Michailova, 2008; Dikova and Witteloostuijn, 2007; Lee and Paruchuri, 2008). In this case if TCFs had followed previous recommendations from previous studies (Buckley and Casson 1998; Meyer, 2001) and adopted a more flexible and less risky form of operation in Libya rather than the preferred whole own subsidiary, they would have been able to more easily react to recent changes occurred in Libya.

## REFERENCES

- Ashley, D.B. and Bonner, J.J. (1987) Political risks in international construction. *Journal of Construction Engineering and Management*, 113(3), 447-67.
- Ang, S.H. and Michailova S. (2008), "Institutional explanations of cross-border alliance modes the case of emerging economies firms", *Management International Review*, Vol. 48, No. 5, pp. 551-576.
- Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17, No. 1, pp. 99-120.
- Bjorkman, I., Fey, C.F., and Park, H.J. (2007) Institutional theory and MNC subsidiary HRM practices: Evidence from a three country study. *Journal of International Business Studies*, 38, 430-45.
- Blesa, A. and Ripolles, M. (2007), "The influence of marketing capabilities on economic international performance", *International Marketing Review*, Vol. 25, No. 6, pp. 651-673.
- Bontempi, M.E. and Prodi, G. (2008) 'Entry strategies into China: The choice between Joint Ventures and Wholly Foreign-Owned Enterprises: An application to the Italian manufacturing sector'. *Science Direct* 18 (1), 11-19.
- Buckley, P.J. and Casson, M.C. (1976) *The Future of Multinational Enterprise*, Macmillan, London.
- Chen, C. (2008) 'Entry mode selection for international construction markets: the influence of host country related factors'. *Construction Management and Economics* 26, 303-314.
- Chen, H. and Chen, T.J. (1998) Network linkages and location choice in foreign direct investment, *Journal of International Business Studies*, 29(3), 445-68.
- Chen, S.S. and Hennart, J. (2002) 'Japanese Investors' Choice of Joint Ventures Versus Wholly-owned Subsidiaries in the US: The Role of Market Barriers and Firm Capabilities'. *Journal of International Business Studies* 33 (1), 1-18.
- Chiao, Y., Lo, F. and Yu, C. (2010) Choosing between wholly-owned subsidiaries and joint ventures of MNCs from an emerging market, *International Marketing Review*, 27(3), 338-365.
- Christensen, C.M. (1997) *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Harvard Business School Press, Boston, MA.
- Delios, A. and Henisz, W.J. (2000) Japanese firms' investment strategies in emerging economies, *Academy of Management Journal*, 43 (3), 305-23.
- DTM (2010) Under secretariat of the Prime Minister for Foreign Trade [online] available from <<http://www.dtm.gov.tr/dtmweb/indexen.cfm>> [07 Dec 2009].
- Dunning, J.H. (1988), "The eclectic paradigm of international production: a restatement and some possible extensions", *Journal of International Business Studies*, Vol. 19, No. 1, pp. 1-31.
- Dunning, J.H. (2003), "Some antecedents of internalization theory", *Journal of International Business Studies*, Vol. 34, No. 2, pp. 108-115.
- Geary, J. and Roche W.K. (2001) Multinationals and human resource practices in Ireland: A rejection of the 'New Conformance Thesis'. *International Journal of Human Resource Management*, 12, 109-27.
- Hamel, G. and Prahalad, C.K. (1994) *Competing for the Future*, Harvard Business School Press, Boston, MA.

- Herrmann, P. and Datta, D.K. (2006), "CEO experiences: effects on the choice of FDI entry mode", *Journal of Management Studies*, 43 (4), 755-78.
- IGEME (2008) Libya [online] available from <<http://www.igeme.org.tr/pg/section-pg-ulke.cfm?id=Libya#profil>> [7 June 2010].
- Inkpen, A.C. and Beamish, P.W. (1997) Knowledge, bargaining power and the instability of international joint ventures. *Academy of Management Review*, 22 (2), 177–202.
- Kwok, C.C.Y. and Reeb, D.M. (2000) Internationalization and firm risk: an upstream-downstream hypothesis, *Journal of International Business Studies*, 31 (4), 611-29.
- Lee, G.K. and Paruchuri, S. (2008), "Entry into emergent and uncertain product-markets: The role of associative rhetoric.", *Academy of Management Journal*, Vol. 51, No. 6, pp. 1171-1188.
- Luo, Y. (2003), "Market-seeking MNEs in an emerging market: how parent-subsidiary links shape overseas success", *Journal of International Business Studies*, Vol. 34, No. 3, pp. 290–309.
- Madhok, A. (1997) "Cost, value and foreign market entry mode: the transaction and the firm", *Strategic Management Journal*, 18, 39-61.
- McGaughey, S.L., and De Cieri, H. (1999). Reassessment of convergence and divergence dynamics: Implications for international HRM. *International Journal of Human Resource Management*, 10, 235-50.
- Meyer, K.E. (2001), "Institutions, transaction costs, and entry mode choice in Eastern Europe", *Journal of International Business Studies*, Vol. 32, No. 2, pp. 357-367.
- Meyer, J. and Rowan, B. (1977) Institutionalized organizations: formal structure as myth and ceremony, *American Journal of Sociology*, 83 (2), 340-63.
- Pehrsson A. (2008), "Strategy antecedents of modes of entry into foreign markets", *Journal of Business Research*, Vol. 61, No. 2, pp. 132-140.
- Porter, M. E. (1990) *The Competitive Advantage of Nations*. London: Macmillan.
- Puck, J.F., Holtbrügge, D., and Mohr, A.T. (2009), "Beyond entry mode choice: Explaining the conversion of joint ventures into wholly owned subsidiaries in the People's Republic of China", *Journal of International Business Studies*, Vol. 40, No. 3, pp.388-404.
- Rugman, A.M. and Verbeke, A. (2001), "Subsidiary-specific advantages in multinational enterprises", *Strategic Management Journal*, Vol. 22, No. 3, pp. 237-250.
- SETA [online] available from <[http://www.setav.org/index.php?option=com\\_content&task=view&id=567&Itemid=68](http://www.setav.org/index.php?option=com_content&task=view&id=567&Itemid=68)> [19 Dec 2009].
- Tesfom, G., Lutz, C., and Ghauri, P. (2004), "Comparing export marketing channels: Developed versus developing countries", *International Marketing Review*, Vol. 21, No. 4/5, pp. 409-422.
- Tsang, W.K. (2000), "Transaction cost and resource-based explanations of joint ventures: a comparison and synthesis", *Organization Studies*, Vol. 21, No. 1, pp. 215-242.
- Zhao, H., Luo, Y., and Suh, T. (2004), "Transaction cost determinants and ownership-based entry mode choice: A meta-analytical review", *Journal of International Business Studies*, Vol. 35, No. 6, pp. 524-544.

# SERVICES FINANCIAL MANAGEMENT ANALYSIS

**Anna Zhilkina**  
**State University of Management, Russia**

## ABSTRACT

*Services enterprises and organizations occupy an increasingly prominent place in the economy in recent times. These are companies and organizations of housing and communal owners' properties, domestic sphere, consulting and auditing firm. The article is devoted to the applicability of the methods of analysis and financial management of service enterprises designed for the real sector of the economy.*

## INTRODUCTION

Enterprises and organizations that provide services are occupied more and more weight in the structure of the economies of all developed countries. The concepts of goods and services have become synonymous with the terms of their economic substance. This is promoted by scientific and technological progress. However, the question arises: is there a difference in "management" services and goods, is the same whether these mechanisms of marketing, advertising, selling, whether there is specific application of scientific and technological progress, the financing of the current activities of development, whether applicable to service management practices, in broadest sense, designed to control merchandise.

## METHOD

There are six main particularly important things to keep in mind when examining a balance sheet and Income Statement: (1) level of finance stability, (2) level of liquidity, (3) probability of bankruptcy level, (4) return on assets, (5) return on assets, and (6) return on equity.

### Level of finance stability.

The level of finance stability is rated in five categories (Formulas see on tabl.1):

- absolute finance stability;
- normal finance stability;
- permissible finance instability;
- impermissible finance instability;
- critical finance stability.

**Tabl.1: The levels of finance stability**

State	Formula
absolute finance stability	$FA + Inv \leq Eq$ , were: FA - fixed assets; Inv - inventory Eq - equity
normal finance stability	$FA + Inv \leq Eq + LTD$ , were: LTD – long-term debt

State	Formula
permissible finance instability	$\begin{cases} Eq + LTD < FA + Inv \leq Eq + LTD + STC \\ FA + Inv(s) \leq Eq + LTD \end{cases}$ <p>were: STC - short-term credit, Inv(s) –part of inventory, that can be sale</p>
impermissible finance instability	$\begin{cases} Eq + LTD < FA + Inv \leq Eq + LTD + STC \\ FA + Inv(s) > Eq + LTD \end{cases}$
critical finance stability	$FA + Inv > Eq + LTD + STC$

### Level of liquidity

The level of liquidity is rated also in four categories (Formulas see on tabl.2):

- absolute liquidity,
- permissible liquidity,
- low liquidity,
- critical liquidity.

**Tabl.2: The levels of liquidity**

State	Formula
absolute liquidity	$DA \geq DD,$ were: DA - discount asserts (Cash + 0,5* Accounts receivable + 0,3* Inventory; DD - discount debts (Accounts payable + 0,5* Short-term debt + 0,3* Long-term debt)
permissible liquidity	$DA \geq 0,75 * DD$
low liquidity	$DA \geq 0,5 * DD$
critical liquidity	$DA < 0,5 * DD$

### Probability of bankruptcy level

The level of bankruptcy probability is rated also in three categories (Formulas see on tabl.3):

- low probability of bankruptcy,
- middle probability of bankruptcy,
- high probability of bankruptcy.

**Tabl.3: The levels of bankruptcy probability**

State	Formula
low probability of bankruptcy	$MCA \geq CL,$ were: MCA - material current assets (cash and inventory), CL - current liabilities
middle probability of bankruptcy	$MCA \geq 0,75 * CL$
high probability of bankruptcy	$MCA < 0,75 * CL$

### Return on sales, return on assets, return on equity.

There are no normal levels of the indexes – return on sales, return on assets, return on equity (Formulas see on tabl.4). But everybody prefers the following situation:

$$\begin{aligned} ROS_{bp} &> ROS_{ep}, \\ ROA_{bp} &> ROA_{ep}, \\ ROE_{bp} &> ROE_{ep}, \end{aligned}$$

were: bp – a beginning of the analyzing period;

ep - an end of the analyzing period.

**Tabl.4: Return on sales, return on assets, return on equity**

Index	Formula
return on sales	$ROS = \text{Net income} / \text{Net sales}$
return on assets	$ROA = \text{Net income} / \text{Total assets}$
return on equity	$ROE = \text{Net income} / \text{Owners' equity}$

## RESULTS AND FINDINGS

Conditionally can be divided into advisory (provide consulting and auditing firms), consumer (public utilities, hairdressing, dry cleaning, laundry), transport, education (early childhood education, secondary, secondary, higher education, postgraduate education), financial (provided by credit institutions), state (provided through the budget at various levels).

Terms of the global financial crisis, rising unemployment, and consequently, lower purchasing power of the population, have led to the fact that even healthy prior service companies are encountering problems, were forced to curtail production and lay off workers, to change the usual methods of control. With regard to the enterprises of housing and communal services and domestic servicing of them were in a better position, because the population can not refuse their services as opposed to household services.

Specificity utilities lie in the fact that the overall financial results of their work affects the structure of consumers and, consequently, the application of different tariffs for the products (services). Feature of the productive activity of some municipal enterprises and public services is uneven consumer demand for certain types of services not only in certain periods of the year, but within days, weeks, months. This affects the organization of their finances. Uneven consumption of services resulting in some periods is decrease profits. Seasonal excess of expenditure over income shall be compensated by the creation of reserves and own funds or bank loans.

If we calculate the finance indexes on six main finance statement characteristics: level of finance stability, level of liquidity, probability of bankruptcy level, return on sales, return on assets, and return on equity we will have the following results (tabl.5):

**Table 5: The finance statement level criterions.**

Index	Finance index (fact) in analyzing period		Tendency
	at the beginning	at the end	
finance stability	finance instability or critical finance stability	critical finance stability	bad
liquidity	low liquidity	low liquidity or critical liquidity	invariable
probability of bankruptcy	middle probability of bankruptcy	middle probability of bankruptcy or high probability of bankruptcy	invariable
return on sales	from 0.35 to 0.13	from 0.10 to -0.15	bad
return on assets	from 0.42 to 0.23	from 0.10 to -0.13	bad
return on equity	from 0.47 to 0.13	from 0.20 to -0.10	bad

After world finance crises a lot of service enterprises have poor finance state. The authors analysis insure us that more, then 60% of enterprises can not provide industrial assets (fixed assets and inventory) by normal resources of foundation (owners' equity, long-term debt and quick-term credit); 24% of enterprises have fixed assets to current assets ratio more then 0.3; 51 % of enterprises have ratio debt capital and current liabilities

to owners' equity more than 1; 73% of enterprises have current ratio (liquidity) less than 2; 75% of enterprises have profit margin less than 20%; 69% of enterprises have days' turnover off enterprise bills receivable more than 30 days and 80% of enterprises have days' turnover off enterprise bills payable more than 30 days.

## CONCLUSION

So the most part of service enterprises have a lot of problems in its financial statement and there financial managers must make a solution how the enterprise can return in unstable finance state and how it can increase its profit. Therefore the problems of a quality control, management quality and financial management quality can be solving by constant enterprise financial monitoring and by using knowledge management in service companies.

## REFERENCES

- Anthony R.N., Dearden J., Govmdarajan V., *Management Control Systems*, 7th ed., Homewood: Irwin, 111., 1992.
- Altman E.I. *Corporate Financial Distress*, New York: John Wiley & Sons, 1983.
- Davenport T. & Prusak L., *Working Knowledge*, Boston, Mass: Harvard Business School Press, 1998.
- Deming W.E. *Out of the Crisis*, Cambridge University Press. 1986.
- Deming W.E. *The New Economics for Industry*. Government and Education, Massachusetts: MJT Center for Advanced Engineering Study, 1993.
- Eccles R.G., Pyburn P.J., "Creating a Comprehensive System to Measure Performance", *Management Accounting*, October 1992, p. 41—58.
- Feigenbaum A.V. *Total Quality Control*, NY: McGraw-Hill, 1983.
- Johnson H.T., Kaplan R.S. *Relevance Lost: The Rise and Fall of Management Accounting*, Harvard Business Press, Boston, Massachusetts, 1991.
- Juran J.M. *Managerial Break Through*, NY: McGraw-Hill, 1964.
- Grant R.M., *Contemporary Strategy Analysis*, Oxford: Blackwell Business, 1993.
- Keon A.J., Martin J.D., Petty J. W., Scott, Jr. D.F. *Financial Management: Principles and Applications*, 9-th ed., Prentice Hall, 2002.
- Nilsson F., Rapp B., "Implementing Business Unit Strategies — The Role of Management Control Systems", *Scandinavian Journal of Management*, 1998 (forthcoming).
- Ross, Westerfield, Jordan. *Fundamentals of corporate finance*, Boston.: MGH, 2000.
- Zhilkina A. "A new instrument of enterprise finance management quality increasing", *Materials of the conference GBATA*, 2006.
- Zhilkina A. "A quality control in financial management: theory and practice", *Materials of the conference GBATA*, 2007.
- Zhilkina A. "Enterprise finance analysis in graphic", *State University of Management Bulletin (Vestnik Universiteta)*, 2001. -№1(2). (in Russian)

Zhilkina A. “Enterprise financial monitoring in the global knowledge economy”, *Materials of the conference GBATA*, 2008.

Zhilkina A. “Financial monitoring in realization enterprise Business Strategies and Technological Innovations”, *Materials of the conference GBATA*, 2009.

Zhilkina A. “Enterprise Financial monitoring in Innovative solutions generating”, *Materials of the conference GBATA*, 2010.

Zhilkina A. *Enterprise financial planning*, Moscow, Blagovest-B, 2008. (in Russian)

Zhilkina A. “Methodology of an enterprise synthetic analysis”. *State University of Management Bulletin (Vestnik Universiteta)*, 2005, №2(11). (in Russian)

Zhilkina A. “Role and place of finance analysis in Finance management”, *State University of Management Bulletin (Vestnik Universiteta)*, 2003, №2(6). (in Russian)

Zhilkina A. *Finance management. Enterprise finance analysis*, INFRA-M, 2011. (in Russian)

# Index of Authors

Adebayo, Ayotunde	298	de Moraes, Carlos Augusto Caldas	20
Afanasiev, Valentin	1	de São Thiago, Eduardo Campos	874
Afriyie, Kofi	5	de Souza Coelho Benazzi, João Renato	96
Ali, Shaukat	883	de W Fourie, Leon	285
Ally, Dane	13	Dippenaar, Ora	226
Amaral-Baptista, Marcio Alves	28	Drotskie, Adri	231
Arroteia, Nuno	331	du Plessis, Giselle	757
Atalık, Özlem	44	du Plessis, Leon	828
Babakhani, Nazila	37	du Plooy, Thérèse	749, 757
Barnard, Etienne	104	du Preez, Louise	780
Battal, Unal	63	Durmaz, Vildan	241
Baumgarten, Gladys Torres	5	Dursun, Erdal	241
Bayburina, Elvina R.	70, 79	Eisenstein, Eric	307
Belfort-Santos, Andréa	88	Ekmekçioğlu, Mehmet	246
Beran, Jaime M.	508	Elaine Sherman	921
Bojović, Petar	392, 401	Elifoglu, Ibrahim	153
Botes, Vida	500	Enginkaya, Ebru	254, 261
Brady, Donald L.	111	Epelbaum, Vanessa Janni	387
Buregeya, Pascal	686	Ergur, Ali	1041
Buzulukova, Ekaterina	125	Feldens, Miguel Artur	269
Callender, Guy	53, 131	Feng, Cheng-Min	430
Candelin-Palmqvist, Hanni	141	Fildes, Brian Fildes	669
Chaidaroon, Suwichit (Sean)	149	Filho, Luiz Alberto Nascimento	928
Chang, Wen-Jan	160	Ford, Joseph	796
Chao, Chiang-nan	153	Fuxman, Leonora	153, 409
Chen, Jue	166	Garcez, Marcos Paixão	269
Chernova, Marina	173	Garnett, Andrea	104, 348
Chew, Patricia	476	Gassenferth, Walter	928
Chin, Thoo Ai	215	Gbadamosi, Gbolahan	298
Choi, Jeong-Gil	181	Genc, Ebru	307
Christina Schweikert	986	Glanz, Susan	315
Chu, Chih-Chung	534, 542	Gokturk, Sadik	323
Chung, Mona	600	Gomes, Conceição	331
Coetzee, R. L.	189	Gomes, Emanuel	1049
Coetzer, JD	197	Grgurović, Biljana	339
D. Frank Hsu	986	Grobler, Wynand	104, 348
Danford, Gerard L.	205	Groenewald, Johann P	963
de Almeida, Maria Fatima Ludovico	20, 874	Hakimi, Wafa BelKahla	355
de Jager, Johan	749	Hamid, Abu Bakar Abdul	215
de Macedo Soares, T. Diana L. v. A,	28, 558	Harshika Sharma	910
de Melo, Maria Angela Campelo	28, 88	Hawas, Yaser E.	669

Ho, Yuan-Hong	363, 379	Lopes, Albino	615
Holl, Ray	836	Lyra, Renato R.	558
Holtzhausen, Natasja	371	Maccari, Emerson Antonio	269
Hong, Seongtae	438	Machado, Maria Augusta Soares	928
Hossein, Askariazad, Mohammad	37	Mahasuweerachai, Phumsit	735
Huang, Chiung-Ju	363, 379	Maher, Vincent	796
Hunt, James	307	Makštutis, Antanas	568, 678
Im, Il	438	Malange, Nkhangweni Jerry	576
Irigaray, Hélio Arthur Reis	387	Marais, A	583, 637
Ivanović, Aleksandar	392, 401, 409	Marais, Antoinette	780
Jamiyuansuren, Burmaa	418	Maran, Michael J.	591
Jantrasakul, Prapai	149	Marković, Dejan	339
Kaggwa, Martin	424	Masarani, F.	323
Kang, Chao-Chung	430	Mascitelli, Bruno	166, 600
Kang, Myung Soo	438	Mashigo, Polly	605
Kannula, Arunwadee	735	Matos, Florinda	615
Kariga, Progress	649	Matos, Nuno	615
Kasper, Helmut	446	Mellalieu, Peter	285
Katelyn Rumsey	945	Mello, David	622
Kele, Tumo	453	Mensikotora, Anar	836
Ketolainen, Mari	141	Meunier, Catherine	131
Khalifa, Nasser Mohammed Al	460	Miree, Lucia	111
Khalo, Titos	891	Mji, A	583, 637
Kırcova, İbrahim	261	Mlambo-Ngcuka, Phumzile	453
Klepikov, Oleg	173	Mohaghegh, Mehdi	627
Kleynhans, Carina	468	Mohammadnejadi, Moodi,	641
Klingelhöfer, Heinz Eckart	699	Mojtaba	
Kodydek, Georg	446	Mokgobu, I	583, 637
Koubaa, Yamen	476	Mokoena, S.K.	583, 637
Kusaya, Elena G.	70	Muchenje, Tonderai	649
Kutlu, Ahmet Can	246, 484	Mühlbacher, Jürgen	446
Kuznetsov, M.M.	1	Mukhola, M. S.	583, 637
Lambert, Keith	492	Mvula, Althea	660
Lascu, Dana-Nicoleta	418	Nahyan, Moza T. Al	669
Lawrence, Stewart	500	Navickas, Kęstutis	678
Le Veness, Frank P.	508	Navickienė, Renata	678
Leen, Auke R.	517	Ngwenya, Tshepiso I	686, 690
Lei, Weng Si	524	Obioha, Emmanuel Obinali	699
Lin, Pei-Ling	534	Oortwijn, Maud	709
Lin, Yaonan	534, 542	Oueldoubey, Dhouka	720
Lindman, Martti	550	Ozuem, Ann	910
Liu, Yun-Chieh	542	Pathumnakul, Supachai	729
Lobo, Antonio	166	Petrulina, Tatyana V.	79
		Phau, Ian	979

Phiri, CN	583, 637	Tsai, Roger	986
Piewthongngam, Kullapapruk	729, 735	Tsao, Yu-Shan	534
Pitcher, David	742	Ulvoas, Gaëlle	476
Pliansinchai, Upsorn	765	Ünsal, Artun	1041
Polat, Seçkin	484	van der Walt, R.	815
Polyorat, Kawpong	765	van Rensburg, Mari Jansen	1004
Potgieter, Marius	772	van Rensburg, S. Janse	815
Prakhamthong, Phalakorn	729	van Rooyen, E. J.	852, 860
Prinsloo, M A W	788, 860	van Tonder, Christian L	963
Priovolos, George	796	Vasilopoulos, A.	996
Putna, Michal	803	Venter, Peet	1004
Putnová, Anna	809	Vieira, Conceição Maria Sande	1011
Rankhumise, Edward	622	Vignarajah, Anandasothy	1020
Rebollar-Lazaro, Itziar	131	Vignjević, Nada Djordjevic	1028
Roberts-Lombard, Mornay	828	Vijeikis, Juozas	568
Roberts-Lombard, Mornay	836	Viljoen, Rica	231
Rodrigues, Susana	615	Vladimirova, Nina M.	939, 1034
Roeloffze, Antoinette	844	Wiese, M.	189
Rugimbana, Robert	903	Wilson Ozuem	952
Safronova, Ksenia O.	868	Yamak, Sibel	1041
Sale, Alison Meshkin	945	Yang, Fei	772
Santos, Luís Lima	331	Yildiz, Mehmet Akif	1049
Schiffman, Leon G.	921	Yilmaz, Hakan	261
Schilcher, Stefan	446	Yu, Samantha	986
Schmits, Martin	883	Yucetepe, Veysel	5
Schutte, Nico	891	Zaiem, Imed	720
Seeto, Dah-Hsian	160	Zhang ,Dawei	215
Sekhampu, Joseph	348	Zhang, Yong	921
Shambare, Richard	660, 903	Zhao, Weibing	524
Silva, Cláudio Vicente di Gioia F.	928	Zhilkina, Anna N.	1058
Skosana, Ntombi	690	Zhowa, Takesure	903
Sohal, Amrik S.	669	Zyl, Dion van	749
Spasić, Slobodan	392, 401		
Sriram Balasubramanian	53		
Sterligova, Alla N.	939		
Štrbac, Slavica	339		
Strydom, Johan	1004		
Swarts, Ilse	844		
Tat, Huam Hon	215		
TenHaken, Vicki R.	945		
Tenjo, David	952		
Triki, Abdelfattah	355		
Trinh, Viet Dung	979		
Trocinski, Mark	111		