

**Proceedings
of the
12th European Conference
on Knowledge Management**

**University of Passau
Germany
1-2 September 2011**

**Edited by
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&
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Preface

These proceedings represent the work of presenters at the 12th European Conference on Knowledge Management (ECKM 2011). We are delighted to be hosting the 12th annual ECKM at the University of Passau, Germany.

We are pleased to welcome three keynote speakers to the conference. On the first morning we will hear Prof. Dr. Ronald Maier, from Leopold-Franzens-University of Innsbruck, Austria talk about “Re-focusing knowledge management: concepts of knowledge maturing”. In the afternoon we welcome Ms Latha Alaguvelu, from Infosys Limited, Bangalore, India who will address the topic “Emerging approaches to organizational learning”. Finally on the second morning we will hear from Prof. Dr. Klaus Tochtermann, from ZBW – Leibniz Information Centre for Economics, Germany, talk about “10 years of Knowledge Management – will another 10 years follow?”.

A primary aim of this conference is for academics concerned with current research findings and for those from the wider community involved in Knowledge Management, to present their findings and ideas to peers from Knowledge Management and associated fields. We also hope that the conference provides a platform for practitioners and academics across the field of Knowledge Management to meet those who hold ideas in a face to face interaction, forge long-lasting networks and linkages with colleagues from similar areas of interests. We hope that the conference will help attendees advance in their understanding of how firms and countries generate and exploit knowledge to achieve a competitive advantage, and drive their innovations forward. The range of issues and mix of approaches followed will ensure an interesting two days.

304 initial abstracts were received for this conference. However, the academic rigueur of ECKM meant that, after the double blind, peer review process there are 137 papers published in these Conference Proceedings. These papers reflect the growth in the field of Knowledge Management, and they represent truly global research from some 40 different countries, including Australia, Austria, Belgium, Boznia and Herzegovina, Brazil, Bulgaria, Canada, Columbia, Cuba, Czech Republic, Egypt, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iran, Ireland, Italy, Jordan, Latvia, New Zealand, Norway, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, The Netherlands, Turkey, United Kingdom, USA.

We hope that you have an enjoyable conference.

Dr. Franz Lehner and Dr. Klaus Bredl

Biographies of Conference Chairs, Programme Chairs and Keynote Speakers

Conference Chairs



Prof. Dr. Franz Lehner has been assistant professor at the Institute for Organizational Research at the University of Linz, Austria, since 1986. Before this he gathered experience in the field of EDP as head of the educational centre at a software house and as an independent consultant. From 1992 to 1994 he was professor for business administration and information management (MIS) at the Koblenz School of Corporate Management (WHU, Germany) where he was elected as dean of the faculty in 1994.

After that a short period followed as president of the new founded Danube-University at Krems which is a centre for postgraduate studies in Austria. In 2004 he accepted a call to the University of Passau where he holds now the Chair for Information Systems (Wirtschaftsinformatik) since April 2004. He has published 25 Books (including some as co-author) and more than 100 articles in national and international journals to various topics in the field of information science and information management. His research is focusing on E-Learning as well as Information and Knowledge Management.

Programme Chair

Prof. Dr. Klaus Bredl was assistant professor at the Institute for Information Systems at the University of Regensburg, Germany from 2001 until 2005. Before this he had gathered experience in the training centre at Toshiba Europe. In 2006, he was first professor for media at a private College. After that he received a call to the University of Applied Sciences Neubrandenburg where his teaching and research was in the field of Social Informatics. In 2009, he accepted a call to the Institute of Media and Educational Technology (Chairman of the Board) at the University of Augsburg. His team is focused on the research of Digital Social Media in the field of E-Learning and Knowledge Management.



Keynote Speakers



Dr. Ronald Maier holds a PhD in Management Information Systems (MIS) from WHU Otto Beisheim School of Management in Vallendar, Germany, and a habilitation degree from University of Regensburg, Germany. After positions as Visiting Professor at University of Athens, Georgia (USA) and as Chair of MIS at Martin-Luther-University of Halle-Wittenberg, Germany, he has been appointed Professor of Information Systems at University of Innsbruck, Austria, since 2007. He has published numerous articles in journals and conference

proceedings and books on knowledge management systems and enterprise knowledge infrastructures. His research interests include flexible and adaptive business processes, knowledge management and technology enhanced learning.

Prof. Dr Klaus Tochtermann is a professor for Computer Media at the Christian-Albrechts University of Kiel (Germany). From 1997 to 2000 he was deputy head and later head of the department for Environmental Information Systems at the, FAW Ulm (Germany). The FAW was an industry research institute with a strong focus on knowledge management and knowledge technologies. From October 2000 to Jun 2010, Prof. Tochtermann was the director of Austria's first industry-based



research institute on knowledge management Know-Center. The work of the Know-Center includes projects on knowledge management, knowledge relationship discovery, semantic technologies, workplace-integrated learning, Web2.0. Since 2004 Klaus Tochtermann has also been head of the institute for knowledge management at Graz University of Technology. Klaus's doctoral thesis in the field of formal models for hypermedia and Internet-based services resulted in a scholarship from the Max-Kade Foundation that enabled him to pursue post doctoral research at Texas A&M in the USA. In addition to his professorial duties, Klaus is the Director of the ZBW – Leibniz Information Centre for Economics. With about 270 employees maintaining more than 4,2 Million documents related to economics, ZBW is the world's largest library for economics.

Mini Track Chairs



Dr.-Ing. Peter Heisig is Senior Research Fellow at the Leeds University Business School and visiting researcher at the Engineering Design Centre at Cambridge University. Since 1988 he works in the area of Knowledge Management and has been responsible for several KM projects in industry (e.g. Siemens, Volkswagen), public administration (e.g. Police, Ministry) and research organizations (e.g. Fraunhofer). Peter served as KM-Expert to the EU and CEN („European Guide to Good Practice in Knowledge Management“, CWA 14924). He is a member of the VDI KM Working Group and of German Knowledge Management Society (GfWM), the Design Society and INCOSE

Dr. Mag Claudia Thurner-Scheuerer studied Business Administration with Erasmus period abroad and Doctoral Studies in Social and Economic Sciences at Karl-Franzens-University Graz. Since 2003 in the interdisciplinary field of Knowledge Management. 2008 completion of her dissertation. Since 2007 she is the community manager of Plattform Wissensmanagement, the largest KM-community in the German-speaking area and is working for Know-Center, Austria's competence center for knowledge management.



Dr. Mag Alexander Stocker studied business Administration at the University of Graz and at Graz, Technical University. He has been Dealing with computer-based information systems for more than ten years. Currently he is senior researcher at the Institute DIGITAL, JOANNEUM RESEARCH.

Dr. Dipl.-Kfm Alexander Richter studied Business Administration at the Universities of Augsburg and Rennes. As a research assistant at the Cooperation Systems Center Munich (Prof. Michael Koch) at the Bundeswehr University Munich he observes with great interest the adoption of Social Software in various German and international companies.





Dr Paulette DeGard serves as a Vice President of West Coast Operations for ProCarta, a process/knowledge management capture tool. Her responsibilities include creating products that capture business processes for government, financial institutions, medical practices and real estate. Paulette has also worked with the US Navy and The Boeing Company as well as numerous Fortune 500 companies around North America conducting

knowledge management, process management and software deployments. Additionally, Paulette started a management training school in northern Poland, worked on the world's largest re-engineering project at Boeing, and created a knowledge transfer method to keep 40,000 end-users informed about software changes.

Selvi Kannan is a lecturer, researcher and advisory consultant. She has over twenty years prior experience at senior management level in both the private and public sector internationally, managing change in a variety of specialized areas including; Knowledge Management & Learning in Organizations, Workplace Diversity and Organizational Culture and Mentoring and Coaching Business Executives.



Jan Pawlowski works as Professor in Digital Media - Global Information Systems at the University of Jyväskylä, Finland. Born in 1971, originally from Essen, Germany. Masters' Degree and Doctorate in Business Information Systems (University of Duisburg-Essen). Since 10.2007 working as Adjunct Professor within the Faculty of Information Technology. Since 12.2009 Professor of Digital Media with the specialization "Global Information Systems". This includes the

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Developing an Innovative Knowledge Management Implementation

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Abstract: Knowledge management (KM) has been considered a key success factor in the success of an organisation, especially in the current economic climate. Nevertheless, many KM initiatives have been unable to manage knowledge resulting in failure. Companies and corporations hope that KM may somehow solve all their existing and future problems often without defining those problems' root causes. Starting a KM system with no aim will end up in failure. Using different case studies from the literature, the analysis presented in this paper focuses on the challenges of KM implementation and is based on previous research done. The outcome of this analysis and experience has led to the formulation of a new KM approach which has been subsequently tested and verified. Using this newly formed KM approach, this paper provides a theoretical understanding of the processes needed to establish a knowledge management system in organisations.

Keywords: knowledge management (km), knowledge management approach/framework, knowledge management success factors, people & culture and information technologies (it)

Knowledge Dynamics and Organisational Learning Cycles

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Abstract: Knowledge development in an enterprise is about approaches, methods, techniques and tools, which will support the advancement of individual and organisational knowledge for the purpose of an improvement of businesses. As a basis, conceptions of knowledge and of knowledge conversions are needed. Here knowledge dynamics is understood to cover all of acquisition, conversion, transfer and usage of knowledge. Conceptions of knowledge and of knowledge conversions are provided in this paper, which introduce three dimensions of knowledge and general conversions between knowledge assets, respectively. Knowledge is represented by a three-dimensional model of knowledge with types, kinds and qualities. General knowledge conversions between the various knowledge assets are introduced as a model for knowledge dynamics in the enterprise. First a basic set of such conversions is defined. Building on this set general knowledge conversions can be defined, which reflect knowledge transfers and development. In effect, the well-known SECI model for knowledge development is as well extended as generalised in this approach. While

organisational learning is not merely a multiplicity of individual learning efforts of its members, organisations learn through experience and activities of individuals to a large extent. Built on the presented conception of knowledge development, organisational learning scenarios involving teams of members and the organisational memory are identified and described in this paper. Three basic learning cycles are identified, which are closely related with appropriate combinations of basic and general knowledge conversions. Through appropriate combinations of such basic learning cycles, important learning scenarios in an organisation can be described. Especially, important known organisational learning types are covered by this approach, including single-loop learning and double-loop learning. In order to validate the approach to knowledge development and organisational learning, an example of an organisational learning scenario is given, namely a supervised learning-by-doing scenario in a team.

Keywords: Conception of knowledge, knowledge dynamics, organisational learning, learning cycles, organisational memory, single-loop and double-loop learning

Identifying and Ranking the Critical Success Factors in the Implementation of Knowledge Management Using the DELPHI Method: A Case Study of the Municipality of 22th district of Tehran

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Abstract: Today, one of the most important ways to achieve competitive advantage is the implementation of knowledge management. To be successful in this process, we should know and manage critical success factors of knowledge management. In this paper, after reviewing research literature and then using Delphi method, we reached to a list of 21 components which were categorized into 5 groups that make our final list of critical success factors. These are: organizational culture, organizational structure, leadership and strategy, IT infrastructure, and human resource. Finally, using the Friedman test the relative importance of factors was studied and the results indicate that the relative importance of factors is different.

Keywords: knowledge management, critical success factors, culture, structure, Delphi

Serious Games in the Context of Organizational Knowledge Management Practices

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Abstract: Serious games (SG) are increasingly gaining popularity in various fields such as, education, business, entertainment and research, and they capture attention of learners, researchers and the business community. Serious games are commonly defined as digital games used for purposes other than mere entertainment or fun. SGs are considered as effective tools for enhancing knowledge building and testing of soft skills and complex competences. With these characteristics, SG can lead to better visualization and understanding of reality and high-order learning. Thus, being recognized as an enhanced learning platform, SG has entered in the field of corporate training and competence development. The development and the widespread implementation of SG can influence knowledge management (KM) processes and knowledge flows in organizations. The present research objectives are to investigate the impact of SG implementation on different organizational practices of KM. SG directly influence individuals' (employees') attitudes toward knowledge acquisition, competence building, and cooperation and motivation. Furthermore, SGs contribute to improve organizational processes and pave the way to enhance KM practices in organizations. And at the same time focus on KM can also improve the processes of developing and implementing SG in companies. The paper first presents a theoretical overview of issues related to KM and SG. Followed by this presentation, the paper describes the connection between KM and SG. This description will incorporate both the individual dimension of KM and the organizational dimension of KM with respect to SG. The following discussion provides recommendations for developing or adopting SG for KM purposes. Finally, conclusion winds up the whole discussion.

Keywords: Serious games, knowledge flows, organizational knowledge management

Sharing and Transferring Knowledge – How to Increase Efficiency of Soft Techniques for KS

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Abstract: Knowledge sharing (KS) is one of the main concerns for organizational knowledge management. Knowledge sharing contributes for better visibility of knowledge flows, improves access to knowledge assets, and leads to increased organizational efficiency. However, the recent analysis of Antonova et al. (2011) has demonstrated that in practice organizations predominantly pay attention on the processes of knowledge internalization and neglect the processes of externalizing knowledge. This means that organizations use motivational practices, soft techniques and IT tools that stimulate employees to use (learn, search for information and experts etc.) but not to share knowledge (to externalize its own knowledge in IS or to share it appropriately for further use). The application of the extended model of KS/KT (Antonova et al., 2011) discovered that coherent organizational vision is lacking and all soft and IT-enabled KS methods should address both the processes of KS and KT combining externalization and internalization of knowledge. The present paper aims to investigate further how knowledge sharing and knowledge transfer can be improved in organizational context. Based on the KS/KT model, the main problems for KS and KT in practice have been identified. Since little attention has been paid on externalizing knowledge, additional efforts and focused incentives for its improvement in organizations will be proposed. Therefore, by applying the model of KS/KT different knowledge flows in organizations will be analyzed in the context of the most popular soft techniques for KS (as groupwork, trainings, informal meetings, and others). Besides empirical data, different models for soft techniques enhanced with ICT will be discussed. Finally the conclusions will provide recommendations and practical considerations for implementation of KS/KT model in organizations.

Keywords: knowledge sharing, knowledge transfer, soft techniques, KS/KT model, KS in organizations

The role of Critical Success Factors in Acquiring Competitive Advantages in Two Industrial Factories, Tehran ,Iran

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Abstract: Knowledge management (KM) is one of the most significant initiatives in dealing with global competition and new business challenges. KM efforts typically to focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization. “Most managers now seem to understand that they will find competitive advantage by tapping employees” most essential humanity, their ability to create, judge, imagine and build relationships. “The champion managers of the InfoTech Age will be those who do it fastest and best” Stated by Geoffrey Colvin. This paper is based on the role of critical success factors of knowledge management in acquiring competitive advantage in two industrial bread producing factories which is located in Tehran province. In this research, researcher considers five elements of Critical Success Factors of knowledge management and the role of these elements in gaining competitive advantage in the mentioned factories. The independent variables are: attitude of senior management, knowledge sharing culture, learning-training, information technology and document information repository .The dependent variables are: increasing market share ,innovation, quality of products ,decrease of product delivery time and reducing production cost. This study is based on survey method, library studies and experience of the author. The Knowledge Management Assessment Tools (KMAT) questionnaire was distributed among the experts, skill and semi-skill workers in both factory then data gathered from these questionnaires were analyzed to get favorable results. The result of the research indicates that there are no significant differences between critical success factors of knowledge management and gaining competitive advantage in two factories.

Keywords: critical, knowledge management, competitive, innovation, culture, success, strategy

Contextual Adaptive Visualization Environments: a Knowledge Creation, Transfer and Sharing Platform

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Abstract: As an essential component of Knowledge Management Systems, visualizations assist in creating, transferring and sharing knowledge in a wide range of contexts where knowledge workers need to explore, manage and get insights from tremendous volumes of data. Knowledge visualization context may involve any information in regard to the decisional problem context within which visualizations are applied, e.g. relevant problem situations, time, and knowledge visualization tasks and requirements. It may also incorporate the visualization profiles of knowledge workers such as their cognitive characteristics, personal preferences, prior knowledge of the problem domain, etc. Due to their inherent dynamic nature, these contextual factors may cause the changing visualization requirements and difficulties in maintaining the effectiveness of a knowledge visualization when contextual changes occur. To address the above contextual complexities, visualization systems to support knowledge management need to provide flexible support for the creation, manipulation, transformation, and improvement of visualization solutions. Furthermore, they should be able to sense, analyze and respond to the contextual changes so as to support in maintaining the effectiveness of the solutions. In addition, they need to possess the capability to mediate between the problem and the knowledge workers through provision of action and presentation languages. However, many visualization systems tend to provide weak support for fulfilling these system requirements. They do not provide adequate flexibility for adapting the visualizations to fit different knowledge visualization contexts. This motivated us to propose and implement a flexible visualization system for better aiding knowledge creation, transfer and sharing, namely, Contextual Adaptive Visualization Environment (CAVE). CAVE provides flexible support for (1) sensing and being aware of the changes in the problem and/or knowledge worker contexts, (2) interpreting the changes through relevant analysis and (3) responding to the changes through appropriate re-design and re-modelling of visual compositions to address the problem. In order to fulfil the requirements posed above, we developed and proposed conceptual models and framework which are further elucidated through system-oriented architectures and implementations.

Keywords: knowledge visualization, knowledge visualization context, knowledge creation and sharing, cave model, cave framework, and cave implementation

Knowledge Production and Transfer: Advantages and Costs

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Abstract: Since intellectual capital is a key factor in company's profitability and, on the other hand, knowledge assets provides a sustainable competitive advantage, it is fundamental to know how to evaluate these intangible assets in order to be able to offer a support for the management's decision whether to allocate investments into achieving them or to continue the analysis of the market for other assets. It is also important for the inventor, willing to sell his invention, since he or she needs a correct value diagnosis versus the alleged market price. In this paper, the authors have decided to present some methods of knowledge evaluation, knowledge converted into industrial property (IP) as part of a company's intangible assets. Through IP registration and technology transfer, this knowledge ends up producing benefits for its creators, as well as for their buyers, so, it should be evaluated properly. We intended to write a practical paper, so we have chosen to present a case study consisting of a technology transfer process of 5 knowledge production that we have selected from our portfolio. These are recuperative and eco-friendly technologies belonging to a research institute and transferred to economic agents willing to develop their business by applying the above mentioned technologies. Related to the 5 recuperative and eco-friendly technologies, the paper presents the production costs, their preparation for transfer stage (negotiation phase), finally being sold under only one tranche of royalties, as well as the main advantages of achieving and utilizing the technologies, including the estimation of the future profits for the buyer companies and the figures obtained. One of the most interesting things to be observed is the way the negotiation phase evolves: the knowledge of the buyer that is aware of the technology's value (since he had all the necessary evaluation means), the seller's lack of knowledge of the seller, willing to sell for less than he could, happy he has found a buyer and being in need of recovering his initial investment (the amount offered was an important one, but still not the right one), the role of the technology transfer intermediary in balancing the positions and finally in transferring the inventions. Last but not least, we emphasize the role of funds sustaining knowledge production.

Keywords: knowledge, evaluation methods, intellectual property, technology transfer

A Framework for the Assessment of KM Readiness of an Organization While Transferring into a Learning Organization

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Abstract: In the knowledge era, learning organizations (LO) are being emerged and knowledge is the key fuel for such organizations where Knowledge Management (KM) plays a critical role in learning more rapidly than the competitors. However, implementing KM requires a number of steps to be taken. These steps usually lead to significant changes in organizations especially in three main aspects including infrastructure, organizational processes and the organizational culture. In order to effectively manage the changes, managers need to comprehensively examine their organization's readiness. This process will reduce excessive costs, avoid redundancy and repetitive actions, make a clear understanding of the current state of the organization, and introduce improvement actions instead of starting from scratch. In addition, identifying the gaps between the current and desirable state will provide a comparative tool for managers to monitor organization status as they plan and implement KM initiatives over time. The key idea of this paper is to propose an integrated framework for measuring KM readiness in learning organizations. The framework sketches a holistic and concise description of the major elements of KM assessment. This research seems to be significant since few frameworks currently exist for a holistic KM assessment in learning organizations. However, the proposed framework can be used to assess overall organizational KM to avoid probable project failures in cases in which the failure is related to the lack of awareness about the current KM status of the organization.

Keywords: KM readiness assessment, learning organization, KM process

Experiential Knowledge Creation Processes in the Higher Education Teaching-Learning Process

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Abstract: Higher education institutions, as knowledge-intensive organizations, produce huge volumes of knowledge through direct teaching-

learning experiences. However, considering that the application of knowledge management in the higher education teaching-learning process is a relatively new area for this context, much of the knowledge produced is lost when stakeholders decide to leave. In order to contribute to the effective management of knowledge in this particular area, this paper presents a theoretical model of experiential knowledge creation processes in the higher education teaching-learning process. Building on the foundational works of Kolb, Nonaka, Wenger, Eraut and others, the model describes individual and group processes that underlie the creation of experiential knowledge through the transformation of teaching-learning objects of attention, as well as the enabling conditions that promote a more favorable climate for experiential knowledge creation in the HE teaching-learning process. In addition to this, we describe how the proposed theoretical model can serve as a useful framework for three main activities connected to innovation in higher education: (1) the design and implementation of teaching-learning approaches; (2) the development of information and communication technologies and; (3) the design and implementation of assessment measures and methods for academic programs.

Keywords: knowledge creation, experiential knowledge, teaching/learning process, innovation, higher education

Meta-Analysis of Publications on Web 2.0: Impact, Productivity, Prevalent Topics and Research Agendas

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Abstract: Web 2.0 is a relatively young field of study and the body of publications on it is still developing. The paper offers an in-depth analysis of the prevalent topics discussed in the business-oriented literature in relation to Web 2.0 as well as the understanding of where the research is done (institution/country) and what the citation impact is – in other words, the locale of the research, the quality of publications and the prominent research topics. Even more importantly, it identifies emerging debates in the key areas relevant to the overall conference theme. To assess the productivity and impact, ABI/Inform database was interrogated to compile the list of papers (search for “Web 2.0” string, all fields and texts, scholarly journals only). For the search results, the following information was gathered: the number of citations (found via Google in databases such as SpringerLink, Emerald Insight or Google Scholar), authors’ and institutions names and locations as well as keywords – from ABI/Inform, other databases or from papers themselves depending on the information availability. The resulting numbers were subjected to simple statistical analysis: for each institution and each country three numbers were calculated: total number of “hits” (people (co-

)authoring papers), total number of citations per hit (time-normalised) and the ratio between the two. The keywords (tags) were counted by the number of appearances on the list, and the analysis highlighted a variety of topics that are discussed the most, with a number of trends highlighted. The full sets of results are shown in the paper in two ways: using “league tables” and tag clouds. The publications dedicated to aspects of Web 2.0 in KM are looked at in more detail in order to identify emerging themes and research agendas.

Keywords: Web 2.0, meta-analysis, knowledge management

Communities of Practice: Comparing Experiences of Private Companies and Public Organisations

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Abstract: Since the seminal work of Wenger et al. (2002), there has been a flourishing literature about Communities of Practice (CoPs). While CoPs were initially conceptualized as a spontaneous phenomenon, marked by informal nature and lack of regulation, shortly afterwards it has become clear that they need to be cultivated and managed. In particular they need an enabling infrastructure and a governance system that represent its key components and distinguish them from a purely informal network. Nowadays, CoPs are often a core part of KM programmes: many corporations have adopted them as means to promote the sharing of knowledge among their units. In view of the success that CoPs have obtained among private companies, public organisations have also begun to adopt them for managing their knowledge assets. As underlined by the literature, KM practices in public and private sectors clearly differ due to the underlying differences in goals and objectives, organizational environment, and processes. However, how CoPs can be created and managed in the public sector is still debated, and little evidence has been published. The paper contributes to the analysis of CoPs’ formation and management in the public sector by comparing two cases: a private corporation and a state university. The comparison is based on four dimensions indicated in the interpretative framework previously proposed in Scarso and Bolisani (2008): organizational, cognitive, economic, and technological dimension. The two CoPs have been analysed through a case-study approach. Similarities and differences of the two cases are highlighted, and implications for the management of CoPs in public organizations are discussed.

Keywords: KM; communities of practice; public sector; case study

KM Issues in KIBS Companies

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Abstract: This paper investigates the issue of adoption and use of Knowledge Management (KM) practices by Knowledge-Intensive Business Services (KIBS) companies, i.e. private companies whose job consists of collecting, generating, analysing, and distributing knowledge with the purpose of developing customized services or solutions to satisfy the needs of business clients. KIBS companies rely on highly educated professionals, experts on specific technical disciplines or functional domains, and supply knowledge-based services. Knowledge is their major resource that allows developing new competencies and constitutes a precondition for the delivery of new services. This is the reason why the issue of KM applied to KIBS should have a central relevance for scholars and practitioners. Nevertheless, the research on this topic is still scarce. Furthermore, one would expect that KIBS firms accurately manage their knowledge base, also by means of formal practices, but the (few) empirical studies indicate that KIBS companies often lack systematic methods for managing their knowledge. Consequently, there is the need to analyse the issue of KM in KIBS more thoroughly. In light of this, the paper discusses the findings of a survey involving 471 KIBS located in North-Eastern Italy and operating in three different subsectors: ICT Services, Design and Communication, Professional Services. In particular, the study: a) analyses how internal knowledge is handled by the surveyed companies; b) investigates the main sources of external knowledge the companies make use of; c) examines the relationship between the way KIBS companies manage their knowledge assets and the kind of service they supply. The outcomes of the investigation may have important implications both from an academic and a managerial viewpoint. Especially, as regards the latter, it can provide KIBS firms with food for thought concerning the use of appropriate KM approaches for sustaining their business activity.

Keywords: KIBS; knowledge management; survey; Italy

Strategies for Increasing Knowledge Retention in Universities Through Intergenerational Knowledge Transfer

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Abstract: The new Law of Education promulgated recently in Romania enforces professors retirement at the age of 65. The previous law had a

provision for full professors to remain in the academic life up to the age of 70, if their universities needed them. The new legislation produces an earthquake in our universities due to the elimination from the academic life of a very important segment of knowledge and wisdom owners. This dramatic situation shows how important it is to develop strategies for increasing knowledge retention in universities. Since a university is by its own nature a multigenerational workforce, the best strategies should be based on the intergenerational knowledge transfer. The purpose of our paper is to investigate two main strategies for the intergenerational knowledge transfer: a) encouraging cooperation through teamwork, and b) encouraging individual competition. The first strategy is emphasizing the synchronic knowledge transfer, while the second one emphasizes the non-synchronic knowledge transfer. Each of these strategies can be implemented through different mechanisms specific for academic life. We have considered in our research three of them: 1) research grants; 2) writing books, and 3) writing papers for scientific journals. Our investigation is based on the Analytic Hierarchy Process (AHP) method, and on using questionnaires structured according to these strategies mentioned above. We distributed 500 questionnaires to all the faculties of economics and business from the state universities, and we have received 223 valid questionnaires. Based on them we computed using AHP the priority vectors for each strategy and activity considered. Numerical results show the importance of the cooperation strategy in the intergenerational knowledge transfer, for increasing the knowledge retention in the university.

Keywords: analytical hierarchy process, knowledge transfer, knowledge sharing, intergenerational knowledge transfer

Immersive Knowledge Communication in 3D Virtual Environments

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Abstract: The rapid development of virtual worlds has created new possibilities for supporting formal and informal knowledge acquisition and learning processes online. Consequently, greater immersion of “knowledge workers” in cooperation and communication tasks in social virtual worlds should be a more prominent topic in sociological and cognitive-psychological research designs. The relatively new social potential of virtual worlds can be examined by using theoretical models that describe the use and assessment of virtual world technologies in contexts of knowledge acquisition and exchange. In this paper, three scenarios created by social science students will be described to help demonstrate how the use of the popular virtual world, Second Life, can be used to explore new forms of interaction in

(virtual) social contexts. These scenarios and the results of the avatar-based ethnographic investigation during the process of co-creation and collaboration will be introduced and used to reflect on the 3D projects. The paper will end with suggestions for further research concerning the effects of immersion during collaboration and education in virtual worlds.

Keywords: Virtual worlds, immersion, knowledge exchange social software, knowledge management, web 2.0, second life

Assessing the Knowledge Economy's Performance in Romania

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Abstract: Knowledge economy will be competitive if it achieves high economic performance. The performance of an economy may be assessed by comparing the obtained results with predetermined standards, taking into account aspects related to the use of available resources. The current paper evaluates the performance of knowledge economy in Romania in comparison to the recently joined countries to the EU. The used methodology is Data Envelopment Analysis, which allows assessing performance against a reference system. Characterizing the performance of knowledge economy relied on representative indicators from education and training, science, technology and innovation, and information society, which contributes to the economic growth by increasing gross domestic product (GDP) per capita. The dynamic analysis was used in order to assess the recorded progresses. The results of the analysis show the modest position occupied by Romania in comparison with other countries, which indicates that there are many area where action should be taken so that the results of implementing knowledge economy might be as expected.

Keywords: Knowledge economy, performance, competitiveness, DEA

The Relationship between the European Social Fund and Knowledge Management in Romanian Organizations

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Abstract: The aim of this paper is to discuss the relationship between the European Social Fund (ESF) and Knowledge Management (KM) in the Romanian organizations based on public information and the data collected from the rumours market. The main objectives of our research address, on the one hand, the extent to which the lack of national human resources

strategy influences KM strategies, and, on the other hand, the relationship between the intrinsic motivation of the trainer and potential results of the KM process. The quantitative and qualitative research is scientifically well grounded, being used for demonstrate the interdependence of the lack of transparency in public information relating ESF and the barrier for knowledge transfer to Romanian organizations. Our concept cards for each code allowed us to draw constant comparisons between information obtained via informal verbal exchanges, i.e. the rumours market, and information available from SOP HRM agencies. In order to establish the ESF role in promoting knowledge management in organizations at different levels, it is necessary to carefully answer the question of what knowledge represents for the Romanian organizations and what happens when the ethical principles are non-observed by Romanian SOP HRM agencies. Results have shown that the KM process is hindered both by national and regional HRM SOP Agencies and by the lack of a strategy in the human resources field. Limitations of this study refer to lack of information as to partnerships, objectives of the projects, and results of the Sectoral Operational Programme for Human Resources Development 2007-2013 (SOP HRM). The focus of the research is on the importance of knowledge management in every phase of the access and implementation of the ESF in Romanian Organizations. The value of the paper is twofold. First, it consists in the presentation and discussion of the different barriers in managing knowledge transfer processes related to lack of information, tangible results, best practices, and a negative attitude on the part of the national and regional SOP HRM agencies. Therefore, the informational barriers that were identified are related to creation, sharing, access, usage, and transfer of knowledge in the organizations. Secondly, we introduce the concept of *dissipation of responsibilities* and *waste of knowledge* in order to identify informational and non-professional barriers that may prevent KM development in Romania, as a developing country.

Keywords: European social fund, knowledge management, romanian organizations, transparency

Organizational Strategy and Research Productivity: A Comparison of two Academic Institutions

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Abstract: Universities and other academic institutions play a central role in knowledge development and its transfer to productive use. Academic researchers usually transfer new knowledge to the wider public by publishing scientific articles. The number of publications is usually regarded as a robust indicator of the creation of new knowledge as well as its transfer into

productive use (direct transfer to companies and indirect transfer to students). In the present study we examine the impact of organizational strategy on research productivity in academic institutions. The method deployed is a case study. For comparative reasons we investigate two academic institutions from the same discipline, i.e. business, but different with respect to the process of interest, i.e. organizational strategy and organizational culture. The Faculty of Economics of the University of Ljubljana is a business school with a long tradition, dominant position within Slovenia and international recognition. The Faculty of Management of the University of Primorska on the other hand is a young school without tradition, but aiming to secure its recognition both domestically and internationally. Organizational strategy was deduced from published documents of both institutions. Research productivity was measured using a bibliometric method, operationalized as articles published in journals included in the SCI/SSCI database in the period from 2000 to 2009. The main findings of the study are: (1) research productivity in the period examined increased in both institutions, (2) vast differences exist in research productivity and research quality across institutions and researchers, (3) research output seems to be relatively consistent with organizational strategy in both schools (i.e. regional leadership/recognition), and (4) organizational culture does not seem to be an important factor affecting research productivity.

Keywords: Organizational strategy, organizational culture, research productivity, bibliometric method, academic institutions

Why Should I Share my new ideas? Cultural Barriers to Innovation Spreading

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Abstract: Both globalisation and the fast growth of international competition impel firms to continuously innovate in order to sustain their own competitive advantage. Firms' innovative capacity depends on their ability to grasp new knowledge through cooperative arrangements, thus the effectiveness of knowledge transfer became more and more important in allowing both organizations' and local contexts growth. When firms are deeply embedded in a given context, they may relate with local actors; complex learning process can arise thanks to institutional support, and cultural homogeneity, thus fostering the diffusion of new and valuable knowledge and the growth of local context, at least. On the contrary, when an effective knowledge transfer among the parties does not exist, an innovation does not spread its effects over the context, thus advantage the only firm that realised it. Not surprising, therefore, firms usually locate into those areas where a positive

entrepreneurial atmosphere already exists. An existing asset of “contextual knowledge” attract firms; after located in given knowledge and relational systems, firms may be able to support local growth by introducing, not only financial resources, but also new knowledge and other valuable intangibles (i.e.: notoriety). Knowledge transfer is a very complex and often misunderstood process. Its effectiveness depends on the willingness of the involved parties to transfer and acquire knowledge. Both the propensity to transfer and to acquire new knowledge is culturally embedded; as a consequence innovation spreading is affected by culture, too. National culture influences individuals’ inclination to take risks, to share responsibilities and to accept others’ idea, determining consequently firms’ capacity to find and evaluate external opportunities. According to the above considerations, our paper aims at analyzing in depth the influence of culture on innovation spreading and particularly on donor’s intentionality, and receiver’s inclination to transfer and share their knowledge. As a result, a new interpretative model of innovation spreading systems will be proposed.

Keywords: innovation spreading, knowledge transfer, culture, innovation systems

The Roles of Tacit Knowledge and Knowledge Management Systems for Writing Academic Papers: A Research Case

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Abstract: Inside the knowledge management arena, two forms of knowledge have been considered with the goal of choosing the ad hoc information system and align it with the available resources: explicit knowledge and tacit knowledge. In this sense, resources based on information technology have demonstrated a good alignment and have been a great tool for storing explicit knowledge and, in many cases, for recovering it. However, when it comes to storing, distributing or sharing tacit knowledge, the same information systems could offer significant limitations. This paper strives to present the characteristics of tacit knowledge, which may then be contained into information systems in order to seek an alignment with the technology and the way in which this knowledge could be understood at machine level; or, if it is possible, store it and then share it. The case research consists of an experience based on the observation of researchers seeking to write academic papers and their alignment with support information systems that they use. We conducted some interviews with researchers from different levels of experience in writing academic papers, all belonging to the production engineering faculty (alumni and practitioners). Thus, on a first exploratory round, it was discovered that the interviews could be divided into

two types: a) radical paper, when the topic is just emerging, or when it was just an idea in the mind of the researcher and, b) incremental paper, when the article already had more than one version, or the contribution of more than one author. This small difference permitted us to observe the use and adequacy of knowledge management systems, and the role of experience, in order to write an academic paper. With that, preliminarily, it is possible to affirm that the tacit knowledge—gathered from the Knowledge Management arena—has differences from tacit information, which can be stored at the information systems level. Results indicate that within the process of formulation and adaptation with a specific knowledge management system, the tacit knowledge at the individual level complements the limitations of information technology for tacit information storage. However, when it tried storing the *group tacit knowledge*; tacit information could only be captured by the system manager and the mediums to retrieve such information are not interesting to researchers. In other words, it is necessary to create a repository of experience for each time when a new project starts to make sure everyone benefits from the generated content for the researchers in a group. Finally, it is possible to affirm that the choice of information technology tools intended to manage the resource "experience" will fit the user's needs once those tools have been explained and are clarified before starting the process of knowledge generation.

Keywords: tacit knowledge, knowledge management system, tacit information

Knowledge Sources, Innovation and Organizational Learning in Small Firms

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Abstract: Current academic debate has shown the value of knowledge as the most critical intangible asset for organizations and its essential role in the achievement of a competitive advantage. This paper provides evidence of the complexity involved with the set of knowledge assets owned by firms in innovation strategy. In particular, according to the Knowledge Based Theory of the Firm, the paper considers that intangible resources are key elements for organizational development and innovation. That is, organizations must be aware that understanding their own knowledge base can lead to a set of capabilities enhancing the chances for their growth and competitive advantage. The context of the study is the small enterprises, i.e. firms with less than 50 employees according to the wide accepted small enterprise category reported in the last EU recommendation (2003). The research analyzes the effect of knowledge sources importance and organizational knowledge base on two different types of innovation: product and process

innovation. To do this we estimated four factors: one representing the breadth of knowledge owned by the firm and three other factors. One, considering human capital as source of knowledge and two external knowledge sources such as: cooperation with non industrial agents and interaction with actors of the supply chain. Analysis is based on a sample of 144 small firms operating in mechanical sector in central Italy. The results have important practical implications for small firms management; they indicate that for the two processes of innovation investigated (process and product innovation), the importance attached to knowledge sources and to the use of different cognitive assets play a different role. In particular we find a positive relation between product innovation and prior organizational knowledge base and learning by human capital (internal staff and learning by hiring). The results also suggest positive relations between process innovation and learning by knowledge networking (Universities and Research Centers, other Companies and Groups, Associations), learning by HC and learning by competitive functioning (Customers, Suppliers and Competitors).

Keywords: knowledge sources, knowledge base, process and product innovation, small enterprises

National Knowledge Management Strategy for the TRNC: Recommendations for Small Island Economies

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Abstract: In order to make national knowledge management strategy (NKMS) in particular small island economies within developing countries, not only the macro economic indicators but also knowledge economy variables should be considered. The paper is trying to find answer by questioning “how national knowledge management strategies could be applied by the small island economies” based on the knowledge economy variables such as gross domestic investment to GDP ratio, trade to GDP ratio, higher education enrollment ratio, telephone main lines, the mobile subscribers, and the number of Internet users. At this point, the empirical part of the study investigates the availability of knowledge economy variables of TRNC, as a small island. The results show us that, as a developing country, TRNC has inadequate knowledge economy variables for making NKMS. In conclusion, the advantages and disadvantages of these inadequacies were discussed and proposed suggestions for TRNC which is at the developing stage of economic growth.

Keywords: knowledge economy, small island economies, national knowledge management strategy, Turkish Republic of Northern Cyprus

Implementing a work-life balance culture in SMEs through relational learning

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Abstract: A possible explanation for the numerous failures in the implementation and use of work life balance (WLB) practices may relate to the fact that the majority of companies have only introduced them without exploring the market. This paper analyses the relationships between relational learning and WLB culture and tries to identify whether WLB culture impacts on the business performance through an empirical study of 229 SMEs in the Spanish metal industry. Our findings show that in order to support a positive attitude toward WLB, managers need to provide and support a relearning process. These findings provide interesting insights into the drivers of organisational performance for SMEs using a WLB-supporting culture.

Keywords: learning context, work-life balance culture, and organisational performance

The Influence of Repatriation Support and Social Climate Perceptions on Repatriate Knowledge Sharing

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Abstract: Research on knowledge management in multinational corporations has generally focused on subsidiaries. Only a few studies have explored knowledge management in connection with international assignees. Repatriate knowledge-sharing is an important channel for accumulating foreign experience and knowledge within multinational corporations. Researchers recommend that human resource practitioners at multinationals focus on repatriates to identify the knowledge assets they hold. A better understanding of this problem may help to lower resistance to knowledge-sharing by international assignees who have returned home. Given that companies can influence the interactions, behaviors, and motivation of their employees using various human resource practices, it stands to reason that multinationals can motivate individual repatriates to share their knowledge by implementing appropriate repatriation practices. Social climate is one kind of organizational environment that may affect employee attitudes. Researchers have defined social climate as a collective set of norms, values, and beliefs that reflect employee views of how they interact with one another while carrying out tasks for a firm. Previous research has confirmed that human

resource practices help to create a social climate that facilitates knowledge exchange. It is surprising that so few studies focus on the relationship between repatriation practices, social climate and knowledge management issues in a multinational environment. To fill this gap, this research considers repatriation practices and draws on social climate theory, working to investigate the influence of such practices on repatriates' willingness to disseminate their knowledge and their knowledge-sharing behavior within their home country. We used a questionnaire survey to collect our empirical data. The research subjects were repatriates from Taiwanese enterprises with operations abroad. Two hundred and thirteen valid samples were included in the final analysis. Structural equation modeling was used to test the path relationships among the variables in the research framework. The major conclusion of this study is that employee perceptions of repatriation support have a positive and significant influence on perceptions regarding the social climate. The results also demonstrate that the social climate as perceived by repatriates has a significant and positive influence on their willingness to widely disseminate their acquired knowledge. Such willingness, in turn, has a positive and significant impact on repatriate knowledge-sharing. This study extends the concept of knowledge management from the organizational level to the individual repatriate level. As such, it adds academic value to the study of international human resource management. All in all, the study results provide new insight into repatriate management. International human resource managers might consider implementing appropriate repatriation support measures (including repatriation training, repatriation assistance, and repatriation compensation) to create a high-quality social climate as perceived by repatriates. This process could encourage repatriates to disseminate knowledge and, in turn, enhance knowledge-sharing behavior in the home country. We also acknowledge certain limitations and suggest potentially fruitful avenues for future research.

Keywords: Repatriation support, social climate, disseminative willingness, knowledge sharing

Social Capital, Knowledge Sharing and Intellectual Capital in the Web 2 Enabled World

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Abstract: Web 2 technologies have facilitated an unprecedented era of social knowledge sharing. Many businesses are examining how they can tap into this phenomenon to enhance knowledge sharing within the organization. This study explores links between social capital created through online social network knowledge sharing and Intellectual capital. It is suggested that within the organizational context, intellectual capital can be generated from social capital through knowledge sharing, facilitated by web 2 technologies. The

benefits of web 2 technologies in the area of knowledge sharing are well documented, however this study suggests that web 2 technologies not only provide the platform to share but also the motivation to share as participants gain and benefit from increased social capital, which may in turn overcome perceptions of 'loss of personal competitive advantage' concerns associated with traditional knowledge sharing.

Keywords: Knowledge sharing, Intellectual capital, Web 2, Social Capital, Knowledge management

An exploratory study of Knowledge Strategy in a Knowledge-Intensive Firm using a Strategy-as-Practice approach

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Abstract: We analyse the knowledge strategy (Zack 1999, 2002) in a knowledge-intensive firm, using a Strategy-as-Practice approach (Whittington 1996, 2006), two major research fields in Strategic and Knowledge Management. In order to provide a relevant research field to our investigation, we study the development of the knowledge strategy at one of the leading consultant firms in the fields of strategy as well as knowledge management. First, we explain the Knowledge Strategy framework proposed by Zack (2002). Then, we focus on our research methodology, mainly the approach of Strategy-as-Practice. Thirdly, we present our main analysis results, identifying the key actors of knowledge strategizing and how they are organised to do it. A process view of knowledge strategy is presented identifying key actors, practices and organizational structures. A conclusion of our study is that the conceptualization of knowledge strategy and knowledge gaps does effectively exist in reality. Finally, we discuss the limitations of the present research and propose further research directions and development. This paper explores a new research approach of knowledge management, and could also help knowledge management practitioners.

Keywords: Knowledge strategy, knowledge intensive firm, qualitative research, strategy-as-practice approach

The Application of the SECI Model in Cross-Cultural Contexts

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Abstract: This study provides theoretical analysis for the applicability of the SECI model in cross-cultural contexts. The model was produced in 1995 by

Nonaka and Takeuchi for creating knowledge in organisations through four processes: socialisation, externalisation, combination and internalisation. The SECI model has become widely accepted by scholars and widely quoted in approaches to classifying, creating, documenting, sharing and transferring knowledge, from a knowledge management perspective. However, Glisby & Holden (2003) criticised the universal applicability of this model and noted that each of the four modes of SECI is strongly interpreted in reference to their embeddedness in traditional Japanese values and management practices in comparison to Western culture. Weir and Hutchings (2005) concurred with Glisby and Holden that SECI does not have universal application. However, Weir and Hutchings controversially suggested that some elements of the SECI model have application in the Arab world and China. In contrast, Andreeva and Ikhilchik (2010) criticised the claim that the SECI model is not universal and argued that the four modes of SECI model apply in Russian context. However, their argument was also controversial when they noted considerable differences between Japanese and Russian cultures and management practices in comparison to the similarities. Recently, Haag et al. (2010) considered the effects of two of Hofstede's culture dimensions on SECI processes and suggested also that not all SECI processes reflect traditional Japanese values. The authors argued that Japanese companies focus more on tacit knowledge which is related to the socialisation mode, while the western companies focus more on explicit knowledge which is related to combination process. It was clear that not all SECI' modes are applicable in the same culture as some of them were widely spread while some were not. Therefore, it is concluded that not all SECI processes reflect traditional Japanese values, but they should be adapted in order to be successfully applied in different contexts. Being aware of culture and its impact on knowledge creation and the application of SECI will enrich the insight of an organisation into their knowledge creation and the processes involved in it.

Keywords: knowledge creation, SECI Model, national culture context

Network Management as a way to Manage Intellectual Capital

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Abstract: In order to meet the information and knowledge demands of today's society, there is a need for the development of intellectual capital and most especially social capital. Intellectual assets are knowledge, information, intellectual property and experience, while social capital is embedded in social structures and can be accessed as well as mobilized in purposive actions. Social capital is based on shared norms, values and trust which provokes transparency and improves the flow of information whiles reducing

transaction costs. Social capital eventually leads to rationalization; hence, it increases flexibility as well as performance and innovation. As a result, there are formal and informal social networks within firms which serve as leverage for sharing information and knowledge. Factors of influence beside norms and values are the social skills of employees or network members, which is called social maturity in holistic management. Social networks are a source of intellectual and social capital, therefore, there is a need for the development, fostering and controlling of the networks within firms to achieve optimum results without losing control of roles that are played by employees in the network. The aim of the study is to propose a network management model which can be used for managing social networks within a firm with small additional expenses in order to achieve optimum effects from intellectual capital. In this study, the author combines models of network management from literature review and results of an exploratory survey of nine Austrian experts in the fields consulting, politics and management. This approach was aimed at designing a suitable model for the management of both formal and informal networks within a company. A suitable network model is that which fulfils the criteria of practicality in the development and fostering of intellectual capital within a firm. This paper introduces intellectual capital, social capital and further discusses the principles for working with and within social networks. The paper proceeds further by presenting common network management and network governance models, after which the results of the expert survey are explained. The paper concludes by presenting a practical model based on theoretical and empirical analysis. This is followed by a proposal on how the model can be adapted in firms.

Keywords: intellectual capital, social capital, organisational networks, cluster, network management

The Essence of Knowledge Management

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Abstract: Recent studies have shown that, over the past decade, Knowledge Management (KM) has been the center of many debates. This study infers that knowledge management is an audit of human capital that highlights unique sources, critical functions and potential bottlenecks which hinder knowledge flows to point of use. This study argues that it protects human capital from decay, seeks opportunities to enhance decisions, services and products through adding intelligence, increasing value and providing flexibility. Therefore a number of organisations have been reminded that they will not survive in the “Modern Knowledge Village” unless they have a strategy for managing and leveraging value from their human capital. However, it has become clear that the term "Knowledge Management" has

been used in a wide range of activities designed to manage, exchange and create or enhance human capital within an organisation, and that there is no widespread agreement on what KM actually is. Information Technology (IT) applications that are termed "knowledge management applications" range from the development of highly codified help desk systems to the provision of video conferencing to facilitate the exchange of ideas between people. The objective of this paper is to survey a number of different knowledge management strategies and a range of driving forces for knowledge management activities. These are synthesised using an extended version of an existing "KM spectrum". The methodology used in this study is qualitative in nature. For the purpose of the current study it is applied to provide direction for the KM spectrum and then gives a description of a simple classification approach that relates to KM strategies. The methodology further uses a case study to apply the above approach and discuss its usefulness. The findings reveal that KM is a powerful tool that stimulates success in any working environment if it is subjected to adequate leadership where good governance is taken into consideration. In a school environment successful knowledge management involves different aspects such as accessibility of information technology, strong leadership, cultural influences, organisational structure and human characteristics. Leaders have to ensure that, the necessary measures are in place and they should lead by example to sustain the successful implementation of knowledge management strategies in order to continuously empower human capital.

Keywords: Essence, knowledge management, modern knowledge village, human capital, information technology, leadership

Managing Uncertainty in Projects – A Means to Knowledge Transfer, Learning and Organization Development

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Abstract: This paper is about a research project called "Practical uncertainty management in a project owner's perspective" (in short, the PUS-project). This paper describes efforts taken by the PUS-project to create better understanding and knowledge within the field of managing uncertainty in projects. Traditional way of managing uncertainty falls within the iron triangle of cost, time and quality that are associated with the project, and focuses mainly on threats rather than opportunities. The PUS-project proposed the perspective of project owner in order to deal with and manage uncertainty in projects effectively. This paper looks at how cooperation between the PUS-project and one of its main industrial partners (Norwegian Directorate of Public Construction and Property Management (Statsbygg)) took place. In this regard, this paper presents what was done and what was achieved

through this cooperation. Statsbygg organises, plans and executes around 160 projects – large and small – at all times, and 20-30 large projects are completed every year. Managing uncertainty is an important part of project management. This paper describes how improving uncertainty management in Statsbygg's projects becomes a means to knowledge transfer, learning and organization development. Efforts related to learning and knowledge transfer played an important role in the process of organization development that Statsbygg experienced. These kinds of efforts have the potential to promote a culture that positively influences the way uncertainty is dealt with and managed in projects in Statsbygg. These efforts can contribute to create awareness and proper attitudes that are needed to obtain the desired results. Cooperation between the PUS-project and Statsbygg, which is presented in this paper, is an example that illustrates how knowledge and value can be created through collaboration between practitioners from the industries and researchers.

Keywords: Managing uncertainty, project management, knowledge transfer, learning, organization development

A KM Strategy for Improving the BPR Process

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Abstract: The paper argues that implementing a knowledge management (KM) strategy during the implementation of Business Process Re-engineering (BPR) would improve, in terms of effectiveness, efficiency, speed, and accuracy, the phases of the BPR. A specific BPR process from the literature was chosen. The paper provides a strategy on how KM, in particular tacit knowledge management, can be introduced during the execution of the first three phases of the identified BPR process. The paper identifies for each of these phases the type and kind of knowledge sources, what knowledge should be captured? What knowledge should be nurtured and retained? In addition, the paper addresses tacit knowledge transformation among the phases as a result of the capture and nurture of such knowledge among the members of the team involved in the BPR process.

Keywords: Knowledge management, business process re-engineering, tacit knowledge capture, tacit knowledge transfer, km strategy

Perceptions of Knowledge Management Prerequisites and Challenges of Organisational Learning

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Abstract: The paper reflects on the action learning processes of postgraduate students who had to assess knowledge management prerequisites in their organisations and to implement teamwork for proposing both a knowledge management development vision and tools for selected organisations. The time periods of 2001-2004 and 2006-2010 are compared. The action learning processes disclosed conflicts between basic IT-centred and people-centred assumptions, which appeared as a challenge in the organisational learning for creating and implementing knowledge management development visions. The comparison of the rankings of knowledge management prerequisites of 2001-2004 and 2006-2010 demonstrates the important role of trust and free circulation of information. The desire to clarify recognised fields for employees as experts gained higher priority in 2006-2010 whereas in 2001-2004 it was ranked lower. Young managers and other categories of employees both in large and small organisations are looking for recognition of the value of their personal expertise as a prerequisite for more active contribution to knowledge sharing. Underestimating such a need may inhibit organisational learning efforts and can diminish the readiness to use new information processing and knowledge sharing tools. That has been an especially important challenge in the situations of economic crises in organisations experiencing downsizing. The IT-centred approach to knowledge management can be seen by some employees as a way to “hijack” knowledge of individuals prior to their dismissal. Knowledge management development efforts that ignore knowledge management prerequisite perceptions of team members face the risk of conflict in the organisational learning process. The analysis of perceptions of knowledge management prerequisites may help one to understand whether there are contradictions between strategic goals, principles and individual attitudes concerning the role and nature of knowledge management.

Keywords: knowledge management prerequisites, organisational learning, knowledge sharing, success factors, action learning

Examining the Strategic Objectives of Implementing KM in the National Health Service (NHS) {Medway NHS and Medway Community Healthcare (MCH)}

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Abstract: In May 2010, following the election of the new coalition government there were strong signals of change. These changes in the form of job cuts, pay freezes and organisational restructuring are constantly changing the shape of the economic sector of the UK. The most affected sector is the public sector and the top of that list is the National Health Service (NHS). The first two radical changes have been the abolition of the Primary Care Trusts (PCTs) and the introduction of the new General Practitioners (GP) consortia which is a Clinician led group that will assume the responsibility for healthcare needs and should fully be in place by 2013. Despite these radical organisational changes, two issues have remained constant;

1. The objectives of the GP consortium and Community Healthcare services (i.e. Providers) this is to support patients better.
2. The need for the implementation of KM in the National Health Service and even beyond.

In the Health Service Journal (HSJ), Ford (2010) quoted an unnamed chief executive pioneering the GP consortium idea as saying “Handing commissioning control to clinicians but maintaining primary care trusts to support them would be the “dream ticket”, rather than abolition...” which is currently the case. This highlights the issue of managing knowledge within the NHS because a knowledge retaining system would help maintain stability in the provision of patient care through the transition and beyond. The earlier paper titled “*The Status of Knowledge Management (KM) in Medway Primary Care Trust of the National Health Service (NHS)*” (Enakimio, Al-Shawabeh, and Sharp, 2010) gives an inside knowledge of the organisation, how it fits into the overall plan for KM in the NHS as well as the current status of KM in the organisation. The paper dealt with the capability of Knowledge Management (KM) to assist the NHS in meeting its strategic objective of supporting patients better within the Medway community. However, the focus for this paper is examining the strategic objectives of implementing KM in NHS Medway (Commissioners) and Medway Community Healthcare (Providers) and continues from the earlier paper. The data collected from the earlier survey which was conducted in the different locations of the trust such as the hospices, hospitals, healthy living centres, offices and clinics, was analysed using SPSS 16 to explore the challenges of implementing KM in the NHS to meet its strategic objectives. The aim of this paper is to examine the strategic objectives of implementing KM in the NHS and show the correlation between KM and the strategic objectives of this organisation. This paper provides a real example of possible strategies for implementing KM within

Medway PCT, and evaluates how these strategies could impact on the organisation and improve its performance.

Keywords: Knowledge Management (KM), National Health Service (NHS) Medway Primary Care Trust (PCT), Strategic Health Authority (SHA), General Practitioner (GP) and Information Technology (IT)

A proposed Framework for Discovering Key Knowledge Areas in Supply Chain and Determining the Relationship With Major Logistic Processes: A Case Study

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Abstract: Nowadays, knowledge is the only resource that has the capability of offering competitive advantage and continuous improvement for supply chain partners. Thus, we should identify the enterprise key knowledge. In order to create new knowledge, supply chain partners are involved in continuous processes that result in sharing rich information and building IT infrastructure that permit supply chain members to process information coming from other partners. In this paper, we try to identify the key knowledge areas in Iran automotive industry and discovering the relationships between these key knowledge areas and the main logistic processes. Creating explicit and structured knowledge from tacit knowledge is the primary goal of several KM projects. Since knowledge in the enterprise or supply chain flows through processes, we can identify the key knowledge in a specific area of an organization through knowledge management tools or the ideas of related experts. Hence, in order to acquire key knowledge, we should look for specific processes in that area. For this purpose, a framework is proposed which enables organizations to identify key knowledge areas, main processes in the supply chain, and their relationships more effectively. The proposed framework is designed by applying a blended methodology and contains a vast look at the relationship between knowledge management and supply chain management concepts. For achieving this goal, a sequential blended methodology was applied.

Keywords: Supply chain, Key knowledge areas, Knowledge Management, Logistic Processes, SCOR model

Knowledge Workers: A Typology Framework as a Theoretical Basis for Knowledge Worker Identification Instrument

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Abstract: As we consider that the concepts of knowledge, knowledge work, knowledge workers and knowledge management have a strong relationship to organizational performance and competitiveness, the aim of this paper is to present relations among mentioned concepts, find appropriate characteristics with regard to knowledge workers and design a framework of knowledge worker typology identification instrument. The considerable lack of focus of tacit knowledge in knowledge management applications is inappropriate to broadly accepted claim that this type of knowledge is most important to knowledge work and knowledge management performance. According to various sources tacit knowledge defines knowledge workers. Knowledge works are scattered among all organizations but they are not treated accordingly so their performance could be hindered lack of attention to their special needs. Knowledge workers cannot be assessed or evaluated the same way as other workers therefore the recognition of knowledge workers in an organization sees crucial. The first part of the paper deals with fundamental definitions, description and basic assumptions that lead authors to the topic. Then authors focus on concepts related to the problem especially knowledge workers. Knowledge workers are characterized and categorized according to literature review of the topic. Authors suggest own knowledge workers typology framework. This framework consists of three different types of knowledge worker: the knowledge users (KU), the knowledge creators (KC) and knowledge facilitators (KF). The concept is illustrated figures that show relationships among those types of knowledge workers. Based on previous suggestions a design of identification instrument is drawn. The following part focuses on the knowledge worker typology identification instrument concept based on cognitive processes and Bloom's taxonomy of learning processes. It distinguishes several domains and levels that determine each type. A probe is made to support or disprove authors proposals and suggestions. Results of the probe will be presented at the conference. The purpose of this paper is to promote author's assumptions and implications of the knowledge worker typology and identification for further research.

Keywords: Knowledge, knowledge work, knowledge workers, knowledge management

Middle Managers' Maturity of Knowledge Sharing: Investigation of Middle Managers Working at Medium- and Large-sized Enterprises

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Abstract: Knowledge is becoming an increasingly important factor of organizational competitiveness. The way knowledge is shared within the organization is essential and central not only to the success of the organization but also among those employees who share it, since those who take part in the knowledge sharing process also benefit from it. Since middle managers have an important position within the organization and play a significant role in the process of knowledge sharing this paper has focused on the knowledge sharing of these middle managers in Hungary. A new method of how to measure middle managers' maturity of knowledge sharing is presented in this paper. Between 2007 and 2010 an empirical survey was conducted during which 400 middle managers working at medium- and large-sized enterprises in Hungary were investigated by a questionnaire. The answers of this survey have been analysed using Principal Component Analysis and four different components regarding the maturity of knowledge sharing have been identified. These four components are the availability among middle managers, the availability among the middle manager and subordinates, the usefulness of knowledge among middle managers and the usefulness of knowledge among the middle manager and subordinates.

Keywords: knowledge sharing, maturity, middle managers

Knowledge Management in the Quebec Mining Industry: A Framework of Practice to Ensure Evidence-Based Knowledge Translation

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Abstract: Demographic changes in recent decades in industrialized countries and changes in the working world are introducing major challenges regarding the question of age management and knowledge management. To better understand these issues and their impacts on occupational health and safety, the Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST) has developed a research program that focuses on knowledge

management in different industries. In this context, an IRSST research team was asked by Quebec mining stakeholders to document the mining sector conditions that favour a safe and competent integration of new workers (of varying ages and occupational paths), particularly the conditions that foster knowledge transmission between experienced and new workers. To support the research team's work and promote an appropriation of evidence-based knowledge by the stakeholders/end-users, a Knowledge Transfer Advisor (KTA) was integrated into the research team. This approach is integral to the framework of practice of the Research and Knowledge Translation Cycle developed by the IRSST. The framework was developed through a rigorous process led by knowledge transfer researchers and KTAs on the basis of an extensive scientific literature review. This paper presents the IRSST-developed Research and Knowledge Translation Cycle and the conditions implemented in the context of this research project to enhance stakeholder participation in the KT activities held.

Keywords: Experience and expertise transfer, Knowledge exchange, Knowledge utilization, Framework of practice, Stakeholders

Adoption of Knowledge Management Systems in SMEs; Realities and Challenges from Ethiopia

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Abstract: Most Small-scale Medium Enterprises (SME's) are becoming relentless in managing and developing knowledge management systems. This is a view however that is based on anecdote rather than reliable empirical evidence. Using data from 300 SME's in Ethiopia, this paper helps redress this deficit. Specifically the paper explores the extent to which SMEs in Ethiopia engage in knowledge management programmes and deciphers some of the factors which may explain the use and non – use of knowledge management practices. The analysis reveals that although a significant number of SME's are knowledge conscious, many more seemingly adopt an ad hoc or haphazard approach. For example less than tenth have credible knowledge management systems. Consequently it seems that there is considerable distance to be travelled to arrive at a universal appreciation of the need to incorporate knowledge portals in SME operations. The analysis also reveals that larger SMEs are more likely to adopt knowledge management systems where the employed labourforce is high and where government assistance is readily available.

Keywords: knowledge management, organizational learning, capacity, performance

The Chain Value Process and Knowledge Transfer in a Bioengineering Case

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Abstract: This study highlights the complete management process of a bioengineering knowledge, and how it follows all the steps of the Valorisation chain that contains the following five steps: detection, selection, evaluation, protection and commercialization. In this process we show how researchers, IP managers and business development managers work together to achieve a common aim. The knowledge selected to advance in the value chain before being transferred to the market is a technology of a Biofeedback equipment specifically for urinary incontinence. Biofeedback instruments for the treatment of urinary incontinence have the purpose of generating (and also recording for further analysis) signals directly related to the activity of the pelvic floor muscles. Although a few instruments use the exerted pressure as the measured signal, the most frequently employed signal is the electrical activity associated to the muscle contractions or electromyogram (EMG). This Biofeedback case developed in our University has followed a methodology of Valorization in which the interaction between researchers, IP managers and business development managers is significant to know the market requirements and to direct the research efforts towards the market necessities; that is why the last step of the design is a commercialization planning to explode the technology. In this case, the goal is to find an industrialized partner interested in producing the clinical validated prototype following all the EC regulations.

Keywords: Bioengineering, biofeedback, marketing in higher education, technology transfer, knowledge transfer, valorisation process

Managing Knowledge-Intensive Centers for Research, Experimental Development and Application of Scientific Discoveries - the Biggest Challenge of Knowledge Management of the 21st Century

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Abstract: Previous Knowledge Management research has shown that knowledge, the way available knowledge is used, as well as speed of

acquiring new knowledge, have a considerable influence on competitive advantage of contemporary companies. A deficiency in the field of Knowledge Management was discovered in Knowledge-intensive companies within domains of research and development activities, and application of acquired results during production of new products and provision of new services based on absolutely new knowledge (scientific discoveries). In other words, the above mentioned deficiency manifests itself during transformation of absolutely new knowledge into a newly developed value resulting from scientific and research work - the intellectual capital. Considering that knowledge - a base model of economic development of the 21st century, is based on intellectual capital, a question how to remove the essential deficiencies of Knowledge Management in Knowledge-intensive companies which can be viewed as unique factories for „production“ of absolutely new knowledge, needs to be asked? In other words, how can we connect the „production“ of knowledge and market demand in order to create a value which can be valorized on the market? If coefficient of intellectual value added is the most significant indicator of business performance of Knowledge-intensive companies, another question needs to be asked. How can we manage the intellectual component of a business offer (intellectual material) efficiently and effectively, considering that this intellectual material represents knowledge in the process of its „production“ from a phase of elementary, applied and developmental research and market placement in the form of absolutely new products and services while providing total quality which surpasses clients' and competitors' expectations - Total Quality Management? In our work we also show that knowledge based on scientific research, represents the most profitable investment, covert competitive advantage to its owner and unlimited resource for continuous positive economic results. This is how we confirm, that intellectual capital based on knowledge, justifies its dominant participation of about 77% of society's total capital according to official reports of the World Bank.

Keywords: knowledge; research; development; knowledge-intensive; management

Cyclic Process Model Transformation

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Abstract: Process analysis usually focuses only on single and selected processes. It is either existent processes that are recorded and analysed or reference processes that are implemented. So far no evident effort has been put into generalising specific process aspects into patterns and comparing those patterns with regard to their efficiency and effectiveness. This article

focuses on the combination of dynamic and holistic analytical elements in enterprise architectures. Our goal is to outline an approach to analyse the development of business processes in a cyclical matter and demonstrate this approach based on an existent modelling language. We want to show that organisational learning can derive from the systematic analysis of past and existent processes from which patterns of successful problem solving can be deduced.

Keywords: knowledge management, process model, process-oriented knowledge, cyclic process transformation

The Not-Invented-Here Syndrome in Academia – How to Measure and Manage it

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Abstract: Today's society is often described as a "knowledge society". Accordingly, knowledge transfer plays a pivotal role for innovation and economic development. In this light, universities have often been the focus of interest for research and practice in recent years. However, the perspective of the knowledge recipient in this process is very much neglected. Thus, this paper concentrates on the Not-Invented-Here syndrome in academia. We develop a robust measurement model and test this construct and 8 potential antecedents in a structural equation model. The sample consists of 477 German university professors from the natural sciences. We figure out that 4 of the hypotheses find support in the data. Especially, experience and a knowledge sharing-friendly environment help to decrease a potential NIH infection of academic scientists. At the end of the paper, practical implications for industrial managers and university policy-makers are derived.

Keywords: Not-Invented-Here syndrome, knowledge transfer, academia, recipient, barrier

Individual Level Influencers on Tacit Knowledge Sharing Processes

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Abstract: Smith (2001) notes that "much of the knowledge on which performance in real-world settings is based is tacit knowledge" and 90 percent of knowledge in any organisation is embedded in people's heads. It is through converting tacit knowledge to value that the organisation obtains the competitive advantages achievable through knowledge management (KM) (KPMG, 2000). Much research explores the management of explicit knowledge but limited progress is made on that of tacit knowledge (Insch et al., 2008; Perez & Mitra, 2007). Employees are the fundamental repositories of tacit knowledge and are the key players in knowledge management initiatives. Tacit knowledge is personal, hard to communicate and exists in individuals mental models (Cho, Li, Su, 2007). It is therefore the individual whom decides if they will share their knowledge (Constant et al., 1994). Thus, an understanding of individual factors and their influence on knowledge management processes is key to the success of any knowledge management initiative (Tohidinia & Mosakhani, 2010). Wang and Noe (2010) and Cho, Li and Su (2007) argue for further research on individual level variables. Additionally, the number of studies on these variables is limited and many define knowledge broadly to include explicit knowledge. This study aims to advance on this research gap and explore the influence of individual level factors on tacit knowledge management processes. The case study is based on an American multinational manufacturing site and the participants are engineers whom engage in routine and non-routine tasks which demand use of both explicit and tacit knowledge. A qualitative methodology is utilised. This paper presents the preliminary results of this investigation.

Keywords: tacit knowledge, knowledge management, individual factors

Knowledge Identification, Capture and Dissemination: ECOPETROLS.A. Real Example of Implementation

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Abstract: ECOPETROL S.A. is the National Oil Company (NOC) from Colombia, currently is located at number 13 in the Annual Ranking of the World's Largest Listed Energy Firms, according to PFC Energy 50 - January 2011-. In July 2010, approximately of 30% of direct employees from ECOPETROL S.A. could qualify for the retirement benefit according to the Colombian law. Given that the percentage of people who could leave the company is a representative of the total number of employees and that this population is the greatest experience has within the company, between 17 and 25 years of expertise, the company started from 2005 an initiative aimed at mitigating the impact of loss of knowledge due to decoupling of staff, this initiative is created, consolidated and routed within the Knowledge Management Corporate Program of ECOPETROL and is implemented in all departments of the company. The initiative in question has several stages from the selection of personnel who can retire and has key knowledge for the operation of the Company, the identification of key knowledge of this persons, the training of those who undertake the transfer of knowledge as trainers or coaches, building plans or transfer programs, monitoring the implementation of these plans and the consolidation and evaluation of the results of the transfer made, all framed within of the Deming cycle: Plan, Do, Check and act. In the same way this process is part of a job of sensitization of the people selected as tutors and apprentices who would be supported by the top management of Company. The work done by ECOPETROL allowed the tacit knowledge identification, capture and dissemination within the company through a structured method, with specific deliverables and results that have allowed the continued performance and safe in the operation, even though the retirement of many of the people involved in this process it is a fact. This paper will be of interest to the participants because it shows a real and practical case in the identification, capture and dissemination of tacit knowledge within a company that is exposed to the imminent departure of a large number of employees.

Keywords: Knowledge management, tacit knowledge capture and dissemination, transfer knowledge strategy

Understanding Personal Knowledge Development in Online Learning Environments: An Instrument for Measuring Externalisation, Combination and Internalisation

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Abstract: This paper investigates personal knowledge development in online learning environments using the perspective of a model adapted from Nonaka and colleagues' SECI model. To this end, the SECI model, which was originally designed to describe organisational knowledge creation and conversion, was adapted to conceptualise personal knowledge development in online learning at the individual level. As the SECI model was originally conceived at the organisational level, in order to measure personal knowledge development at the individual level in the context of online learning, a measurement instrument was created in order to measure the scores of individual online learners on Externalisation, Combination and Internalisation. It is argued that Socialisation is not a relevant mode in the context of online learning and is therefore not covered in the measurement instrument; this is explained further in the paper. This measurement instrument also examines the interrelationships between the three modes and a new model – the so-called EC-I model – is proposed to depict these interrelationships. The measurement instrument is based on data collected through an online survey, in which online learners report on their experiences of personal knowledge development in online learning environments. In other words, the instrument measures the magnitude of online learners' Externalisation and Combination activities as well as their level of Internalisation, i.e. the outcomes of their personal knowledge development in online learning. For Externalisation and Combination, formative indicators were used, whereas for Internalisation reflective indicators were used. The measurement instrument is one of the main foci of this paper and is therefore discussed in-depth. In sum, the paper proposes a modified version of the SECI model, extending the applicability of the original SECI model from the organisational to the individual level. It outlines a new measurement instrument which can be used to measure Externalisation and Combination, i.e. personal knowledge development processes, and Internalisation, i.e. personal knowledge development outcomes.

Keywords: personal knowledge development, SECI model, EC-I model, measurement instrument, measurement indicators, online learning

Chaordic Knowledge Management – Shifting Paradigms for Corporate Knowledge Networks

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Abstract: Saying that corporate knowledge networks are important is stating the obvious. In general, but the most in service industries and “knowledge intensive firms” work has become a collaborative endeavor carried out to a significant extent through informal networks of individual relationships. This article deals with the thesis that understanding, accepting and actively handling informal (knowledge) networks can help managers to deploy the real intellectual capital in their companies. Nowadays, in the age of Web 2.0, many companies put their hope on social software as an effective tool for corporate networking, discussion and knowledge sharing. However, after the first wave of euphoria, enterprises faced serious problems of realization. The reason for this is that online social networks are determined by the personal goals of their members, self-organized structures as well as emergent processes and contents. From an enterprise perspective this means the rise of a non-transparent construct which is neither controllable nor predictable. The key management task is to find appropriate approaches which are not suppressing the dynamics of a social network but utilizing its value for corporate purposes. Following an initial analysis of the challenges which result from the goal of implementing online knowledge networks, the concept of “chaordic knowledge management” is introduced in the second part of the article. This management approach is based on the assumption that a substantial part of knowledge sharing and innovation happens at the crossroad between chaos and order. In other words, valuable knowledge solutions often result from a dynamic, multi-dimensional process that can neither planned nor controlled step-by-step. Instead, in order to cope with complex situations, enterprises need to prepare for exploration, openness and observation.

Keywords: Knowledge networks, knowledge sharing, enterprise 2.0, social communities, complex adaptive systems, organizational behavior

Intellectual Capital in Universities: Faculty and Student Perceptions

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Abstract: This paper proposes a specific IC measurement model to assist universities to obtain an accurate picture of their knowledge-based assets and help them to develop better strategies to manage that knowledge across

the institution. The model also serves as a means for assessing how well the identified assets meet institutional business goals and strategies. The practical application of the model is illustrated in the context of a new Eastern European university. The findings reveal some interesting IC dynamics and identify current shortcomings. Practical implications and the agenda for future research were also discussed.

Keywords: Intellectual capital, measurement model, European higher education, survey

Developing a Knowledge Strategy Using Tacit Knowledge Measurement: Implications for the Balanced Scorecard Innovation and Learning Perspective

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Abstract: This research paper develops practical measures that can be used by managers to develop a *knowledge strategy* for the balanced scorecard innovation and learning perspective. My research proposes the use of the (1) *tacit knowledge index* (TKI) to assess the level of tacit knowledge within firms and that effect on firm performance and (2) the development of a knowledge strategy for the BSC innovation and learning perspective based on the TKI. My prior research surveyed 108 United States, European and Canadian firms that are using knowledge management to determine each firm's Tacit Knowledge Index which was then related to the innovation and financial results at each firm as well as the knowledge strategy employed. This research revealed significant relationships between a firm's knowledge strategy, level of TKI and the firm's innovation performance. The relationship to the financial outcomes was less strong.

Keywords: tacit knowledge, balanced scorecard, knowledge strategy

Understanding the Fit between KAs and the Firm in Five Software SMEs

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Abstract: There remains a lack of empirical evidence exploring how software SMEs operationalise their approach to knowledge management (KM). This study endeavours to offer a tangible mechanism for understanding and diagnosing how this type of firm manages knowledge. The objective of this study was to devise a classification of knowledge activities (KAs) which facilitates the exploration of a Small to Medium Sized Enterprises (SMEs) in

terms of the type and extent to which knowledge is managed. Further to this, analysis of KAs provided a greater understanding of the fit between the firm's objectives and the KM approach pursued. In order to achieve this, five case studies were conducted and subsequently. Based on the classification of KAs identified, a qualitative analysis approach was used to code each of the twenty eight interviews conducted. Both quantitative and qualitative content analysis methods were applied to facilitate data reduction and generate meaning from the significant volume of data collected. The output from this study includes a classification of KAs which provide a rich insight into how SMEs are motivated to deal with knowledge as a means of achieving their organisational objectives. From a practitioner viewpoint, this study seeks to offer an improved understanding of an SMEs' approach to KM, particularly in the current economic climate where SMEs with significantly curtailed resources endeavour to seek new ways of leveraging knowledge in order to deal with unanticipated events.

Keywords: Knowledge Management (KM), Knowledge Activity (KA), knowledge, Small to Medium Sized Software Enterprises (SMES) and software

Key Knowledge Sharing Points: Exploring a new concept for studying Crossroads in Global Innovation Projects

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Abstract: This paper introduces the concept of Key Knowledge Sharing Point (KKSP) to describe potential crossroads in global innovation projects. As Knowledge Management becomes more and more important in global settings it is essential to identify when and where key knowledge is or must be shared within specific process cycles in order to run innovation projects successfully. The goal of the paper is to contribute to the methods development of standardisation as a design activity in the domain of learning technologies. This activity is reported suffering from a legitimacy crisis and needs both improved process and products. As a Key Knowledge Sharing Point the authors understand situations or events in which knowledge sharing is of essential importance for the success of an activity. The KKSP construct is explored in in two cases studies in order to test its abilities as a descriptive lens. The first case study analysed a case of legitimacy breakdown in stakeholder engagement, focussing on Key Knowledge, Key Sharing Points and Key Timing, the three intersecting aspects of the KKSP constructs. The second case study was chosen for its critical timing (scope definition of new standardisation work items), and demonstrated the analytical strength of the KKSP construct highlighting the importance of what knowledge to be

exchanged through which channels. This paper describes a first step towards a prescriptive model based on an iterative development with several cycles of descriptive studies. The authors use Actor Network Theory to analyse standardisation activities understood as a recursive process of design, sense-making and negotiations. For further development of the KKSP construct in a prescriptive direction the authors point to the problematisation and perspective primitive Why as a starting point.

Keywords: Organisational learning; key knowledge management point; descriptive and prescriptive theory building; global innovation; anticipatory standardisation

Using Web 2.0 Technologies to Support Technology Surveillance in a University Context

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Abstract: Technology surveillance (TS) can be seen as a particular branch of knowledge management (KM) primarily focusing on technology related information. It constitutes a systematic process including the activities of gathering, organizing, analyzing, and disseminating information from internal and external sources to assist organizations in managing risks in their operational and strategic environment. In this paper we focus on TS in a university environment where different departments, research groups and individual researchers critically depend on up-to-date technology-related information in their field. Today, the actors in the TS process are challenged with an exponential growth of scientific knowledge and technology related information. However, the fact that all of this information is available in digital formats and the trend that it is increasingly available free of charge or at low prices offers many new opportunities. We suggest an approach for TS that helps universities to seize these opportunities and to master the challenges using proven Web 2.0 technologies. We first describe the goals, activities and roles of traditional TS approaches together with typical problems that are encountered when the activities are performed in practice, particularly in a research context. Then, after shortly introducing the most important Web 2.0 technologies and their application in enterprises and organizations, a theoretical model of a Web 2.0 supported TS process is developed. Subsequently, we demonstrate how this approach can be applied in practice using an existing commercial web based collaboration platform. We show by an example scenario how the offered integrated structuring capabilities, access rights management, linking and tagging functionality can support the activities of the proposed model.

Keywords: Technology surveillance, collaboration, web 2.0, technology integration, knowledge management

Knowledge Creation in Multinational Corporations: The Role of Organizational Structure

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Abstract: Organizational structure has been linked to several strategy constructs: organizational learning; firm internationalization; innovation; firm performance; organizational capabilities; product development etc. However, until now, studies have not classified the role that organizational structure plays in facilitating or inhibiting knowledge creation. This paper attempts a classification using multinational corporations as context. The paper's aim is to show how the formal organizational structure could influence knowledge creation activities. Organizational structure components include: reporting relationships; organization routines; standard operating procedures; reward systems. This list is by no means exhaustive and could vary from one organization to the other but this paper focuses on reporting relationships and routines. Knowledge creation is a process that adds value for multinational corporations. It has been identified by the knowledge based view as a process that leads to competitive advantage for firms if well coordinated (Grant, 1996b, Nonaka, 1994b). This paper adopts ideas of the emerging knowledge governance approach which hypothesizes that organizations can influence knowledge creation through the use of formal mechanisms (Foss, 2007). The overall proposition is that formal organizational structure components particularly reporting relationships and routines influence knowledge creation through particular organizational controls.

Keywords: Knowledge creation; organizational structure; organizational controls; knowledge governance; knowledge-based view; multinational corporations

A Pattern-Based Ontology Engineering Platform

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Abstract: Building knowledge management systems based on semantic technologies can profit from the use of ontologies. The latter provide a shared vocabulary, which helps to shape common understanding, fosters reuse and data integration as well as facilitates reasoning. The problem companies are facing, though, is that, despite all advantages, ontology engineering is very hard to master. First of all, domain engineers need to select the most suitable ontology language from the pool of available languages ensuring that the chosen language reflects the requirements of the given domain by means of expressivity, reasoning performance and tool support. Moreover, in order to model high-quality ontologies, a good knowledge about the various logical

formalisms, the offered ontology languages are based on, their characteristics and their differences is required. Published best practices for ontology engineering, so called Ontology Design Patterns (ODPs) (Gangemi and Presutti, 2009) can help here. They describe how to solve common modeling problems. The problem, though, is that in order to apply such a pattern, ontology engineers not only have to find a suitable pattern but also need to understand its semantics. The platform presented in this paper tackles those problems from two directions. First of all, domain engineers are enabled to model their domain utilizing domain-specific languages reflecting the specific requirements of the particular domain. As a result, the modeling task will be significantly simplified. Moreover, based on the introduced level of abstraction, the platform will enable the generation of concrete ontologies in various target languages and in doing so, mitigates the problem of language selection. Furthermore, the ontology generation component introduces room for the second main principle which is the automatic and transparent application of ODPs. This means that every transformation of domain-specific models into ontologies is based on executable ontology patterns which can be contributed and registered to the platform by ontology experts.

Keywords: Ontology engineering, Model driven development, Ontology design patterns, Domain-specific languages

Towards a Detailed View on the Influence of Organizational Culture on Knowledge Sharing

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Abstract: It is often mentioned in the literature, either academic or practitioner, that for knowledge sharing to flourish in an organization it is important that the organizational culture allows such sharing to take place. Despite the acknowledgement of organizational culture as a major influence on knowledge sharing, the research on this topic still lacks some depth. Research that has been done, is either focusing on organizational culture as an abstract concept, or is trying to test the hypothesis that certain aspects of organizational culture lead to more and better knowledge sharing. A good understanding of how aspects of culture influence knowledge sharing behavior is however lacking. This research is intending to fill this gap by studying how organizational culture affects knowledge sharing. A comparative case study has been conducted at different departments from subsidiaries of a large Dutch construction company. Based on observations and interviews with employees of the selected departments, the organizational culture as well as the knowledge sharing behavior could be assessed. After processing and tabulating the qualitative data it has been analyzed to detect patterns in knowledge sharing behavior that are related to the dimensions of

organizational culture. In this analysis step, several influences of organizational culture on knowledge sharing behavior were found. In terms of practical benefits, four out of eight dimensions can be regarded as most influencing. This could be interpreted as a focus for cultural interventions in organizations to stimulate knowledge sharing. The contribution to the KM research field is that propositions are formulated that could eventually lead to a complete theory on the way how organizational culture is influencing knowledge sharing. So far, the propositions are plausible to be valid for the researched company and at best for comparable contractors in the construction industry. Future research is needed to show a broader generalization of the results.

Keywords: organizational culture, knowledge sharing, knowledge sharing behavior, multiple case studies

The Challenge of Scientific Cooperation in Large Complex Research Clusters – Experiences from the Cluster of Excellence “Integrative Production Technology for High-Wage Countries”

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Abstract: The initiation of so called Clusters of Excellence constitutes a milestone with regard to Germany’s efforts to foster integrative and interdisciplinary research. Clusters of Excellence constitute spatially concentrated research networks including about 20 university institutes, non-university research institutes as well as further selected partners and advisors from industry and science. The heterogeneity of the included actors can lead to structural, cognitive and cultural challenges in coordination and cooperation, because diverse disciplines (e. g. production and material engineering, informatics as well as business sciences) are integrated using different methodologies and technical terms. Therefore, the question arises in how far cross linked, knowledge-intensive and highly complex scientific cooperations can be organized to ensure a high quality of the research cluster output. To cope with the challenge of scientific cooperation, the conceptual framework of the Cross Sectional Processes in the Cluster of Excellence “Integrative Production Technology for High-Wage Countries” at RWTH Aachen University supports effective networking processes and strategic cluster development by means of learning and knowledge management. In order to contribute to the aforementioned research question, a model for the management of Cross Sectional Processes is developed. The

model will define specific measures for a promotion of interdisciplinary cooperation and cluster development at respective phases of network development – e. g. from the initiation phase to the steady phase. Following the research approach of the Grounded Theory, the generation of the model bases on a triangulation of quantitative as well as qualitative data, captured through a Balanced-Scorecard-based performance measurement tool, direct evaluations and structured interviews with cluster members. First results of the data triangulation make obvious that e. g. the role of project leaders as cluster-internal knowledge agents is crucial for a successful knowledge transfer in a hierarchical Cluster of Excellence. Moreover, a high rate of staff turnover in the research environment strongly influences the implementation of cross sectional activities. A further transfer of cross sectional measures to other forms of scientific oriented clusters and comparable networks is aspired by the Cross Sectional Processes to support scientific oriented interdisciplinary cooperation in future.

Keywords: Challenge of interdisciplinary cooperation, cross sectional processes, learning and knowledge management in clusters of excellence, model for cluster development

Expert Knowledge: Does it Help or Hinder Idea Generation and Creativity for Innovation?

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Abstract: Managing a diverse multigenerational workforce of ageing experts and young talented entrants is becoming a challenge for organisations. Current research acknowledges that experience and expertise will walk out the door with the retiring workforce and little replaced with new entrants coming into the organisations who have little or no experience. This leaves organisations in a susceptible position. One key challenge facing organisations today is to manage the knowledge and talent for sustained competitive performance and innovation in this workforce shift. Innovation is crucial for economic performance globally. Drucker (1985) as quoted by Tidd et al (2005) identified demographic change as one of the common sources of opportunities in managing innovation. Was Drucker (1985) really seeding waves of thinking that the new organisational order to continue to sustain and innovate, an organisation has to manage knowledge towards innovation of a diverse workforce? Can experts really help? Or do the novices consider them to be a hindrance?. This paper focuses by questioning: Is an expert's knowledge and expertise, especially those veteran experts, critical in idea generation and creativity towards innovation or more of a hindrance? There is clearly a lack of scholarly and empirical work in linking knowledge management and innovation. Furthermore there is definitely lack of studies

focussing on experts, talents and experience contribution in the innovation process. This conceptual paper attempts to conceptualize a knowledge exchange and barrier model within a typified innovation process. It takes the view that knowledge is valued resource and the perspectives and experiences of young talents versus veteran experts on working together to generate creative ideas and ultimately start up innovative projects in an organisation can be challenging. The expert's knowledge and experience in applying to an organisation's innovation process looks at tacit exchange and barriers of a case organisation in Australia. This paper may benefit two primary groups - researchers and academics who are interested in the link between innovation process and knowledge management. Secondly it may benefit managers in an organisation to understand better as to how to manage knowledge for idea generation and creativity and sustain innovation with a multigenerational workforce.

Keywords: Multigenerational workforce, creativity, knowledge management, innovation process, barriers

Integration of Knowledge into the Value Stream Mapping Method – Benefits, Challenges, Solution Statement

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Abstract: The purpose of this conceptual paper is to present a practicable method for conducting knowledge management in a value-oriented way. Therefore, a concept is deduced for integrating the resource knowledge into value stream mapping, an established method for business process optimization. The concept is discussed by examining its expected benefits as well as the challenges identified. In order to allow for the implementation of this concept, a three-layered approach for a knowledge-integrating value stream mapping method is presented: The first layer includes components for data collection, knowledge-specific preparation and visualization. The second layer contains the selection mechanisms for interlinking layer 1 and layer 3, which finally comprises knowledge management processes as well as a wide set of according methods and tools. The practical application of the approach is exemplarily illustrated on the basis of experiences from a case study. The paper concludes by identifying the specific need for further research on this topic.

Keywords: Business process, efficiency, knowledge management, lean thinking, value creation, value stream mapping

Knowledge Management Practices (KMP) and its Impact on Organizational Performance in Pharmaceuticals Firms

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Abstract: An extensive amount of studies found a positive relationship between knowledge management (KM) and organizational performance (OP). However, there remains a lack of clarity regarding the relationship between KMPs and OP. For example, Davenport (1999) argued that although the relationship between KM and performance indicators has been discussed at length, few firms have been able to establish a casual relationship between KM activities and firm performance. Likewise, there are no straightforward links between KM and business performance but, instead, a complex relationship (Carlucci and Schiuma, 2006). Wang *et. al.* (2009) argued that a growing belief has emerged that effectively managing knowledge can enhance performance, to date; however, there is limited empirical evidence. More importantly, a careful survey of literature shows that even fewer studies found a direct link between KMPs and financial performance and KMPs and new product success. New product success is especially important because it relates to a firm's innovative performance, which captures the critical domains of firms' competitive advantage, which can be defined as the contribution of product and process innovations to firm performance (Jiang and Li, 2009). While innovative performance is very important in numerous industries it is far more important in the pharmaceutical industry. Ingelgard (2002) argued that the competitive advantage in the pharmaceutical industry is entangled with the company's ability to generate new knowledge that can produce patents and new medicines that are turned into marketable products. Therefore, this study aims to explore the extent of adoption of KMPs in pharmaceutical companies in Jordan. Further, the study aims to examine the relationship between KMPs and OP. Using questionnaire survey data was gathered from 13 pharmaceutical companies in Jordan. The study found a positive and direct relationship between KMPs and OP. Specifically, the results showed that KMPs had the highest impact on new product success followed by financial performance.

Keywords: Knowledge management practices, organizational performance, communication, training, knowledge management strategies, pharmaceutical and medical industries firms

Knowledge Management Across the Globe – An International Survey of KM Awareness, Spending, Practices and Performance

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Abstract: Several decades since its uprising, knowledge management (KM) has now filtered companies all across the globe. Issues like knowledge economy, intellectual capital, social capital and renewal have become part of the standard language of strategy processes and business magazines. However, even though main ideas of KM have spread, there are surprisingly few studies exploring what actually really is done in firms related with KM outside few countries where KM originated. Therefore, we still lack a bigger picture that could reveal to which extent KM is actually applied in various companies, especially operating in various cultural and economic contexts. Also, as KM has spread around the world, it would be interesting to know what kind of national differences there are in KM practices between firms operating in different countries. This paper aims to address the aforementioned gaps. It examines and compares the current state of KM in 3 very different countries: Finland, Russia and China. The data collected with a web-based survey consists of 74 Chinese, 84 Finnish and 64 Russian companies. We analyze the data statistically to examine the state of KM and to explore country differences in KM practices and results. We start by examining general awareness about KM, the terminology used for it, as well as resources that companies spend on it. Next, we address a number of KM practices that include strategic management of knowledge, organizational culture, HRM practices, organizational structure and ICT tools that are aimed to support efficient usage of knowledge in organizations. Finally, we discuss perceptions of KM outcomes. This paper contributes to the deeper understanding of KM practice in real organizations functioning in different cultural, social and economic environments and thus is of interest for a wide audience of KM experts.

Keywords: knowledge management, survey, Finland, China, Russia

Facilitating Knowledge Sharing in Virtual Networks

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Abstract: The exploitation of knowledge networks' intellectual capital is one of the key factors of the competitiveness in SMEs, which is strongly connected to the application of ICT. Our team aimed to deal with the innovation activities of SMEs, through the analyses of their knowledge management related activities from ICT perspectives. We pay special attention to the ICT-based analyses of knowledge transfer, sharing and knowledge codification fields. The empirical evidence was collected from five EU countries (Italy, Spain, Greece, Hungary and Slovakia), that were analysed through an online questionnaire, and selected companies were explored through case study methodology.

Keywords: knowledge sharing, virtual networks, associations, e-business, collaboration

Practices to Promote Organizational Knowledge: a Case Study in a Mining Company

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Abstract: During the last two decades of the last century, new conceptual approaches in the field of Strategic Management have highlighted intangible assets, especially information and knowledge, as the basis for generating and sustaining competitive advantage. This paper aims to describe routines that foster organizational knowledge in a mining company located in Brazil. Nine managers from the following departments were interviewed: Technological Development, in charge of knowledge management in the organization; Human Resources, Communications and Marketing, directly related to employees and stakeholders' knowledge; Industrial Engineering and Industrial Automation for their relation to the innovation in the manufacturing process; and Mining and Processing departments, since they represent the core business of the company. A qualitative-descriptive approach was applied in the research. Semi-structured interviews were used in order to collect primary data. The company's managers were asked to identify routines that promote the creation, acquisition, codification, sharing, usage and protection of knowledge. Those interviews were recorded and transcribed. Internal documents were also used to describe the routines.

Routines that promote organizational knowledge in the researched company are strongly aligned to the strategic outcomes and to the consequent critical knowledge necessary to achieve them. Considerable efforts have been made by the company regarding technology, compensation and structure in order to support the routines. Those investments reveal the importance of a strong commitment of the top managers to the knowledge management. The company recognizes the competitive advantage it gains by utilizing its employees as a source of information and knowledge. Despite this awareness and all measures connected to effectively implement routines which maximize the creation of internal information, the information sharing process lacks efficiency. The resistance of employees in sharing information brings up the relationship between knowledge and power. Among the organizational aspects that permeate all routines it is possible to highlight interdisciplinary work, financial and material support and financial and symbolic rewards.

Keywords: information; organizational knowledge; routines; organizational learning

Knowledge Translation and Transfer Research Across Québec's Occupational Health and Safety Research Network

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Abstract. Knowledge transfer has been the object of abundant literature in recent decades. Various models and theoretical frameworks have been proposed, and numerous studies have been conducted on factors which facilitate or represent obstacles to knowledge transfer. In Québec, researchers in Occupational Health and Safety (OHS) are linked in a network which groups together some 150 researchers. In the past five years, the strategic knowledge transfer arm of this network has organized a number symposia and events on this topic. The last such event specifically targeted translation tools, namely guides and training programs, with a book to follow. One of the goals of the knowledge transfer community in organizing activities of the like is to better formalize the expertise developed by OHS researchers. The object is to map points of views and perspectives specific to the OHS field, in particular user status. Albeit OHS researchers usually write little on this topic, most have been involved in transfer activities at some point in their career. We firstly present the particularities of the network, the socio-cultural context in which OHS evolves: network highly transdisciplinary, powerful field research thrust, multi-level partnerships—between users and organizations—

background, importance of unionization, framework of paritarism underpinning OHS institutions and organizations. The subsequent sections provide an overview of the outlook respecting knowledge transfer and the concept of knowledge developed by the various component disciplines: health sciences, natural and engineering sciences, human sciences, management sciences, education sciences. This paper exposes the community point of view on three issues, namely: users as knowledge end-users, as knowledge co-generators, and as brokers or transfer agents. Each theme is substantiated with three examples of network-based research designed to illustrate the manner in which user themes were explored or integrated into the different projects.

Keywords: Occupational health and safety, knowledge end-user, knowledge generator, transfer agent, guides and training

Knowledge Sharing Practices, Managerial Tacit Knowledge, and Individual Performance: Their Interrelationships and the Moderating Role of Employee Personality

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Abstract: Tacit knowledge is believed to be a significant factor distinguishing successful managers from others. The ability of an organisation to effectively share managerial tacit knowledge is one of the key sources of competitive advantage for many of today's organisations. Effective knowledge transfer not only provides access to rich and timely information but can also lead to the development of knowledge-sharing routines that result in new knowledge and improved organisational learning – a pre-requisite for survival in today's complex and turbulent environment. This study investigates the relationship between knowledge sharing practices, managerial tacit knowledge, and individual performance in the Malaysian public sector. Moderation effects of employee personality on these variables were also examined. Instruments used in the study, involving 310 Malaysian public sector employees, included Sternberg et al.'s (2000) Tacit Knowledge Inventory for Managers (TKIM), John et al.'s (2008) Big Five Inventory (BFI) of personality, Bryant's (2005) peer mentoring instrument, and Boh's (2007) instrument for measuring the effectiveness of knowledge sharing mechanisms. Findings suggest that individual performance is influenced by both the effectiveness of knowledge sharing practices, and levels of accumulated managerial tacit knowledge. Both of these relationships were moderated to some degree by employee personality traits.

Keywords: Knowledge sharing practices, tacit knowledge, personality traits, individual performance

Knowledge sharing in Romanian companies

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Abstract: The cultural differences influence the activities, the processes, the relationships and the culture within an organization. Embodied knowledge is not easy to be seen and it is even more difficult to formalize and to share it. Research have shown that Western firms often set out to exchange explicit knowledge, whereas Eastern firms are often more interested in tacit knowledge. The more embodied the knowledge, the more difficult is to acquire them, but at the same time, the greater the extent that the knowledge is valuable. This paper analyses the perception of some Romanian managers over the knowledge sharing in the companies they run. Most of the Romanian companies are already involved in knowledge management, but often this is done informally or unconsciously. The goal of a formal knowledge management programme is to make knowledge marketplace operate more efficiently. In this way, organizations recognize that ownership of knowledge can bring competitive advantage and the lack of knowledge management means that they are losing money or opportunities either because they are unable to find the knowledge that they need by reinventing the wheel or because they are making decisions based on inadequate information. Quantifying these losses is difficult and this makes it hard to design and justify knowledge projects. Knowledge can be contextual, the person who holds the knowledge also knows what it means, what its limits are and how it can be used. The surrounding context of tacit knowledge is sometimes lost when information is saved somewhere else. Even transmitting the information to someone else is not the same as knowledge transfer, because the receiver must understand the information and learn how to use it in appropriate ways. Knowledge is most effectively transferred through interaction, especially face-to-face interaction. This is one of the main reasons for which the management' perception and vision regarding the knowledge transfer is very important. A manger and the organizational culture of the run company can essentially influence the process of sharing knowledge, by encouraging or discouraging the interactions and the teamwork within the company. The vision and the attitude of the management with regard to this issue differ from one country to another, taking into account the cultural differences. This paper presents some research about the Romanian managerial perception concerning the knowledge transfer within Romanian companies.

Keywords: cultural differences, management perception, knowledge sharing

The Relational Capital as a key Factor for a Company's Success: General Insights

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Abstract: Business system, particularly its basic components, has been widely reconsidered. It used to be a whole of material elements, it is now a system of visible and invisible elements. Thanks to the rise of knowledge economy, competitive modern businesses create value by stressing specific strategic invisible assets. More specifically, among all the business immaterial components, the one that has gained more popularity is the intellectual capital. It is based on three extremely important concepts: human capital, structural capital and relational capital. The importance of each and every of these concepts multiplies when you consider them all together. This essay, though, aims to analyze one of these three components as the success component of a business: the relational capital. It represents the interaction and the integration between businesses and their referential environment when specific exchanges – even financial ones - take place. These exchanges help keep businesses alive. The relational capital originates from the value of the relationships that exist between companies and their stakeholders. This essay specifically analyses the relational capital by identifying three different areas: the kind of contractual relationship between companies and their stakeholders; the synergies, which derive from collaborations between companies; the sharing of company values, such as reputation, image, satisfaction, trust and loyalty marketing. Relational capital is examined through the analyses of:

- relationships settled in time with defined roles, such as the relationships between companies and their clients, providers, stakeholders and referents;
- collaborations with other companies, which often become participation relations or proper contracts;
- the companies themselves, which share specific value with the external environment, thus help create a connection between personal values and company values. For instance, reputation, image, trust, satisfaction and loyalty marketing.

Therefore, it is necessary to highlight that rich and qualified relational resources not only help businesses gain a strong competitive differential on the market, but also generate wealth in the long term. As a result, research is as follows: what is the relational capital? What elements are necessary in order to consider the relational capital a strategic business factor?

Keywords: intellectual capital, relational capital, stakeholders, values, trust, success factor

Modelling Knowledge Sharing Into a Medical Facility Using Human and Virtual Agents (Knowbots)

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Abstract: Knowledge-oriented organizations are bricks for the knowledge-based society construction. Building knowledge-based society and economy suppose challenging transition processes from the classical structure of an organization to new organizational forms that help to fill the gap between actual society and the future knowledge-based society and economy. This transition generates new issues in knowledge creation and sharing processes, related to the particularities of the new organizational forms. Therefore, in the last few years, our researches are oriented to developing and testing a number of forms of organization designed to facilitate an efficient and effective transition toward the knowledge-based society, like *communities of practice*, *(virtual) networks of professionals* or *knowledge ecosystems (KE)*. Under this general frame, this paper presents the results of our research aiming to capture the necessary changes that a medical organization specialized in rehabilitation (the National Institute of Rehabilitation and Physical Medicine from Bucharest, Romania - INRMFB) has to undertake for converting its classical structure into a new knowledge-oriented one, possible and easily to being integrated into a Virtual Network for Home Health Rehabilitation of the impaired people – the meta goal of our research in recent years.

Specifically, within its five sections, the paper outlines:

1. An introduction in the macro and micro-level empirical setting in which the study is carried out;
2. The methodological approach based on Social Network Analysis (SNA). Although quit often used in the medical field, as we will see in the second section of the paper, the SNA methods and models aren't used yet in the particular area of health rehabilitation;
3. The objectives of the empirical study that can be summarized as follows:
 - *Mapping of the knowledge flows & needs in the target community of practice.* The aim of this step is to produce an accurate picture of the knowledge flows that the target community identified at the INRMFB actually enacts in the accomplishment of its organizational objectives.

- *Analysis & Diagnosis*: Identification of critical aspects and areas of improvements (e.g. knowledge needs, knowledge bottlenecks, structural determinants of inefficiency or of poor performance).
 - *Design*: definition of the functional specifications for redesigning the agents, network and of the functionalities of Knowbots.
4. The survey we have designed for data collection. According with the particularities of the macro and micro-level in which our study is carried out, we have designed a survey that will help us both for diagnosing the knowledge-sharing-structure of INRMFB, and for finding adequate solutions for potential critical aspects identified in this medical facility.;
 5. A set of conclusions and recommendations for the new knowledge-oriented organizational structure to be created within the INRMFB.

Alongside with performing SNA in the health rehabilitation field, an important output of our study is to find answer to the following questions:

- *Cans the classical organizational structure of the INRMFB be transformed into a knowledge-based one, by reengineering the knowledge flows and agent's roles?*
- *If and where within the actual structure a virtual knowledge agent (knowbot) can and should be integrated?*

Our paper is a consequent continuation of our work in the KE area, contributing to the completion of an integrate vision over the role of the KM techniques, human and virtual agents in the emerging of knowledge-based society.

Keywords: Community of practice, healthcare knowledge ecosystems, social network analysis, knowledge agent (knowbot), collective learning, knowledge-based organization

From Knowledge Acquisition to Knowledge Elicitation - A Roadmap

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Abstract: One of the fundamental challenges identified in Knowledge Management is the process of capturing knowledge. To successfully capture knowledge, it must first be acquired. Knowledge Acquisition is concerned with the acquisition of knowledge from knowledge sources. This can occur in one of two ways, by using non-human sources (e.g. electronic documents, organisational databases, etc.) or human sources. Knowledge Elicitation is the field concerned with the acquisition of knowledge from human sources. In the literature, the terms Knowledge Acquisition and Knowledge Elicitation are often used interchangeably; however there is a clear distinction between the two. In a new and emerging field such as Knowledge Management, it is

important that this delineation is made. This paper explores the relationship between the two concepts and provides a roadmap from Knowledge Acquisition to Knowledge Elicitation. The research begins with an overview of the field of Knowledge Acquisition, focusing on three different approaches, Automated, Semi-automated and Manual Knowledge Acquisition techniques. The issues that impact the selection of each are discussed (known as the Knowledge Acquisition Bottleneck). From this, the paper proceeds with an overview of the Knowledge Elicitation, looking at the various influences that have directed research as well as the issues and requirements for successful elicitation. The paper concludes with an examination of the various classifications of techniques that exists with the field.

Keywords: Knowledge acquisition, knowledge elicitation, knowledge acquisition bottleneck

The Influence of the Organizational Learning Phases in the Total Process: A Special Analysis of Organizational Structure

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Abstract: Organizational learning (OL) is a process that transforms information into knowledge within an organization, by a set of sequential phases (information acquisition, information distribution, shared interpretation, and organizational memory). The previous OL phases are considered as precursors of the next OL activity. The organizational structure also plays a crucial role in determining learning processes. This study aims to analyze the importance of prior OL phases on OL, and examine empirically whether the organizational structure (job specialization –vertical and horizontal-, formalization, centralization and indoctrination) affects directly to the OL process. Carrying out regression analysis, this study has two different implications. First, all OL phases have a positive and significant effect on OL activity. And second, organizational structure directly affects the OL, where high vertical job specialization and low centralization are significantly associated with greater capacity for information distribution, low horizontal job specialization and formalization with shared interpretation, and low formalization with organizational memory.

Keywords: Organizational learning, organizational learning phases, organizational structure, organizational design parameters

Buzz Network Strategies and Their Impact on Knowledge Management Process

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Abstract: The evolution in technology and social behavior, which is happening nowadays, is changing traditional ways of managing knowledge. An example of this evolution is represented by buzz network strategies (BNS). Originally developed in the field of marketing, these strategies refer to the interaction of consumers and users of a product or service in order to amplify the marketing message and create a word-of-mouth effect. Nowadays the original marketing usage is changing and companies are creating new solutions for managing the knowledge that this word-of-mouth is generating with a substantial impact on traditional knowledge management (KM) practice. We have conducted an empirical analysis in the field of BNS using a case-study, the "kids' space". This project consists of an alliance of several Italian companies with the aim of creating a web 2.0 solution where consumers, architects, designers, inventors and other experts can talk about products and services for children. A qualitative approach was used throughout several semi-structured interviews with 10 managers involved in the project. Focusing on these lines of research, the aim of this exploratory paper is to:

- (i) identify a theoretical framework of knowledge management process that could be used in empirical analysis;
- (ii) recognize how buzz strategies are affecting the traditional knowledge management process in participating companies.

The theoretical implications of this paper are to create better assimilation of network buzz strategies and to recognize how these strategies could affect traditional Knowledge Management Process.

The managerial implications of this paper are to assist managers in developing BNS.

Keywords: Knowledge management process, buzz network strategy, web 2.0, knowledge management, change

Enabling Knowledge Workers to Collaboratively Add Structure to Enterprise Wikis

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Abstract: Varied fields of application, fast access to often needed information, easy collaboration capabilities and low maintenance costs make wikis very attractive for enterprises. For these reasons in many companies wikis have already been firmly established as tools for collaboration and knowledge exchange. Since most of the content in wikis is completely unstructured (plain hypertext, links, etc.) it is difficult for programs to process the information on the particular wiki pages. Therefore individual pages can only be found by means of a full-text search engine, but searching for particular pages with specific attributes and attribute values is not possible. In this paper we present Hybrid Wikis, a lightweight approach for structuring content and management of information structures in enterprise wikis. Hybrid Wikis are realized based on the commercial Enterprise 2.0 software Tricia and supported by our experiences made with classical wikis, semantic wikis and integrated Enterprise 2.0 platforms used for knowledge and information management in enterprises. Inspired by these web technologies Hybrid Wikis extend the wiki provided by Tricia with a few mechanisms for classification, linking, consistency checking, and visualization of wiki pages, which can be combined flexibly. We explain how these mechanisms facilitate the structuring of content in enterprise wikis and how both can benefit from it, knowledge workers and enterprises. Hybrid Wikis create incentives for users to apply structure by giving suggestions of frequently used structured elements, provide lightweight web-interfaces which enable users to manage the structured elements directly as part of the page content, and help to avoid information redundancies by offering structured searches as well as autocompletion mechanisms for structured elements. Furthermore we show how Hybrid Wikis enable knowledge workers to manage and integrate structured and unstructured information uniform across the enterprise, which is one of the key challenges knowledge management systems are faced with.

Keywords: Enterprise 2.0, social software, semantic web, wikis, structuring of content, knowledge management systems

Germany – Towards a Knowledge-Based Economy

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Abstract: Due to changes in the value creation processes the management of Intellectual Capital (IC) is of increasing importance for the industrialised nations. Previous research has indicated that material resources are less important than intangible assets. We confirm that this is true and that it applies in particular to small and medium-sized enterprises (SME). SMEs are the backbone of the German economy and therefore the target group for IC management. Unlike large scale enterprises, SMEs are incapable of facing the increasing cost pressure by volume growth or relocation due to their specific characteristics. Against this background, the purpose of this paper is to assess and describe Germany as a knowledge site. The paper shows the stage of development of German enterprises on the way to a knowledge-based economy from a practitioner's perspective. The results of the analysis are used to derive recommendations for the management of Intellectual Capital. For this purpose, the research group "Arbeitskreis Wissensbilanz" has undertaken an empirical study. The data for the survey was collected in the time period of July 2009 and August 2010 under the supervision of the Fraunhofer Institute for Production Systems and Design Technology (IPK) within the initiative "Wissensbilanz-Made in Germany". The initiative is funded by The Federal Ministry of Economics and Technology of Germany (BMWi). In the course of the empirical study more than 2300 managers and decision makers of German enterprises of various sizes in various branches were questioned. They were asked to which degree different factors of the Intellectual Capital influence their business success and how well these different factors are developed in their enterprise from their point of view. The most important factors of the IC of German enterprises were identified for different sub-groups of the sample, e.g. enterprises of different size, from different sectors etc. The sub-groups were compared and significant differences were analysed.

Keywords: Intellectual capital, intellectual capital statement, ic management, intangible assets, knowledge society, sme

Knowledge Management Implementation in the UK - Does Size Matter?

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Abstract: Knowledge Management (KM) continues to develop as an emerging discourse within business management. The area is eclectic in nature and covers systematic management of knowledge, of all kinds, within all levels and types of organisations. However, the majority of studies, in common with other emergent business philosophies, are focused on larger organisations where, for example, readily available, somewhat unlimited resources is an underlying assumption. In contrast KM investigation within Small Medium Size Enterprises (SMEs) tends to focus on specific cases with no key trends identified for KM adoption across the sector. Considering the downturn in the current economic climate empirical research to identify key factors common to all organisations, irrelevant of size is necessary, supported by both empirical findings and case experiences. This paper presents the findings from a large-scale empirical investigation conducted in 2009 with a number of UK companies. The purpose of the research was to investigate how KM implementation can influence organisational sustainability, development and maturity in both small and large companies. This research builds on a ten-year project investigating KM implementation within UK companies employing both quantitative and qualitative approaches. The research considers how KM affects internal organisational processes, to strengthen the link between operations and strategy, resulting in better decision maker, faster products to market, better service quality and enhanced customer loyalty. Core aspects of technological application, information management, employee emancipation and process improvement are considered providing a framework for KM adoption and uptake. This paper compares KM implementation and development between large corporations and SMEs to ascertain if organisation size matters. The paper commences with a brief literature review outlining key elements which effect KM implementation. Based on the MeCTIP model and utilising the 'Benchmarking KM' online survey tool, empirical analysis of KM implementation and development with a large sample of UK companies is undertaken. Initial statistical analysis finds that KM can contribute to organisational sustainability, development and maturity by a number of internal organisational factors, such as technology, information and people.

As organisations are receptive to influences beyond their boundaries, changes in the macro-environment tend to affect both organisational climate and internal technical climate, which has a knock-on effect for KM adoption and implementation. This paper compares results for SMEs and larger firms.

Keywords: Knowledge Management, empirical investigation, organisational size

An IT-based KMS for Large-scale Sense-Making: An Application of a KMSD Methodology

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Abstract: Understanding the behaviour of stakeholders for better decision-making and for gaining competitive advantage is of interest to large organisations, especially as the stakeholders have a tendency to behave differently in the same or different situations. This creates complexity and unpredictability, making individual and collective behaviour difficult to understand and inhibiting management's ability to discover and exploit organisational knowledge. Hence, practices such as sense-making and narrative-based investigations can be utilised for insights into complex situations. Key to all such approaches is some kind of capture of anecdotes or narrative fragments from individual stakeholders, with the intention that these allow patterns of behaviour to be uncovered. A Cynefin-based sense-making project for a large university was initiated to explore behaviours. However, problems emerged with the volume of narrative data collection from the main stakeholder group – students. This paper is concerned with a second knowledge management project to investigate the first's problems and to propose a solution to them. We focus on the emergent requirements for an IT-based knowledge management system and the application of a proven methodology for developing knowledge management system. That used frame analysis for its sense-making of the first project's problems. This is described and samples of the frame analysis data are provided. It was found that students are disinclined to engage in the capture of their experiences for no perceived net benefit. Accordingly, a knowledge sharing system was envisioned and designed to facilitate better data collection for the original large-scale sense-making. Hence the paper reports the use of the knowledge management system development methodology and the design and implementation of the knowledge management system. That implementation is based on current 'Web 2.0' technologies; the architecture for these is described and compared with the original project's approach to collecting data for large-scale sense-making.

Keywords: knowledge management, knowledge management systems, development methodology, Web 2.0, XML

Using a FuzzyQFD Approach for Successful Implementation of Knowledge Management

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Abstract: There are a lot of differences between Knowledge Management Strategies regarding their infrastructures, tools and methods. The cost and time, dedicated to the implementation of these strategies make the evaluation and selection of a single Knowledge Management strategy a critical affair for all those organizations that hope to administer them successfully. The number of studies which, in the literature of Knowledge Management, have tried to apply an applied approach to the process of choosing a knowledge management strangement strategy c approach to the process of choosing , organizations tha,a knowledge management strategy nagement is limited. Therefore, the present paper seeks to propose an applicable solution, based on the Fuzzy Set Theory and the concept of the House of Quality, to make the selection and evaluation of a suitable strategy possible and also localized for each organization's needs. The suitable strategy, in the proposed approach, is chosen via a multi-level process and based on the relationship between Knowledge Management performance criteria, Knowledge Creation Processes and Knowledge Management Strategies. In addition, the knowledge management strategies are ranked based on the organization's needs and expectations out of the implementation of knowledge management. For this purpose, the Houses of Quality which have been successfully adopted in the new product development processes are used. Also, Fuzzy Set Theory has been used to eliminate the ambiguities of linguistic variables which are used in the judgments and their conversion to fuzzy numbers. Finally, a case study is conducted to show and prove the applicability of the proposed approach.

Keywords: KM strategies, knowledge creation processes, KM performance, QFD, fuzzy logic

Knowledge Mapping Based on EFQM Excellence Model: A Practical Tool to Make Visible Organizational Knowledge

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Abstract: As organizations strive to improve their business performance and capacity for innovation, their attention is increasingly focused on how they manage knowledge. This is a reason why Utilizing organizational knowledge is a strategic weapon to acquire a competitive advantage. In knowledge management (KM) processes, Representing and capturing Knowledge is an important constituent. One tool to represent and make knowledge visible throughout the organizations is knowledge mapping. Knowledge mapping plays an important role in the construction, learning, and dissemination of knowledge. KM is most effective when it is approached holistically. This is achieved through a series of integrated initiatives aligning human resource issues, ICT infrastructures and informal learning interventions that enable the organization to improve the quality of the knowledge it holds, enhance access to and the retrieval of the knowledge. European Foundation for Quality Management excellence (EFQM) model could be considered as an interface to integrate KM. EFQM excellence model is an appropriate assessment tool for organization to identify which sectors have strengths and which has weaknesses. To do so, model provides some criteria and sub criteria in two main sections: enablers and results. In order to achieve bullet points in EFQM model, organization require a set of skills and knowledge in the organization. Exploitation of proper knowledge maps supports the organization to classify these knowledge and skills. This paper proposes a practical framework to capture and represent organizational knowledge in a holistic approach based on EFQM enablers. In order to achieve this aim, paper focus on enablers components. Subsequently by exploring these enablers in a systematic view, knowledge maps were developed for enablers. Proposed framework is subject to implement in a real case in shipyard industries to provide practical evidences. Following the illustration of knowledge maps role in KM process, paper proceeds by analyzing different knowledge maps. After a brief review of EFQM model and the role on knowledge maps in this model, the appropriate map will be selected to map organizational knowledge based on bullet points in EFQM model. Finally lessons learned from industrial case study will discuss.

Keywords: knowledge representation, knowledge mapping, knowledge about knowledge, EFQM Excellence Model, knowledge capturing, shipyard industry

The University Institution's Improvement of Quality from a Knowledge Management's Point of View

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Abstract: Four years ago, the Faculty of Materials Science and Technology of the Slovak University of Technology in Bratislava started the journey of applying up-to-date tools and control processes within its own management in order to rank amongst excellent university institutions. In the decision-making process of how to proceed and primarily how to bring the institution inline with the excellent faculties of this type, not only in Slovakia but also within the European Union which Slovakia was associated with in 2004, the following themes have been implemented and are being considered, e.g. dynamic development of an institution in the category of the universities optimal adaptation of the faculty's structure relating to the system of the university's social financing, diversity (Stefankova, Caganova, Moravcik, 2010), multiculturalism (Caganova, Sujanova, Lenhardtova, 2010), up-to-date management models of public institutions (Cambal, Caganova, 2010) and quality control models, etc. The paper does not only deal with evaluating the tools used for the general improvement of the institution from a managerial perspective of the faculty but also from that of employees and governing bodies (university, ministry, rating and ranking agencies) with respect to the results of the last four years, especially in the area of grant fruitfulness, overall development and also the construction of the faculty by the deployment of the Common Assessment Framework (CAF) model. By the faculty's preference of the CAF model and its experience from two successful competitions in the framework of the Slovak university institutions is highlighted. Another significant part of the paper includes the analysis of customer satisfaction and the institution's quality research from a viewpoint of employees and students that have carried out several years of research on document development trends on the demarcated way to the institution's excellence. The statistics, analyses, and final comments for decisive quality and economic indices are included. To summarize it, the authors' intention is to share the knowledge and experience of the best practice in how to improve the institutional processes with a focus on the institutional results.

Keywords: knowledge management, process management, quality, questionnaire survey, trend

Facilitating Trust Among Entrepreneurs' To Access Tacit Knowledge: The SLNIW Story

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Abstract: The Sustainable Learning Networks in Ireland and Wales (SLNIW) project aims to increase the competitiveness, creativity and innovative capacities and capabilities of micro-enterprises and SMEs in South East Ireland and West Wales by increasing accessibility to local entrepreneurial knowledge via the establishment of self-learning networks. To achieve this end the project created six networks, three in Ireland and three in Wales where explicit and tacit knowledge flows between the participants. The networks consisted of two all male groups, two all female groups and two mixed gender groups. The SLNIW project is part funded by the European Regional Development Fund (ERDF) through the INTERREG 4A Ireland Wales Programme 2007-2013 and is being undertaken by the Centre for Enterprise Development and Regional Economy (CEDRE) at the School of Business, Waterford Institute of Technology, in partnership with the School of Management and Business, Aberystwyth University in Wales. SLNIW is a longitudinal study spanning two years of engagement with the network participants. The data gathering methods used include observations and questionnaires. This paper outlines the role of SLNIW in facilitating trust among entrepreneurs and the monitoring of initial trustful communication in the learning networks in supporting the development of tacit knowledge flows. The findings of this study suggest that when establishing learning networks trust is a key factor in increasing accessibility to tacit knowledge. Therefore, reinforcing the importance of establishing trust, the consequences of breaking trust and the necessity of trust is very important to increasing accessibility to entrepreneurial tacit knowledge. This paper contributes to the existing body of research on tacit knowledge and highlights the importance of trust in the knowledge transfer process and how a self-learning network can enable greater accessibility to tacit knowledge. This research has implications for academics, practitioners, entrepreneurs and policy makers who are concerned with the establishment of networks to propagate knowledge and technology transfer.

Keywords: Tacit knowledge, entrepreneurs, trust, self-learning networks, business networks and longitudinal study

A Structural Model for Organizational Learning in Universities Based on Managers' Emotional Intelligence

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Abstract: The purpose of the present study was to provide a structural model of organizational learning in universities based on managers' emotional intelligence. The population of the research included all employees of Islamic Azad University (IAU). 554 managers and three employees under their supervision (totally 1662 employees) were selected using stratified and cluster random sampling method. The research instruments were two questionnaires which were administered in 96 IAU branches and education centers: Watkins and Marsick's (1997) organizational learning Questionnaire ($\alpha = 0.90$) and the Cyberia - Shrink's Questionnaire of emotional intelligence ($\alpha = 0.77$). The results of path analysis using LISREL software indicated that dimensions of managers' emotional intelligence had a direct effect on organizational learning with the indices of 0.17 for the variable. The model also showed that the factor of self-awareness in managers' emotional intelligence had the highest direct effect on the organizational learning (in organizational level). It was also concluded that the proposed model showed full fit.

Keywords: structural model, organizational learning, emotional intelligence, universities

Validation a Scale for Measuring the Intellectual Capital in Universities

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Abstract: The purpose of the present study is to validate a scale for measuring the intellectual capital (IC) of universities. The population of the study included all the staffs who were employed in all branches of Islamic Azad University in Iran (i.e., 420 branches and educational centers). The research sample consisted of 996 staffs randomly selected from 86 branches and educational centers using stratified and cluster random sampling methods. The research instrument was the Bontis's (1997) intellectual capital questionnaire which consisted of 52 items with three underlying constructs of human capital, customer capital, and structural capital and Cronbach Alpha of 0.95; The results of factor analysis and principal components analysis, using a varimax rotation, showed that building blocks of intellectual capital includes

customer capital (Items 2, 4, 6, 7, 9, 14, 17, 18, 22, 25, 26, 27, 32, 34, 40, 42, 44, 46, 50, 51, and 52), structural capital (Items 1, 15, 16, 17, 19, 20, 21, 29, 30, 31, 33, 43, 47, and 48), and human capital (Items 5, 12, 28, 35, 37, 38, 39, 41, 45 and 49). The three underlying factors in intellectual capital show that the scale almost generally covers these factors and the results of its administration, its validity, and the level of IC in universities determined by the scale are generally acceptable. Structural capital showed the highest contribution to the construction of the intellectual capital.

Keywords: measuring, intellectual capital, factor analysis, universities

The Knowledge Clinic: Concepts, Methods and tools to Support Productive Knowledge Management in Companies

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Abstract: In order to better manage knowledge for making it become productive and unlocking its developmental potential a comprehensive set of concepts, methods and tools is required that helps companies in purposefully intervening in their core processes. Challenges mainly consist in the wide and ever growing variety of those supportive means, missing guidance in selecting appropriate methods and tools, the need for adapting theoretical concepts to a certain company environment while implementation, requirements for predicting efforts and impact from knowledge-related interventions. Therefore, the paper introduces and elaborates the concept of a “knowledge clinic” that is meant to support companies in their knowledge investments in the same way as any process of medical treatment with the human body is organized: diagnosis, healing, cross-checking. In particular the paper motivates the approach, discusses its theoretical background, explains its structure and way of working, and derives conclusions on implications on change processes at company and economy levels. With this the paper wants to contribute to step forward on the road to support organizations in dealing with and profiting from knowledge.

Keywords: knowledge-based development, knowledge clinic, knowledge management maturity diagnosis, change processes

A Tenth Anniversary Assessment of Davenport and Prusak (2000) *Working Knowledge: Practitioner Approaches to Knowledge in Organisations*

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Abstract: Davenport and Prusak's "*Working Knowledge*" is aimed at practitioners. The tenth anniversary of the paperback edition of Davenport and Prusak's "*Working Knowledge*" (first published in 1998 and then issued in paperback with a new preface in 2000) is evaluated using two approaches. First, a practitioner view of Knowledge Management (KM) is examined by considering their definition of knowledge and their heuristics on knowledge processes. Their advice is drawn from the thirty-one businesses in which they conducted research as well as some other companies which are used for illustration. These are listed in a table which identifies the KM lessons which Davenport and Prusak suggest should influence other organisations seeking to improve their use of knowledge (presumably the readers of *Working Knowledge*). Their advice is to understand the rationale for knowledge sharing. Discussion focuses on the value of the heuristics and the definition of knowledge and its status in organisations from a practitioner point of view. At a time when the cost pressures facing contemporary businesses reduce funds available for technological codification of knowledge and knowledge supporting activities *Working Knowledge* reminds us that knowledge involves individuals making judgements and providing insights. However, the continuing lack of a clear definition of knowledge makes for difficulties in gaining acceptance for knowledge and knowledge practices.

Keywords: Davenport and Prusak; knowledge; knowledge hoarding; knowledge management; knowledge sharing; practitioner; working knowledge

A Different View to Knowledge and Personal Knowledge Management System

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Abstract: Many times it is stated that nowadays we live in the information age. Knowledge has been recognized as the most important asset both for organizations and for individual knowledge workers. Thus knowledge and knowledge management is an actively researched area. So far a lot of attention has been geared towards knowledge, which we know and which we

know that we do not know. However there still remains such unknown knowledge about which we do not know that we know, and such knowledge about which we do not know that we do not know. This paper proposes a new notion of knowledge substance, which encompasses the whole expanse of knowledge around people and around the whole environment they live in. Also it introduces a knowledge utility quotient, which in particular cases displays the ratio of available knowledge and all the required knowledge to perform a particular task. Knowledge workers represent increasingly high number of different professions. Along with that individual knowledge and personal knowledge management receive more attention among professionals and among researchers as well. This paper proposes a personal trinity model approach for developing a personal knowledge management system. It is proposed that such system includes both social and partially technological aspects of personal knowledge management. In addition also a psychological aspect of personal knowledge management is partially encompassed in this approach. Several knowledge acquisition principles are suggested by taking into account a knowledge substance notion and personal trinity model approach. Paper views personal trinity model approach from individual's necessities aspect and gives a set of characteristics a knowledge worker should strive for. The next step of this research is seen to combine personal trinity model approach with personal knowledge management system strictly technical approach. Possible future opportunities for personal knowledge management are explored and potential benefiting parties are identified.

Keywords: knowledge, knowledge substance, personal trinity model, personal knowledge management, personal knowledge management system

Research Notes on the Practical Deployment of Semantic Knowledge Bases

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Abstract: Utilising semantic web technologies in knowledge management systems provides an opportunity for news/media providers to enrich their content with information from public datasets such as Linked Data Cloud and develop intelligent retrieval engines to search/browse the content. The semantic web technologies provide applications with machine-understandable metadata representing relevant knowledge domains, which can be reasoned by autonomous software agents to align the discrepancies

in knowledge presentation by various contributing information sources and deliver intelligent query methods against the information and the underlying metadata. However, delivering a semantic-based knowledge management system requires the development and integration of processes that utilise a number of constantly evolving technologies ranging from using natural language processing for information extraction to ontology management and intelligent inferencing. The expertise required to develop such complex workflow cannot be provided off-the-shelf and is beyond the reach of most commercial organisations. The proposed paper reflects on the experience of developing an intelligent browsing engine for a commercial media application to propose a methodology for deploying semantic technologies in the construction of knowledge management systems. The developed semantic knowledge management system bootstraps the applications' knowledgebase by leveraging the rich amount of structured knowledge that is publicly available in the Linked Data Cloud using ontology mapping techniques. The knowledge management system also incorporates an information extraction system that aids the labour-intensive semantic tagging process by text-mining the manually annotated free-text image captions. The paper reports on an interesting and novel mutual-benefit workflow between the information extraction system and the knowledgebase. While the knowledgebase plays a crucial role in resolving disambiguation in the extracted information, the information extraction system, in addition to known entity recognition, was developed with the capacity of learning new facts with a confidence rating mechanism that either recommends the direct injection of new knowledge back into the knowledgebase, or its logging for manual verification.

Keywords: Knowledge management, semantic web, information retrieval, text mining

Getting Ready for Knowledge Management: A UK Local Government Case Study

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Abstract: Knowledge management in local government organisations presents two challenges not found in for-profit organisations: a focus on efficiency savings and a wide ranging service provision, unlike anything found in the private sector. For instance, a pharmaceutical organisation might be focused purely on drug development, whereas a local government organisation has services ranging from the provision of leisure facilities, to social care responsibilities and education requirements. Coupled with the fact

that local government tend to be less agile than other organisations this presents a substantial challenge to knowledge management initiatives. This paper presents an initial scoping of a case study of a local government organisation in the UK and their efforts to prepare to become a *knowing* council. From the initial assessment of the council, this paper presents an initial assessment of the current culture, the current information management strategies and makes recommendations for conducting a full case study analysis, necessary before a wide scale adoption of KM. Using observation and document analysis, this research has found that the council has a clear role based culture with evidence of 'empire building'. This is reinforced by the current technology architecture, although projects are underway to share information more consistently across the whole council. The current information management strategies are clearly based on an extended records management philosophy, a fact reflected by the heavy use of the electronic records and document management system. The recommendations proposed by this research is a novel approach to bring the council into the knowledge era and focuses on the creation of a knowledge sharing culture, enabled by the employees. The end goal of this research, whilst outside the scope of this research is the creation of a *knowing* council that effectively shares knowledge to support innovation and efficiency savings.

Keywords: case study, knowing council, information management, local government, knowledge management

Knowledge Transfer, Knowledge Sharing and Knowledge Barriers – Three Blurry Terms in KM

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Abstract: In the knowledge management world there are many different terms flying around. Some are more important and frequently used than others. In this paper, we present and discuss the development and views of three terms: knowledge transfer, knowledge sharing and knowledge barriers. Knowledge transfer and knowledge sharing are sometimes used synonymously or have overlapping content. Several authors have pointed out this confusion while other authors have attempted to clarify the differences and define the terms. Knowledge barriers in themselves seem to have a more obvious content although the borders between knowledge barriers and connecting terms, such as 'barriers to knowledge sharing', seem to blur discussions and views. Our aim is to make a contribution to finding appropriate demarcations between these concepts. After reviewing Knowledge Management literature, we can state that the three terms, knowledge transfer, knowledge sharing and knowledge barriers, are

somewhat blurred. For knowledge transfer and knowledge sharing, the blurriness is linked mainly to the fact that the analytical level each term is related to has come and gone and come back again. For knowledge barriers, the blurriness comes from the development of the term. The mere existence of the many different categorizations of knowledge barriers implies that the concept itself is blurry. The concept seems clear cut and focuses on knowledge although it is also broad and later sources have included much more than knowledge. This paper concludes by highlighting the effects on the terms when two different knowledge perspectives, knowledge as an object (or the K-O view) and knowledge as a subjective contextual construction (or the K-SCC view) are applied. The clarifications are supported by examples from companies in different industries (such as Cargotec and IKEA) and the public sector (police, fire brigade, ambulance and other emergency services).

Keywords: Knowledge barriers, knowledge management, knowledge sharing, knowledge transfer

The Global Knowledge Management Framework: Understanding Knowledge Management in Globally Distributed Settings

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Abstract: Our paper introduces the Global Knowledge Management Framework which describes components and influence factors of knowledge management in globally distributed settings. The framework identifies the key aspects when designing knowledge management processes and systems and can be used for two main purposes. On the one hand, it guides development processes by providing a solution space and success factors for decision makers as well as implementers. On the other hand, it is a reference for researchers to compare research in the field by providing a common set of aspects influencing the success of knowledge management solutions. We illustrate and validate the model in a case of global knowledge management, in particular for knowledge management in educational organizations.

Keywords: global knowledge management, knowledge management framework, knowledge management processes, culture

Understanding inter-firm networks and types of innovation in SMEs: A social network perspective

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Abstract: Innovation is one of the key drivers for gaining competitive advantages in any firms. Understanding knowledge transfer through inter-firm networks and its effects on types of innovation in SMEs is very important in improving SMEs innovation. This study examines relationships between characteristics of inter-firm knowledge transfer networks and types of innovation in SMEs. To achieve this, social network perspective is adopted to understand inter-firm knowledge transfer networks and its impact on innovation by investigating how and to what extent ego network characteristics are affecting types of innovation. Therefore, managers can develop the firms' network according to their strategies and requirements. First, a conceptual model and research hypotheses are proposed to establish the possible relationship between network properties and types of innovation. Three aspects of ego network are identified and adopted for hypotheses development: 1) structural properties which address the potential for resources and the context for the flow of resources, 2) relational properties which reflect the quality of resource flows, and 3) nodal properties which are about quality and variety of resources and capabilities of the ego partners. A questionnaire has been designed based on the hypotheses. Second, semi-structured interviews with managers of five SMEs have been carried out, and a thematic qualitative analysis of these interviews has been performed. The interviews helped to revise the questionnaire and provided preliminary evidence to support the hypotheses. Insights from the preliminary investigation also helped to develop research plan for the next stage of this research.

Keywords: inter-firm knowledge transfer, inter-firm networks, social networks, radical innovation, incremental innovation

Institutional Matrix of Knowledge Generation

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Abstract: Development of a knowledge economy in Russia is hindered by a number of factors. One of these is the current level of its institutional regime. According to the yearly research of the World Bank on the knowledge economy status in 146 countries, the level of Russia's institutional development has been estimated to reach 1.76 points out of 10, being in this respect ranked the 126th out of 146 countries under consideration. At the same time the knowledge economy index is 5.55, and the knowledge index is

6.82. Thus, while possessing a certain level of intellectual capital, the knowledge economy development is restrained by its inadequate institutional provision. The purpose of this study is to systematize institutions for knowledge generation at the level of a firm. The research object is economic processes underpinning the formation of knowledge generation institutions. The research subject is a system of economic relations within internal and external environment of a firm in the sphere of knowledge generation. By an institutional matrix the authors understand the entity of economic institutions systematized in a particular way and ensuring the firm activity in creation and application of new knowledge. In the course of research a list of institutions for knowledge generation has been drawn, based on the firm's expenditure analysis according to the Tax Code of the Russian Federation. The institutions have been specified due to the following indicators:

- Place of emergence (endogenous and exogenous); Management functions performed (planning, organization, control, and motivation institutions); Manufacture functions performed (manufacture, distribution, sale, and consumption institutions); Type of knowledge generated (institutions for operational, structural, and functional knowledge generation).

These indicators have a number of winning points. Firstly, they take advantage of the type of generated knowledge. On the other hand, they are plausible at the firm's level. Finally, they are based on the target activity of an enterprise. Thus, having singled out consistent expenses of the Tax Code of the Russian Federation, an institutional matrix of knowledge generation has been simulated. Scientific relevance of the model suggested is the advancement of K. Polanyi and D. North's institutional matrix phenomenon and practical application of the institutional design in the knowledge economy framework. To obtain the institutional matrix for a single firm its actual economic situation should be made allowance for. Institutional matrices designed for different enterprises, though possessing some common characteristics, are individual and depend on the industry peculiarities, target activity of a firm, management system adapted, and other factors. The matrix developed creates a theoretical platform for graphical conceptual depiction of different mechanisms coordinating economic institutions. Practical significance of the study is that it offers a tool to judge how in homogenous the distribution of economic institutions throughout the economic spheres of an enterprise is. The lack of norms and institutions in a certain field of economic activity reveals the shortage of resources in this sphere. Another practical aspect is a possibility to detect the weak points of institutional design in providing an economic activity with norms. Hence, practical realization of an institutional matrix lays a basis for working out recommendations to the firm's administration on reinforcing certain institutional blocks.

Keywords: institutions, institutional matrix, knowledge economy

Developing Institutions of Knowledge Economy

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Abstract: The aim of the present research is to show the working-out of institutional structure of economic development system with respect to the concept of Knowledge Economy. Evaluation of the functioning of development institutions, analysis of the degree of its elaboration and establishment of mechanisms to control institutions rendered their representation possible in the form of a single institutional framework with clearly defined hierarchical links. This structure may take the form of institutional atlas, acting at both country and regional level. In this paper the institutional atlas is a summary classification of institutions, which combines several types of systematization of these institutions by various criteria: place of appearing (endogenous, exogenous), sphere of knowledge (social, technological, economical, political, cultural, and ecological), management functions (developing institutions of planning, organizing, incentive and control) and spheres of activity (developing institutions of producing, distributing, using and merchandizing). We attempt to institutional model of economic institutions of region development, which is caused by one of the features of Russian economic space – its heterogeneity, and uneven development. As a result we got the institutional atlas of region development of entrepreneurship as a special case of the atlas of economic development institutions. The atlas of region development entrepreneurship institutions includes 79 institutions aimed to ensure of sustainable development, economic security and stimulating innovation activity of the Ural region through entrepreneurship development as a main driving force of economic development. This atlas can be used for analysis of the degree of elaboration of region development entrepreneurship institutions and to develop mechanisms to control these institutions. Accordingly in this paper the hierarchical structure of region economic development institutions was worked out. Such a hierarchy is responsible to develop strategic decisions on investments of existing economic institutions. It's a good illustration of agent's interactions in the development of economic systems to addition the atlas by traditional institutions – organizations, such as business incubators, venture and innovation funds, and others. Selected sequence of economic institutions would allow defining weak places of institutional designing. And so the practical content of the atlas by specific norms and rules can be the basis of recommending authorities to strengthening regulatory support those or other institutional units.

Keywords: developing institutions, institutional atlas, knowledge economy, region development, entrepreneurship

Knowledge Management Assessment of Khorasan Razavi Gas Company; Viewpoint of Employees

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Abstract: The purpose of this study is to better understand knowledge levels from the view point of employees in Khorasan Razavi Gas Company. This understanding can help managers to plan more accurate about the knowledge management. Awareness of Current knowledge in an organization can support the decision making process. It is only in recent years that knowledge has taken more seriously. This no doubt resulted from a poor awareness of the level of existing knowledge in organization. In this paper using a survey questionnaire, we tested 5 factors from the view point of employees to assess KM level in Khorasan Razavi Gas Company (knowledge management process, leadership support, organizational culture, and technological infrastructure and KM measurement). We found that from the viewpoint of employees KM is not in a suitable level. This can be a warning for KM planers in the organization.

Keywords: Knowledge management .knowledge management process, leadership support, organizational culture, technological infrastructure .KM measurement

An intelligent Model to Asses Organizational Maturity for Implementation of Knowledge Management

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Abstract: Successful knowledge management implementation requires identification of the key success factors as well as the relationship between these factors. The key success factors of KM can be classified by characteristics, situations and variables. This paper aims to develop intelligent models using fuzzy tools for determination of the relationships between different key success factors in knowledge management implementation. To develop the proposed intelligent model, the current literature was reviewed in order to identify existing factors. The Fuzzy

Cognitive Maps (FCM) method was then utilized to specify the cause and effect relationships between these factors. Under the FCM method, individuals' experience is integrated with existing knowledge, and based on that, the cause and effect relationships between the factors are identified. We argue that our proposed model can be used for exploring ways for enhanced implementation of the KM systems. The methodology developed uses four matrices to represent the results that the methodology provides in each one of its stages. These are Initial Matrix of Factors (IMF), Fuzzified Matrix of Factors (FZMF), Strength of Relationships Matrix of Factors (SRMF) and Final Matrix of Factors (FMF). The results of this approach can help to identify the most important factors to more attention and thus investment of the organization to enhance implementation of the KM systems.

Keywords: knowledge management, critical success factors, fuzzy cognitive maps

Risk Analysis for Knowledge Management Project by Using PMBOK Guideline and FMEA Technique: Case Study

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Abstract: In many cases Knowledge management (KM) projects in developing countries were unsuccessful during establishing and deployment; therefore before starting KM projects it is necessary to identify, evaluate, control and manage potential risks. One of the main accomplishments of the modern world is the transformation of the risk, from just accepting it to study the area and being able to analyze it. In this study a new model has been designed and applied for analyzing risks in KM projects in accordance with PMBOK guideline, FMEA technique and KM concepts. The severity of each potential risk (failure), the occurrence and detection rank of each potential risk mechanism was determined by group of industry experts (Barez Industrial Group) in brainstorming meeting. The risk priority number (RPN) was calculated for each potential risk by multiplying relevant severity, occurrence and detection ranks. Finally suitable series of actions for higher risks (top RPNs) and severe risks (risk with high severity) were conducted.

Keywords: Risk management, Knowledge management, PMBOK, Risk analysis model for KM project

The Business Group in a Systemic Perspective

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Abstract: In Italy business groups are the most significant phenomenon of the industrial dynamics over the last decade (Cainelli and Iacobucci, 2011). Business groups are also very common in many other countries, as many studies about Europe and Asia show (Almeida and Wolfenzon, 2006; Cayssialis and Peter, 2007; Dow *et al.*, 2011; Almeida *et al.*, 2011). In the literature business groups have been interpreted using a financial or organizational approach (Rinaldi, 2010). Although there are many studies on the subject, non-financial groups, and in particular manufacturing ones, still lack an adequate etiological explanation. This article represents a first attempt to propose a theory of the group aimed to overcome this gap, interpreting the manufacturing group in a systemic perspective (Potts, 2000; Romagnoli, 1996), which has its core concept in the production function. The aim of this work is to provide an explanation of why and how the group is an organizational form that is more efficient than the U-form. In fact, manufacturing groups are not created because of financial reasons, since the property is in the hands of the person that also exercises control. So it is appropriate to investigate which kind of advantages this organization offers. The acquisition of knowledge and learning processes are crucial to explain organizational boundaries and competitiveness. In the specific case of the groups belonging to the manufacturing sector it can be assumed that this organizational architecture has the most profound motivation in the production logic, understood as competence-based. Given the general macroeconomic instability, the crucial factor influencing the choice of the organization of the firm is the generation, acquisition and management of tacit and explicit knowledge. The various cognitive theories of the firm have focused on capabilities and innovation, but it is the 'competence theory' that allows to focus on the production function. Considering the choice to organize the firm in the H-form driven by the production means also that the organization of production affects the strategic and organizational decisions of the enterprise. In the neoclassical perspective the verification of this hypothesis would be difficult, given the allocative focus of this theory, aimed mainly at finding equilibrium price. Instead, one can verify this proposition in a cognitive perspective: conceiving the firm as a knowledge creating system, which has as its primary goal the transformation of competence (Foss and Knudsen, 1996), namely the ability to create further connections, among which there is the transformation of inputs into outputs.

Keywords: production, organization, knowledge

Country Strategic Risk and Knowledge Management: A Proposed Framework for Improvement

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Abstract: The world is in a period of reflection about social and economic models. In particular there is a review of the capacities that countries have for improving their competitiveness. The experiences in a society are part of the process of learning and knowledge development in that society: especially in the development of communities. Risks appear continually in the process of the search for, analysis and implementation of solutions to problems. This paper discusses the issues related to the improvement of productivity and knowledge in a society, the risk that poor or even declining productivity brings to the communities and the need to develop people that support the decision making process in communities. The approach to improve the communities' development is through the design of a research programme in knowledge management based on distance learning. The research programme implementation is designed to provide value added to the decisions in communities in order to use collective intelligence, solve collective problems and to achieve goals that support local solutions. This program is organized and focused on four intelligence areas, artificial, collective, sentient and strategic. These areas are productivity related and seek to reduce the risk of lack of competitiveness through formal and integrated problem analysis. In a country such as Colombia, where different regions face varying problems to solve and there is a low level of infrastructure, the factors of production such as knowledge, skilled labour and "soft" infrastructure can be a way to develop the society. This entails using the local physical resources adequately for creating value with the support of people in the region to lead the analysis and search for solutions in the communities. The paper will describe the framework and programme and suggest how it could be applied in Colombia.

Keywords: Knowledge management, risk management, strategic risk

Information Intensive Systems: Enabler or Inhibitor of Sustained Knowledge Capability

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Abstract: The ability to leverage the potentials of knowledge capabilities has become an essential source of competitiveness for many organizations. Information systems have been considered to be a fundamental catalyst in increasing performance in working with organizational knowledge. However,

there is growing disillusion regarding the capabilities of information intensive systems to facilitate the work with knowledge. In many studies, information technology has been presented as an inhibitor of emerging and unpredictable knowledge work rather than its enabler. One sustained challenge for research lies in exploring novel ways, which enable to overcome the pitfalls of technology while still reaping its potential benefits in working with knowledge. The particular objectives of our study are to (1) explore the ability of information intensive mechanisms to facilitate sustainable knowledge capability and (2) to design, implement and evaluate information intensive mechanisms to create and access complex information in alignment with natural ways of working with knowledge. In pursuit of the first objective of this research, an extensive review of the knowledge management literature as well as related business and computing disciplines is conducted. The synthesized conclusions drawn from this review are postulated as guidelines for designing information intensive knowledge support systems: (1) connect contexts through information, (2) be aware that situational context and structural parameters of the same are mutually constitutive, (3) focus on individuals as mediators of knowledge flows, and (4) be aware of both the benefits and costs of information. In fulfilment of the second objective, a prototypical information intensive knowledge-support system in alignment with aforementioned guidelines has been implemented. This prototype: (1) works with generic networks of information in order to be able to adapt to versatile and unpredictable contexts, (2) allows gradual imposition of syntactical rules on complex information in order to reflect structural constraints in different degrees of severity, (3) allows individuals to design personalized gateways into complex organizational information networks and (4) endeavours to minimize interference in emergent knowledge processes potentially caused by information intensive systems. The prototype is implemented in Java utilizing the frameworks Google Web Toolkit, XStream and the Jena Semantic Web Framework.

Keywords: Knowledge management, knowledge management systems, sustained knowledge capability

A Ranking Method for Identification of Crucial Knowledge

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Abstract: The objective of this paper is to propose a methodology based on multi-criteria decision aid to rank crucial knowledge. The methodology is composed of three phases. The first phase consists on inferring the preference model of the decision makers, the second phase applies the previous model to identify crucial knowledge, and finally the third phase consists on ranking this crucial knowledge into classes of equivalence. Using

our method allows to take into account the preferences of decision makers that can be different or even contradictory while exploiting and managing their multiple point of views to identify knowledge, without using a quantitative measuring approach.

Keywords: Knowledge Management, crucial knowledge, ranking problematic, multicriteria decision aid

Knowledge sharing and innovation: the case of Spanish and Colombian high-tech firms

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Abstract: The aim of this paper is to empirically test the degree of influence of different knowledge sharing mechanisms (ICT-based, personal interaction-based and embedded in management processes) on innovation capability (both on ideation and on innovation project management), as well as the influence of each first-level innovation capacity on company performance. In order to gather information about the relevant variables involved in the research, a questionnaire has been designed and addressed to the CEOs of the companies making up the target population (Spanish and Colombian medium-high and high technology firms with more than 50 employees and R&D activities). Structural equation modelling (SEM) based on partial least squares (PLS) has then been applied to test the hypotheses drawn from the research. The results obtained show that knowledge sharing is a key issue in order to enhance innovation capability. With the exception of ICT-based knowledge sharing mechanisms (whose influence on the generation of new ideas is not statistically significant), all types of mechanism considered exert a significant impact both on ideation and on innovation project management (although their degree of relevance varies), and account for a great deal of variance in both constructs. Differences between countries arise when it comes to the influence of each first-level innovation capacity on company performance. Whereas in the case of Spanish high-tech firms both capacities (ideation and innovation project management) are equally important, in the case of Colombian firms, implementation is by far the most relevant first-order capacity. The main contribution of this paper is to provide empirical evidence about the impact of knowledge sharing on innovation. Moreover, it reveals what the most effective knowledge sharing mechanisms are for this purpose and provides companies with a basic framework in order to shape their knowledge management strategies in this domain.

Keywords: knowledge sharing; innovation capability; ideation; innovation project management; company performance

Social Media Mindset and Knowledge Management

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Abstract: The term Web 2.0 is associated with web applications that facilitate interactive information sharing, interoperability, user-centered design and collaboration on the internet. There is an ongoing broad Web 2.0 or social media focused discussion within society and within organizations. The focus of this discussion is mainly on Web 2.0 technology, its variations, and potential ways to use social media in order to produce business benefits. Social hardware and social software, both with their constantly renewing contents, dominate the discussion focus. The properties and functionalities of collaborative software are at the core of this discussion. Social media focused discussion is also about what is acceptable, what should be forbidden, how to maintain intellectual property rights, what kind of Web 2.0 activities are worthwhile and which are a waste of time and effort. What this mainstream Web 2.0 discussion seems to miss are the considerable and relevant mindset changes taking place. From this angle the core issue concerning how Web 2.0 will influence knowledge management is not about technologies, rules and regulations. What seems to be relevant is the new kind of thinking, emerging through broad use of social media, experiences of this use and new variations in user behavior. This new thinking, defined here as the social media mindset, is the focus of this paper. This social media mindset has its roots in history, it can be partly recognized, and it can be estimated to have huge influence on future organizational behavior and knowledge management within organizations. The issues of interest in this paper are the following: How does the use of social media (Web 2.0) influence user thinking and what kind of new mindsets are emerging? What can be learned from the historical perspective to understand changes in the social media mindset? What kind of differences can be recognized between people of various ages and generations in their social media mindsets? How does this new kind of thinking influence organizational knowledge management, and how should the social media mindset change be taken into consideration? The analysis of social media mindset in this article is based on a literature review supported by first hand corporate social media experiments in one case organization. Social media as a technology-based multidirectional human interaction is a phenomenon that made an appearance in the early history of technology. The roots of a social media mindset can be found in the late 19th and early 20th century. The social media mindset may be the largest and most influential shift in the ways we understand human interaction, knowledge creation, location, sharing, control and ownership. The social media mindset is about how we understand availability, access, place and location, groups and membership, information and knowledge, borderlines and identity among other things. In the corporate context, the approach to social media still

focuses today more on technical solutions and damage limitation guidelines. The approach obviously should be more interested in facilitating and supporting a mindset change that will influence action, with technology taking only a supporting role.

Keywords: Social media, Social media mindset, Web 2.0

Knowledge's Importance in Regional Development

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Abstract: The paper presents the relationship between knowledge creation, knowledge management and transfer processes, the intellectual capital of an organization and the role of knowledge in regional development. First of all, one defines the main involved elements: knowledge management, knowledge society, knowledge based economy, intellectual capital. Then, the correlation between them is explained. The authors have considered necessary to analyze the main identified entities that play an important role in regional development. One has started from the hypothesis that entities such as business incubators, clusters, knowledge centres or nodes are the main "locations" where knowledge is created. Each of these entities is taken into detailed analysis, as a source of competitive advantage, emphasizing the reason for its existence, the facilities offered to the "knowledge creators", the impact it has on the community it is build in and the way each of them provides a certain effect on local, regional or general development. Since the authors have come to the conclusion that the proposed entities actually do have a strong impact on regional development, due to the fact that they have studied the theory applied at the level of these entities, they have chosen to present the results obtained at the level of two of them, respectively, the Technological and Business Incubator ITA Pro-Energ, built within Transilvania University of Braşov, Romania, and the cluster created around the Commercial Society "Electroprecizia" Sacele, Romania. The paper also explains the notion of competitive region and its main components. These components need to be reflected into the regional politics whose application should lead to the development and efficient valorisation of the whole intellectual capital of the region. As an important conclusion, the authors have stated that the reason for knowledge and intellectual capital accumulation at regional level is to influence the strategies of the regional actors and to create the necessary competences for an efficient collaboration towards growing the potential of the whole community.

Keywords: business incubators, clusters, intellectual capital, knowledge management

Analysis of Knowledge Work Execution at Computer Workplaces

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Abstract: Work execution at computer workplaces is an important facet of knowledge work. For the knowledge worker, the interaction with the computer is seen in terms of goals and subgoals with accompanying tasks rather than system commands. Consequently, knowledge workers apply tacit knowledge to pursue goals by a weakly structured process involving software tools to consume, modify or create information. Interruptions, appointments and deadlines result in goal realization in parallel or in rapid succession. To extract tacit knowledge solid knowledge about work is essential. The paper analyzes knowledge work execution at computer workplaces. Two user studies to analyze work processes based on interaction histories have been conducted. The first study focused on task execution processes. Differences and regularities of tasks executed by different people were examined. The main outcome of the first study is the description of core task execution processes that are mixtures of work techniques. The second study focused on text visible at the user screen during task execution. Topics are extracted from the logged screen content and textual similarities are measured. The main outcome of the second study is the identification of text similarities for tasks executed by different persons and the existence of topics that identify tasks.

Keywords: knowledge work, experience management, interaction histories

Applying Web Analytics Tools in the Context of Enterprise Social Software

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Abstract: Web analytics tools are now in operation for about 15 years. While primarily developed to support the operators of public commercial web sites, they offer a stable and mature set of general features to track the behavior of users of arbitrary web based systems. Independently, in recent years web based social software is increasingly used to support collaboration and knowledge exchange in modern enterprises. This paper examines how enterprise social software can benefit from the features provided by state of the art web analytics solutions. In the first part of the paper, we give an overview of the most common capabilities of commercial and open source web analytics tools and examine how the data they produce can be accessed

and utilized by other applications. Subsequently, illustrating how social software users – be it as authors or consumers of content –, site operators and even the software developers can profit from this integration. To demonstrate the general feasibility of the approach, we then describe how one scenario was implemented in a commercial web based enterprise collaboration platform using an open source web analytics tool. The current popularity of individual documents, like wiki pages or blog posts, was measured using the number of recent visits for the respective web pages. The resulting metric was then used to improve the document scoring mechanism of the platform's search component. Finally we show that the web analytics tool can in turn be used to track precisely how the search functionality is used – and thus allows for an assessment of the effectiveness of the abovementioned improvement. It further enables a qualitative analysis of user behavior that helps to find defects in the software and additionally motivates further refinements and enhancements.

Keywords: Enterprise 2.0, social software, web analytics, intranet search

Intangible Assets: From Evaluation to Valuation

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Abstract: The purpose of this paper is to show, based on an actual example of the application of the Intangible Assets Management method, how the process of intangible asset assessment should be conducted in order to facilitate the subsequent process, i.e., appraisal of intangible assets. In particular, this method splits from that of internal values – associated with the organization's financial performance – and provides a valuation of each intangible asset. This is important since the methods that encompass valuation generally start out with company market value to generate an appraisal of intangible assets. Although the method analyzed in this paper requires some effort on the part of specialists during the appraisal procedure, such effort is compensated by the fact that the resulting values suffer less from volatility, i.e., they are less prone to market reactions. Another important point made here is that the method outlined can be applied to any organization, regardless of whether its shares are publicly traded or not, since the method does not rely on market value to appraise intangible assets. The method attempts to show that the best way to handle risks and intrinsic uncertainties of intangibles during the appraisal of assets is through the concomitant application of Real Options Analysis (ROA), as well as other methods, such as Discounted Cash Flow (DCF). Although the method has been developed and applied in an organization that belongs to a preeminent

energy sector company, it could be applied in business units, departments, divisions or other organizations belonging to different sectors of activity.

Keywords: Intellectual capital; intangible assets; valuation; real options; organizational competencies; business processes

Intellectual Capital Evaluation: Relationship between Knowledge Management Implementation and Company's Performance

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Abstract: Knowledge management is becoming the most relevant and challenging issue of company's strategy implementation in the new economy. Intellectual capital identification and evaluation is one of the most important issues in knowledge management. Our study focuses on the evaluating intellectual capital methods that allow finding out the most efficient way of intellectual capital management, including investment decision making. We suppose that the potential effectiveness of intellectual capital resources varies depending on a company size, industry and country. The majority of the relevant researches are based on resource- and value-based approaches that separately analyze the intellectual capital from a certain point of view, limiting the number of problems at concurrence of these concepts. Therefore, to solve problems of intellectual capital evaluation we integrate two approaches that are relevant for studying the companies' and industries' behavior.

We seek to integrate two approaches to answer following questions:

- Is there a close relationship between an intellectual capital quality and a company performance: a creation and destruction of the enterprise value due to intellectual capital employed?
- What are the external and internal factors affecting this relationship? (country, industry, company size, market dynamics, etc.)
- Is there a certain complementarity of the intellectual capital separate components (human, institutional and market resources)?

Despite the large empirical background the intellectual capital management issues fundamentally are not well studied. The purpose of this research is the development of cost-effectiveness tools for analyzing the company's intellectual resources. Several statistical methods should be provided for the empirical issues of this research, including common cross-sectional and panel data analysis. The data base collected for this purpose will consist of financial and economic indicators underlying the intellectual capital evaluation, for example, strategic performance indicators (EVA, FGV, Q-Tobin). It should be emphasized, that a number of required data are quite

specific and hardly observed. Thus, the data base of this research founds on the annual statistical and financial reports including the description of some qualitative characteristics of analyzed companies and industries: total labor productivity, staff education level, customer loyalty, product range, R&D expenditures, participation in business associations, co-operative innovation projects, localization and specialization coefficients, and others. This paper is devoted to the research problem identification and motivation and also presents some empirical results.

Keywords: intellectual capital inputs and outcomes; economic value added

The Major Challenges of Electronic Communities of Practice in an Iranian Leading Virtual University: A Qualitative Approach

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Abstract: This study aims to examine the major challenges of communities of practice (COPs) in an Iranian leading virtual university. To achieve the main research goal; two-phase research strategy is employed in this paper. At first, knowledge derived from an analysis of the COP literature is used in order to design the interview guide which is needed in the next phase. The second phase consists of a qualitative case study of major Challenges of e-COPs in "Mehralborz" virtual university. The university has almost 600 postgraduate students in the field of management. Seven semi-structured interviews with the e-COPs leaders have been conducted. The investigation led to the discovery of six major challenges that e-COPs struggling with them. The theoretical-based case study provides practitioners with a complex perspective of the challenges of e-COPs in educational environments and adds originality to the paper.

Keywords: Knowledge management, community of practice, virtual, university, challenge, Iran

Existing Dimensions of Absorptive Capacity and the Way Foreword: The Mediating Functionality of Mental Models Manifested by Entrepreneurs

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Abstract: The acquisition of knowledge (either tacit or explicit) that is externally derived is one of the main best practices undertaken by entrepreneurs to make the right decisions for expansion of their businesses. However, along the lines with prior research work, scholars have posited out that, the effective implementation of the incoming knowledge into the organizational daily practices and routine activities perquisites the absorptive capacity performed by those involved in the knowledge acquisition process (Cohen and Levinthal, 1990; Daghfous, 2004; Grunfeld, 2003; Lane and Lubatkin, 1998; Rocha, 1999; Stock et al., 2001). Absorptive capacity's concept has initially been conceptualised through a three-dimensional approach (recognition of the value of the new knowledge, its assimilation and its implementation into commercial ends, Cohen and Levithal, 1989). In a way forward of this dominant conceptualization of the rationale behind the absorptive capacity we estimate that the input of new mediators –i.e. mental models (MMs) - should have a lead over the three aforementioned definitive dimensions of absorptive capacity. More specifically, we argue the functionality of (MMs) in recognizing the value of external knowledge acquisition of entrepreneurs and propose that MMs mediate the absorptive capacity of entrepreneurs, who use them to filter the value of new knowledge they acquire from the external environment. To explore this proposition, we used the Karakaya and Yannopoulos (2010) typology of MMs applied in situations of decision making relevant to business growth. The findings of our study reveal that the MMs of the sample seem to relate to the ability of the entrepreneur to appreciate and assimilate incoming knowledge. Thus, the first and second considerations of absorptive capacity seem to be influenced by MMs. Additionally, new research hypothesis have been brought about concerning the potential distinct upshots of the types of MMs on one or more of the specifically discussed dimensions of absorptive capacity.

Keywords: absorptive capacity, entrepreneurship, external knowledge acquisition, decision making, mental models

Relevance of Intellectual Capital for the Public Sector

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Abstract: The public institutions of an economy have always been reluctant to change. In Romania, unlike in the case of private enterprises, there is little to no real competition, hardly a direct relationship between the price paid by the individual and the services rendered and, the most important, there are social and political factors that must be taken into consideration when dealing with any public entity. All these have created a thoroughly bureaucratic and rigid system that responds slowly to top-down changes and, if ever, to bottom-up ones. Nevertheless recent studies like those carried during 2001-2002 in Denmark, suggest an increased role of intellectual capital in developing new public management thinking. The paper is divided into two parts. Firstly, it deals with creating a context for the research. This will be done by analyzing the current perspective on intellectual capital management in public enterprises and contextualizing them for the Romanian system. Secondly, the study opens a more direct approach and attempts to determine what are the agents of change, how change is implemented, what the new perspective on intellectual capital is and what evaluation methods are used. Due to the multifaceted nature of the topic a multi-method combination is used as research as it will start with a questionnaire aimed at regular employees in order to determine both their level of interest and awareness and this will be followed up with a series of in depth structured interviews with the purpose of obtaining more qualitative information. The results should be able to create a general image of the present perception on intellectual capital. In order to offer a solid framework for this information, secondary data is used as well, qualitative and quantitative, from other up to date studies on this topic. The findings suggest a few changes, as deemed necessary, in order to improve the current organizational climate. The results are relevant because a study of intellectual capital in public entities is mandatory for the Romanian public sector. Today, public institutions are promoting themselves as belonging to the business world as well, making use of intellectual capital and the competitive advantage they create, in order to promote them on the '*market*'. The first things to do when attempting this are to observe how these institutions perceive themselves, if and how are they preparing for these coming changes. The governments' approach must change with it or risk not only lagging behind but downright hindering the private sector. In order to prevent the negative aspects it is necessary to understand what the role of government in knowledge based economy is.

Keywords: Intellectual capital, public sector, knowledge based economy

Managing Intellectual Capital in SMEs in the Framework of the Knowledge Based Society

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Abstract: The aim of this article is to identify the operating systems that companies can adopt to manage intellectual capital, especially in *SMEs*. Based on intellectual capital management and resourced based approach for Knowledge and Intangible Assets Management, *SMEs* companies seeking to meet the needs of all staff, are not investing in an adequate way in those professions that might make a real difference. It is important to implement an assessment aimed to bring out explicitly the contribution to the total value of intangible assets of the organization. Our paper tries to look for an integrative approach dealing with intellectual capital management that might be applied for more *SMEs* having a distinguished organizational culture. We like to demonstrate that the ideal environment for *Intellectual Capital Development (ICD)* is to be pro-active, able to give direction to the technological and organizational changes affecting the sector in which they work an undertaking in which all human resources are identified and where there is awareness of their role and attitudes toward change. Concentrated on the *perspective of the Balance Scorecard method*, namely the perspective of the processes of learning and growth, we can understand how the development of intellectual capital is a challenge for the leadership of the staff within *SMEs*: it is required to conduct and roles on the one hand aimed at facilitating the process of knowledge accumulation, other mechanisms to enable more appropriate management and motivation to help the knowledge generated to develop sharing and transfer. The paper presents briefly an exploratory research used for debating the issue of intellectual capital (*IC*) in *Romania's SMEs*. Our research is at a starting point for possible future theoretical and empirical investigations. This paper seeks to develop in Romania a framework of IC reporting by starting to learn and adapt.

Keywords: intellectual capital, intangible assets, knowledge based economy, intellectual capital management, balance scorecard, competitive advantage

Universities as Knowledge Creation and Sharing Institutions – Research Perspectives from Romania

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Abstract: In the era of knowledge-based economy and society (KBES), human capital (HC), intellectual capital (IC), creativity, innovation and education play an increasing role in the portfolio of assets owned by an organization. The importance of knowledge is acknowledged through various papers and studies on knowledge production and its impact on growth. In a knowledge-based economy characterized by the production, transmission and dissemination of knowledge, the higher education institutions (universities) play a unique role in all these knowledge process steps. An efficient knowledge management in a university will ensure the best use of available resources and best use of the knowledge as a key resource; creation / generation of new knowledge; understanding and awareness; capturing, organizing, storing the knowledge at individual, group and organization level; and knowledge transfer to other persons or other organizations.

The aim of this paper is to analyse the role of universities in supporting the development of knowledge economy in Romania and to highlight the extent to which students consider that the Romanian economic university system is ready to face the demands of KBES. The results are based on students' perception on the role that the higher education institutions within the context of KBES in Romania. The study is based on the answers of questioned students from the Faculty of Business Administration with teaching in foreign languages (FABIZ) of the Academy of Economic Studies of Bucharest. The study acknowledged the importance of knowledge management in education institutions and identified challenges that the institutions will be facing. The paper is structured as following: the first part of the paper introduces briefly the concepts of knowledge and knowledge-based economy and society; the second part provides a short literature review on knowledge production and its importance for growth; the third part draws on the role the higher education institutions can play as knowledge institutions; part four presents the case-study assessing the perceived role of higher education institutions within the context of KBES in Romania, while the last part concludes.

Keywords: knowledge management, knowledge-based economy, knowledge production, knowledge sharing, higher education institutions (universities)

Using Naturalistic Decision Making to Understand Knowledge Barriers in Launching Telecommunication for Public Safety

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Abstract: Based on an empirical study of the launch of an information and communication technology [ICT] system for the main Public Safety Agencies [PSA] in Sweden, this paper combines concepts from knowledge management [KM] with naturalistic decision-making [NDM] to gain a greater understanding of problems in the implementation and adoption phase of the new system. The launch has been experienced as being much slower than was originally envisaged by all the organizations involved and the system will not cover its own costs in the near future. Implementation and adoption also required extra, unplanned, resources to develop processes for collaboration and joint work by and between the organizations. In the public safety and emergency response sector, the need for communication and co-operation between the organizations involved is regarded mostly as self-evident by both the organizations involved and external organizations. To make co-operation within and between the different organizations more efficient, a new radio communication system is being introduced in Sweden. Adoption and use are presented as being the prerogative of the user organizations. In an earlier paper we identified several problems, i.e. 'knowledge barriers' that prevented or slowed down adoption and thus the launch process (Suneson and Haldal, 2010). This paper takes a further step to gain a deeper understanding of what these knowledge barriers mean by using terms from knowledge management [KM] combined with concepts and frameworks from NDM. NDM provides a promising framework to understand these situations, since the situation in which the system will be used can be related to understanding technologies in complex environments, i.e. solving ill-defined problems under time pressure and with high stakes combined with uncertain outcomes. By analysing a set of five categories of knowledge barriers through concepts from the NDM framework, such as 'sensemaking', 'situation awareness', and 'mental models', this paper strives to increase understanding of the obstacles that need to be overcome when launching large-scale ICT systems for parties with specific needs and requirements. The main benefit of using knowledge management models is to provide a good overview of the launch process, emphasizing relevant problem areas. The advantage of examining these problem areas more deeply by means of concepts and frameworks from NDM can be found in the possibility of acquiring a deeper understanding and providing suggestions to overcome the identified problems for users, launchers and influencers. This paper makes both practical and theoretical contributions. Practical contributions exemplify how important mutual understanding is to co-operation and in doing so a more coherent mental

model on which to build co-operation. The theoretical contribution takes the form of suggestions to improve our understanding of the benefits of combining KM models with frameworks and concepts from NDM.

Keywords: Co-operation, public safety, sensemaking, situation awareness, knowledge barriers, system roll-out

Infrastructure of Innovative Universities Based on ICT and KM for Building Smart Economy

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Abstract: At present the world community faces the challenge of building the Smart economy. It is well recognized that the economic progress comes from increased productivity, innovation, competitiveness, economic renewal and creativity of the workforce. The goal of the smart economy is to restore and retain a sustainable economic growth after depressing crises, to provide a high-quality education system, to promote innovative business environment, to ensure high productivity, to translate knowledge creation into economic return. In this context innovative universities aim at training knowledge workers, forming the competences of learners in line with the requirement of modern labor market in the Smart economy. The graduates face the challenge to generate new ideas and to work in the knowledge-intensive industries that supply advanced ICT devices, systems and networks. The universities in the smart economy need to transform the infrastructure to meet the challenges. The paper presents the innovative infrastructure that facilitates a more full perception of new knowledge, interoperability between internal and external knowledge, a high degree of knowledge and innovation in universities.

Keywords: intellectual capital, human capital, innovative infrastructure, innovative universities, management of academic knowledge, Smart economy

Measurement of customer knowledge value

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Abstract: This paper aims at expressing the customer value, particularly the value of his knowledge. There is a gap in this field because researchers usually express the overall Customer Lifetime Value and similar to Capital

Asset Pricing Model; the result is finally discounted. The other parts of customers' value are usually disregarded. Is the separate item "customers' knowledge" such a marginal item that it does not need to be counted (and effectively exploited in favour of the business?). There are four research questions in this contribution: Communication level (how the dialogue with the customer is conducted), deployment capacity (how companies act upon customer knowledge), organizational sharing capacity (what is the system of integrating customer and organisational knowledge assets and then reproducing them internally, etc.) and customers' motivation (trust, motivation tools, incentives, etc.). Both theoretical and empirical research methods were used. At first, the theoretical approaches and findings from related disciplines were analyzed and compared (Customer Knowledge Management, Customer Portfolio Management, Customer Equity Management, Customer Value Management, etc.). Then some quantitative research was conducted in small and medium sized enterprises. Large companies were not included in this research because previous research showed that they are mostly focused on risk management and individual customer evaluation includes the customers' knowledge evaluation only rarely. It is important for the business not only to keep in mind the "knowledge potential" of each customer but also to be able to explore it. Issues such as their ability to motivate the customers to share their knowledge with the business, managerial skills and marketing strategy towards generating profit from the customers' base are also discussed in this contribution. At the same time, this paper is accompanied by brief samples of customers' knowledge exploitation in practice in order to demonstrate the potential of customers to help the business to gain a competitive advantage. Although all the financial statements on the value of customers' knowledge will always be based just on rough estimations with a great deal of uncertainty, some findings in this contribution perhaps demonstrate adequately the importance of customers' knowledge for business development.

Keywords: Customer knowledge value; knowledge measurement; customer base; knowledge from customer; three-dimensional approach

Multi Perspective Framework to Improve the Knowledge Flow

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Abstract: This paper addresses issues of knowledge management processes and procedures including social complexity in Australian government organizations. We investigated these issues for building a multiple perspective framework in designing a complex business structure. Particularly, we focused on a social complexity, which possesses the role of the functional units and multiple stakeholders. To understand the complex

issues and significant changes in the past years, social complexity holds a specific fragmenting strength which can lead to difficulty in effective communication (Conklin, 2005). Hence, social complexity needs tools that are standardized to complex organizations. This notion of social complexity correlates to a project group involved within a social network. The growing complexity of Information Systems results in a situation where system design is not easily catered to identify new characteristics of system and managing the dimensions of organizational performance by existing methodologies. The purpose of this study is to build a framework of defining systems for the knowledge flow to ensure local intelligent time of the decision making process is effective and helps to manage information system evolution. This paper suggests that to cater for these characteristics and characterize the communication paths, new open methods that look at other perspectives in the additional process flow are required. These additional perspectives include social structure, business architecture, and knowledge hub to identify the communities of practice and development of a model to support complex organizations. In summary, this paper outlines a design method that uses a multi perspective framework as a tool for modeling and will help to tackle the complex problem.

Keywords: Complexity, Multi-perspective, Social complexity, System evolution

A Soft Systems Approach to Solving Knowledge Management Problems in Organisational Change Environments

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Abstract: Many organisations are undergoing imposed change in an attempt to become lean and more efficient. Frequently this results in staff reduction and early retirements and rapid cultural change. Organisations may be in danger of losing their 'memory' as long serving employees with critical knowledge and experience move on. Knowledge is considered the driver of contemporary organisations and although it may be managed by structured systems, it is also heavily affected by human activity systems. This paper presents a practical approach to solving knowledge management problems in organisations that are undergoing change. Soft systems methodology is applied to a number of organisations to generate hitherto un-recorded, unknown, suppressed or forgotten information which may be captured in knowledge management systems. Soft system methodology is an enquiring technique which seeks to provide input and perspective from participants in situations that are complex, subjective and messy. It also seeks to establish a level of mutual accommodation in the hearts and minds of the participants which can accelerate organisational learning and can contribute to the motivation and commitment of the participants. Two case studies are

presented which illustrate the use of soft system methodology in developing trust and creating a willingness to share information. They were selected from a series of case studies that were conducted by the author across a broad range of industries using qualitative research and the application of soft system methodology. The first case presented here relates to the imposed merger of two independent municipalities. Significant staff reduction occurred resulting in a knowledge drain and the new merged entity, with new management, had to continue the operational processes of the municipalities. Solutions which addressed the information and knowledge required for continued operation were developed. The second case relates to family owned manufacturer of industrial clothing facing competitive and logistics problems. Solutions were developed using knowledge generated from employees and participants other than the management team.

Keywords: Knowledge management, Soft systems methodology, Problem solving, Organisational learning

The Symbolic Innovation of the Bio-informatics Discipline: A Political Networks Approach to IT development

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Abstract: In knowledge intensive firms IT is viewed as a means of cutting across bureaucratic barriers, organisational complexity, and a tool for enhancing knowledge-related activities. In the pharmaceutical industry this IT-led transformation coincided with other socio-technological phenomena such as biotechnology and the Human Genome Project. The organisational uncertainty arising from the challenges of absorbing the new knowledge created an organisational vacuum. This vacuum was filled by entrepreneurial scientists knowledgeable in both bio-science and IT and dubbed themselves as bio-informaticians. In a romantic sense these corporate entrepreneurs were allowed to explore the “wild frontiers” of pharmaceutical R&D research. This paper relies on actor-network theory (ANT) as an interpretation lens for clarifying the diverse elements that enabled the successful creation of that organisational space. An in-depth exploratory case study is used here with a framework based on ANT used for coding, organising and interpreting the qualitative data. The findings highlight the importance and challenges an established company faces in absorbing new knowledge and technology and the importance of leveraging the entrepreneurial instincts of its employees in order to create and absorb new knowledge.

Keywords: R&D, pharmaceutical industry, drug discovery, actor-network theory, knowledge, action, social networks

PhD Research Papers

Measuring Utility of Geospatial maps for Information Seeking: Findings of a Structured Literature Review and Preliminary Think-Aloud-Study

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Abstract: Handling information and ever growing knowledge bases are still key tasks of the information society. Many organisations deplore that co-workers invest much time into search and handling of information. Information visualisation methods and tools can help to prepare and visually represent abstract information to amplify cognition. However, a more widespread adoption of visualisation tools for information seeking is still missing. Geovisualisation, a sub domain of information visualisation, is concerned with geospatial maps as visual representations of information. With the evolution of the WWW, geospatial maps are now easy to implement and because of a more intuitive representation easy to understand. There is a high benefit potential for organisations, due to that 80% of organisational data possess spatial characteristics and can be linked and displayed on geospatial maps. Thus, research objective is to measure utility of geospatial maps for information seeking. This paper presents a state-of-the-art in measuring information visualisation utility by means of a structured literature review. The review examines 33 empirical papers and shows an absence of theoretical models and influencing factors as a basis for in-depth utility analysis. Furthermore, the review identifies marginal analysis of geospatial maps for information seeking. In order to gain more insight into user seeking behaviour and requirements a pilot think aloud test and a survey was conducted. Thereto, 16 participants had to perform a web based real estate search. The results indicate that there is a need for geospatial map as tool for information seeking within spatial contexts. The next step for future research is to conduct laboratory experiments based on these findings to analyse utility. Implications of this research are to make evident statements for using geospatial maps for information seeking and to validate the used theoretical model for utility measurement.

Keywords: utility measurement, geospatial maps, information visualisation, structured literature review, think aloud test, information seeking

Knowledge Boundaries of the Firm in Russian Heavy Engineering Companies

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Abstract: The purpose of this research is to look at the factors influencing a company's choice of technological knowledge renovation sources in the Russian heavy engineering industry. The theoretical foundations of this research are the transaction cost theory of the firm, mainly continuing O. Williamson's views on the boundaries of the firm problem, and the knowledge-based view of the firm as a part of the resource-based view. The problem addressed by the research is how a company chooses between different sources of technological knowledge renovation (where the term "knowledge" refers to technological know-how) when the knowledge used for developing the products of the company seems obsolete, thus creating a "knowledge gap" (or "knowledge absence"). Continuing the "make-buy-or-ally" stream of literature, such variants of technological knowledge renovation sources are considered as creation of necessary knowledge by own strength, focal firm's acquisition of the necessary knowledge provider, long-term alliance relationship creation with the necessary knowledge provider, and, finally, non-recurring purchase of necessary knowledge from an external provider on the open market. On the basis of the literature review in fields of boundaries of the firm and knowledge-based view of the firm studies a set of factors is figured out the influence of which on the technological knowledge renovation sources choice is analyzed in the quantitative study. These factors are the following: importance of the knowledge resource involved in the focal transaction for the firm's result, uniqueness (in comparison to the respective market and industry) of the knowledge resource(s) involved in a focal transaction, the focal firm's technological knowledge as a whole, and of the focal firm's production, the focal firm's comparative orientation on cost- or quality-based competition, congruence between the results of the focal firm and its (potential) counterparty, focal firm's ability to control the actions of that (potential) counterparty and, finally, necessity of support and further development of the focal knowledge resource. To check these factors' influence on the companies' technological knowledge renovation sources choice a set of hypotheses is formulated, considering both the direct influence of the factors' importance on the firm's technological knowledge renovation sources choice and the mediating effect of such variables as "congruence between the results of the focal firm and its (potential) counterparty", "focal firm's ability to control the actions of the counterparty" and "necessity of support and further development of the focal knowledge resource" on the direct interactions. The quantitative method used for hypotheses testing is the ordered probit regression with the influencing

factors' importance for the firm in a knowledge renovation act as independent variables and four technological knowledge renovation source variants as dependent variables. The questionnaire constructed for the quantitative study has been sent via e-mail to sample of 300 Russian companies of the industry classification "Heavy, energetic and transport engineering" randomly selected by region with the response rate of 10%, giving the resulting sample of 30 companies.

Keywords: technological knowledge renovation, knowledge boundaries of the firm, transaction cost theory of the firm

Multiprofessional Communities of Practice in a Large-scale Healthcare Collaboration: Formation, Identity Building and Knowledge Sharing

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Abstract: While it is implicitly implied by policy-makers that healthcare professionals and healthcare organisations are able and willing to work together in the improvement of healthcare services, these assumptions are not always grounded in sound scientific evidence. This study aims to address this issue by exploring the reality of healthcare collaboration in the implementation strand of the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester. The study uses the theory of communities of practice (CoPs) to explore the process of joint working in primary care in the context of the English NHS and reflect on how this process is influenced by the CLAHRC. It specifically focuses on the development of multiprofessional and multi-organisational CoPs in healthcare organisations, reconciliation of professional and organisational identities in the process of collaborative working, and knowledge sharing across interprofessional and inter-organisational boundaries within and across CoPs. Underpinned by the critical realist approach, the research uses a qualitative case study as an overarching research methodology, with specific methods comprising documentary analysis, semi-structured interviews and participant observation. It adopts a purposeful sampling strategy, with respondents including general practitioners, nurses, managers, hospital consultants, knowledge transfer associates and management academics. The data is subjected to template analysis facilitated by NVivo software. Initial data analysis upon the completion of the first stage of fieldwork has led to the formulation of the following theoretical propositions: (1) The organisational landscape in the NHS primary care is represented by multiple co-existing and overlapping CoPs, which are mainly centred around general practices, professional groups and geographical areas.

(2) Multiprofessional CoPs in primary care are characterised by such features as division of functions, interconnectedness with co-existent uniprofessional communities, and operational proximity of its members. (3) Formation of emergent multiprofessional and multi-organisational CoPs is influenced by their relationship with pre-existing communities and networks, enthusiasm of CoP participants and adequate leadership. (4) Identity formation in these newly formed communities takes place in the context of multimembership in several relevant CoPs and may be hampered by strong identification with existing professional and organisational communities. (5) Knowledge sharing between CoPs can be promoted by a combination of external and internal facilitation whereby knowledge brokers deploy a number of context-tailored boundary objects and boundary interactions. (6) Distinct boundaries between general practices, which are only partially permeable, as well as marked barriers to the development of supra-organisational CoPs in primary care, underscore the importance of external facilitation in the process of implementing change. (7) Achieving and sustaining improvement introduced by healthcare collaboration may be influenced by the degree the change is embedded in the routines of the organisation, the presence of knowledge sharing channels between all CoPs involved and the clarity of goals agreed by the participants. By further exploring these propositions in the next stage of the fieldwork, this study offers the prospect of making a contribution to analytic frameworks applied to the understanding of interprofessional and inter-organisational work, enhancing the understanding of barriers to joint working, and identifying effective knowledge management strategies which could be utilised in the UK healthcare context.

Keywords: communities of practice; healthcare collaboration; multiprofessionality; knowledge sharing; identity

Evaluation of Knowledge Quality of Lessons Learned by Asking Questions

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Abstract: Lessons learned, which are a special kind of knowledge obtained by people from experience, can help enterprises avoid reinvention and standardize their best practices. Professionals' performance in various sectors can also be improved. Lesson learning is the process of converting people's experience of events into knowledge for application in the future. While the process and IT systems of lesson learning have been widely studied, there is little research on the quality of the knowledge content of lessons learned. This paper discusses the concept of knowledge quality and relationships among the context, experience, reflection asking and content of lessons learned. Focusing on captured lessons, we propose the method of

asking relevant questions to evaluate lessons learned. The questions are based on qualitative content analysis from various facets, namely context, content and experience. We have provided a checklist which consists of more than a dozen of questions as our first findings. We illustrate the method by describing and analyzing an authentic case of lessons learned produced by a public organization, namely the medication incidents bulletins published by the Hong Kong Hospital Authority. More case studies can be conducted for other industries. We conclude this study with suggestions on possible improvements to the quality of content of lessons learned. This paper provides a foundation for future research by developing a framework for analyzing lessons learned. It also facilitates deeper understanding of the evaluation of knowledge quality.

Keywords: lesson learned, knowledge quality, context, experience, reflection, content analysis

KM as a Solution for the Shortage of Competent Employees in SMEs at the Developing Country (Case study: Vietnam)

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Abstract: This paper presents partial results from the first empirical study of KM in SMEs of Vietnam. A preliminary survey had revealed that KM is an important issue for SMEs in Vietnam. It also identified the main motivation for SMEs to implement KM-related activities (the search for solutions to a chronic shortage of competent employees) as well as the two probable main causes for this shortage: (1) the departure of employees from SMEs and/or (2) remaining employees not learning how to work effectively. Using statistical analysis and fuzzy methodology, this paper formally verifies whether the inferences from the preliminary study really hold for the general population of Vietnamese SMEs, and from there proposes obvious actions to be taken to solve the shortage of competent employees. The findings presented in this paper help us understand more about the operations of SMEs in developing countries and suggest a feasible approach to initiate KM for SMEs.

Keywords: Knowledge, knowledge management (KM), SMEs, Vietnam

Knowledge Base Development of Companies in R&D Consortia; An Organisational Process and Social Interaction Perspective on Learning

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Abstract: R&D consortia are becoming one of the prominent forms of collaborations among organisations aimed at triggering knowledge transferring among participating firms. In such settings, learning is not exclusively limited to mutual or dyadic relations, but is mainly determined by multilateral ones. However, much current work on inter-organisational learning literature rest on bilateral knowledge transfer models (sender-receiver) in partnerships which can hardly address the complexity of inter-organisational learning in R&D consortia. To explore the learning process in R&D consortia, I will devise social capital (SC) and absorptive capacity (AC) theories. To gain knowledge, on the one hand, organisations rely on the processes and capabilities enabling them to acquire and exploit external knowledge represented by AC. It enables organisations to identify, assimilate and apply external knowledge to commercial ends. On the other hand, organisations rely on the very social context of their interpersonal and inter-group knowledge exchange and communications which can be achieved through SC. By nurturing goodwill in the social context of R&D collaborations, SC facilitates knowledge sharing, exchanging and combining among parties. Based on this theoretical lens, first I will explore how SC and AC contribute to inter-organisational learning in R&D consortia. Secondly, I will investigate how SC and AC (co)develop in such settings. Driven by critical realism epistemological stance, this research will use case study as the research strategy in 4-5 companies engaged in R&D consortia. It also adopts qualitative methodology and research methods will mainly involve semi-structured interviews. The results are expected to enhance our understanding of how AC and SC develop in R&D consortia. They are, moreover, expected to give some managerial implications on how to increase the learning outcomes in R&D collaborations in general and in R&D consortia in particular.

Keywords: Absorptive capacity, social capital, organisational learning, r&d consortium, intra and inter-organisational settings, case study

The Mutual Transmission of Knowledge and Competencies between Generations: an enabler of Dynamic Capabilities

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Abstract:: The purpose of this article is to propose a generational view of the organization in order to think about the firm evolution between continuity and adaptation. Especially, we suggest that the “intergenerational transmission of knowledge and competencies” may be an enabler of assets reconfiguration in the ambit of dynamic capability. Since the 1980’s, the resource-based view of the firm (RBV) (Penrose 1959; Wernerfelt 1984; Barney 1986) has pointed out the role of internal and idiosyncratic resources of the firm to gain in competitive advantage. Knowledge and competencies are regarded as being the main strategic assets that the firm should identify, protect, exploit and renew. We sum up these strategic assets in a four-stage systemic model, ranging from the 1) individual knowledge and 2) competencies, to the 3) collective competencies and 4) organizational capabilities. Yet, in a changing environment, firm has to evolve and transform itself in order to sustain its competitive advantage. The ability of a firm to extend and modify its strategic assets to do so is called dynamic capability (Teece and al. 1997; Helfat et al. 2007). However, the question about how, concretely, the assets reconfiguration manifest itself in a local level has not been answered yet. This is an important issue, considering the systemic and socially embedded nature of knowledge and competencies: these are sticky assets (Szulanski 1996) that hardly evolve. Recently, the on-going retirement of baby boomers has emphasized the need of an intergenerational transmission: it is fundamental to retain their knowledge and competencies which represent the strategic assets of the firm. However, the one-way transmission from the elder to the younger is not sufficient to ensure the survival of the firm. The strategic assets of the firm also need adjusting and updating through time. Therefore, the intergenerational transmission should be seen as a dynamic capability. Based on this parallelism, we put forward that the concrete functioning of strategic assets reconfiguration may be observed through the analysis of the intergenerational transmission of knowledge and competencies. Then, we try to define the concept of generation so as to explain the issues related to the strategic assets reconfiguration. Two generational concepts in management are identified and rejected: the “societal generation” and the “life cycle generation”. A third and new concept of generation is proposed: the “generation of knowledge and competences” which refers to a group of people representing a homogeneous area of knowledge and competencies. Building on this definition, we advocate that the intergenerational transmission may act as an enabler of firm assets reconfiguration between continuity and adaptation. Then, a better understanding of the former could contribute to the management of the latter. Implications for future research

are discussed.

Keywords: generation, knowledge, competence, dynamic capability, the resource-based view

Organizational Learning through University-Industry Research Cooperation

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Abstract: The purpose of this paper is to describe a PhD research work in progress, which empirically determines organizational learning processes in University-Industry Research Cooperation (UI). Since knowledge is considered to be the most valuable resource of an organization, the management of knowledge has become a central issue in the scientific as well as in the practical field. For industrial companies, one promising source of new knowledge creation is the research cooperation with universities. But still the preservation and transfer of (tacit) knowledge is a major challenge for organizations. Since project work is commonly applied in UI research cooperation, the documentation of tacit knowledge and the transfer of procedural knowledge to other parts of the organization are considered as essential steps towards a learning organization. While research projects bear a high learning potential for individuals and the whole organization, the practical realization of this idea is not fully accomplished yet. One reason is the unanswered question of how to design project work of UI cooperations in a reflexive manner for the purpose of organizational learning. Therefore the research question can be formulated as follows: *How should project work in UI research cooperation be designed to foster organizational learning?* To answer this research question the author refers to various theoretical fields of research (organizational learning, knowledge management, project management). Since social interaction is considered to be an essential part in project work and tacit knowledge transfer, a qualitative research approach in form of a single case study seems to be adequate. Object of determination will be the institutionalized program of an industry organization which undertakes diverse research and development projects in cooperation with several universities in Germany. In conducting interviews with participants from both organizations and in observing the generation, use and transfer of the project knowledge, the author develops a model of reflexive project work, which can be seen as an advanced version of actual project management in regards of a sustainable use of organizational knowledge. Research results will offer interesting insights into the design of cooperative UI research projects. Implications derived from the research may be useful for scientists in

the field of knowledge management and project management as well as to practitioners like project managers or consultants.

Keywords: organizational learning; university-industry research projects; project work; reflexion; case study

Non Academic papers

Institutional Leadership: An Inconvenient Truth

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*“The world is getting smaller, time is getting shorter, networks are getting larger and more complex, and your stakeholders are demanding more...Do you thrive in this environment?”(Carla O’Dell)
The Executives’ Role in KM (2004)*

Abstract: The views expressed in this paper are those of the author and do not represent the official policy of Canada DND/CF, NATO or NATO School. *“Demoralized by leadership failures and struggling to prioritize its workload, the Mounties [Royal Canadian Mounted Police – RCMP] have been waiting for months for the federal government to appoint a new commander. Under the status quo, a proliferation of fiefdoms within the RCMP leaves commanders raiding each other’s budgets for resources, and starving some important programs to feed others.”* This review of the Auditor General’s annual report to the Canadian parliament (Globe & Mail, 10 June 2011) is a good example of a public service organization that is struggling to effectively integrate the top-down achievement of organizational objectives with satisfying the bottom-up operational demands of the organization. While the RCMP may not have had a commander/CEO in place, there are many organizations that do and yet they still suffer the same ‘workload-fiefdom’ fate because they lack the institutional leadership to pull it all together. There does exist a ‘private sector’ organizational development discipline that can address this phenomenon - Knowledge Management (KM). KM is not so much a discipline unto itself as it is the namesake for all the multi-disciplined approaches that make up the institutional performance dichotomy of *making sense of the world* so that we can act more effectively in it. These two fundamentally different ways of “*seeing the world*” are part of the challenge of KM because right from the outset each paradigm takes the KM professional down a completely different path to defining what KM is all about. Like most organizations, the North Atlantic Treaty Organization (NATO) has also struggled to make sense of the complexities of the new Information Age at a time when the operational perspectives, perceptions and different organizational maturity models of 28 different nations, not to mention the different cultures and sub-cultures of their armies, navies and air forces often vary. NATO has recently coined a new term called Information and Knowledge Management (IKM) and produced an IKM Vision/Concept that envisions transforming into a truly 21st Century Knowledge Centric Organization (KCO). The title of this paper is intended to solicit interest in a holistic approach to knowledge transfer and information management that will bring together both the organizational and operational perspectives of KM. This paper introduces a holistic framework that integrates both KM

perspectives in order to ensure better decision-making throughout all levels of the organization; ie, the simultaneous achievement of long-term 'organizational' objectives and short-term 'operational' requirements. This KM Institutional Effectiveness Framework forms the basis for the IKM Blueprint for Action that is intended to provide the institutional leader with a big picture 'tool' for implementing the tenets of KM. The 'organizational' component of the framework has a heavy top-down organizational strategic change focus to it, while the 'operational' component draws upon bottom-up business requirements necessary to maximize overall organizational and operational efficiency and effectiveness (MOOEE). For this integrated KM framework and accompanying blueprint to actually improve overall organizational performance in complex environments, leaders across the organization will have to face the fact that *institutional leadership is an inconvenient but vital truth of the 21st Century!*

Keywords: IKM, decision-making, knowledge transfer, OD

Can Knowledge Management Survive Without Information Technologies?

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Abstract: The objective of Knowledge Management (KM) is to facilitate and encourage an exchange of experiences mainly connected to activities which involve people, process and technology. What would happen if this exchange was only limited to people and processes and without or with limited technology to facilitate knowledge exchange?. Knowledge processes usually evolve from inside the human who is accustomed to specific cultural behavior aimed at increasing the use of information across a group or community. Recently, there has been an increasing tendency to use social media and new technologies in human information exchange. This lures us into forgetting that knowledge is something that we "construct" first in our mind and only later share in conversations or in written statements. Would it be easier for an organization to encourage its people to share their knowledge if it first focused on the human exchanges? What if it intentionally put less emphasis on searching and using the best kinds of trends in technology for knowledge exchange, which would best match its organizational culture? What are the factors which make people share and trigger them to exchange knowledge, to change peoples' disinclinations to enthusiasm for communication? These can be external influences and enticements, such as remuneration, recognition and job promotion. But the most successful factor to initiate a knowledge sharing culture is to simply make people comfortable with sharing their knowledge with others; imposing a new technology and

tools might not always be the best choice for this. How do we achieve this knowledge sharing?. With this paper, I will review various ways of stimulating interest and comfort to share knowledge face-to-face, and of ensuring that knowledge sharing is understood to be a part of an employee's responsibilities. Additionally, I will have a more detailed look at organizational techniques and methods that can encourage a knowledge sharing culture. It can start out with a small gesture which, in the end, can have a huge impact on the organizational culture, provided that there is buy-in not only from management but also from your peers.

Keywords: knowledge, information technology, face-to-face, organizational culture, recognition

Enterprise 2.0: Knowledge Management for Decision Support

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Abstract: Think Tanks are concerned with the process of national and global development. They build viable relations among external actors across the board, from civil society to decision makers. Despite of the large volume of literature describing the role of Knowledge Management (KM) to the corporate sector, there continues to be a lack of information discussing how exactly KM helps these institutes and organisations. The aim of this paper, an action research, is to address actions taken toward developing an appropriate Knowledge Management System (KMS) inside IDSC, an Egyptian think tank working in the field of decision support. Unless there is no common systematic Knowledge Management System Development (KMSD) approach to follow, action research has been considered to take place in this paper to identify opportunities for KM applications and their corresponding Enterprise 2.0 enabling technologies for the organisation's KM investment.

Keywords: Knowledge management, knowledge management system, think tank, enterprise 2.0, action research

Capturing Lessons That Should be Learned: An After Event Review for Whole-of-Government Security Planning and Operations

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Abstract: In February 2010, Canada hosted the Vancouver 2010 Winter Games. To ensure a *Safe and Secure Games*, multiple safety and security agencies at three levels of government had to work in an unprecedented partnership for security planning and operations. This whole-of-government approach to domestic safety and security, often bringing together non-traditional partners, provided a unique opportunity to analyze collective strengths and weaknesses and to make suggestions for process improvements in future domestic inter-organizational public safety or security events. Defence Research and Development Canada – Centre for Security Science undertook an After Event Review which incorporated qualitative operational research methods into a Lessons Learned process. Typically a Lessons Learned cycle involves five steps: preparation, collection, analysis, endorsement, and change. Often, the process relies upon initial observations without the benefit of independent analysis. The After Event Review refined the preparation, collection and analysis stages by focusing on analytical methodologies and inserting subject matter expert validation throughout the process. Beginning with a mission analysis in the preparation phase, the researchers were able to determine the expected outcomes against which to appraise the ability of the partners' collective success. It was also necessary to determine a capability framework against which to assess the overall planning and operations. For this purpose, the US Department of Homeland Security's Target Capability List was selected. During the collection phase, interview surveys, a social network analysis and case studies were employed and resulted in the identification of nine critical issues for analysis. Using the capability assessment approach, the researchers were then able to identify best practices and corrective actions which could be applied to future domestic security operations. Subject matter experts were consulted throughout to determine if the findings were indicative of operational realities. The resulting conclusions could lead to recommendations for the consideration of change authorities within the federal security community. The enhanced Lessons Learned approach gave the final results a level of validation that may not normally be recognized through a less thorough process.

Keywords: Lessons Learned, after event review, social network analysis, v2010, security planning, operational research

Work in Progress Papers with Posters

Knowledge Ontology in Labor Outsourcing Environments

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Abstract: The purpose of this paper is to show progress on ontological aspects of tacit knowledge, found in Colombia's textile companies where outsourcing occurs. It is a qualitative study based on four concepts that are analyzed in a spiral: identity, autonomy, tacit knowledge and ontology; citing authors such as Foucault, Kant, Nonaka-Takeuchi, and Bédard. Partial results show that changes in the tacit knowledge occur when workers move from having a direct contract to be subcontracted; is also observed that these changes occur in parallel in the ontological dimension, identity and autonomy of workers. The idea of focusing the analysis on the ontological dimension arises from the need for a debate on a general presumption in the academic literature, where the new knowledge in companies must be managed through strategically designed programs. This paper shows that tacit knowledge is also a result of contingencies arising from decisions on contract workers. The value and usefulness of the partial results for the future of this research is to provide criteria to broaden understanding of tacit knowledge in textile companies, based on analysis of current policies of labor flexibility in today's world.

Keywords: Ontology, tacit knowledge, identity, autonomy, labor outsourcing

Proposal For A 2.0 Knowledge Management Model for “Medellin, Cluster City (Medellin, City of Knowledge)”

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Abstract: According to studies conducted in emerging economies, clusters are defined as strategies leading to power regional economic growth processes around the globe. This happens through knowledge creation, appropriation, transfer and distribution. Agents belonging to diverse sectors are involved into clusters such as the governmental sector, private, guild, entrepreneurial and the educational. Clusters are nowadays a fundamental tool to stimulate entrepreneurial growth in cities since it strengthens competitiveness in the regions and in the economies. Clusters allow companies from a certain sector to build business networks; spot new trade niches and become more competitive and more sustainable. As a top priority

of its strategic plan of development, Medellin has given emphasis to the project “Medellin, a Cluster City”. This project makes part of a bigger plan called “Medellin, City of Knowledge”. Setting up and supporting clusters demand from the city proper knowledge infrastructure which leads it to achieve diverse objectives; objectives aiming at creating innovation, a chrysalis adapted to the city’s context. This article presents a knowledge transfer model supported by Web 2.0 platforms which assists collaboration and interaction (generating associativity and cooperation) as fundamental components of clusters. Under these approaches and the supportive technologies, collective intelligence is expected to surge. The knowledge transfer model is based on Nonaka and Takeuchi’s knowledge creation model.

Keywords: Cluster, Knowledge transfer model, Web 2.0, collective intelligence

Similarity and Accuracy of Shared Mental Models and its Impact on Process Stability in Steel Production: First Results of a Knowledge Audit Methodology

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Abstract: Based on the assumption that a higher degree of similarity and accuracy of the four types of Shared Mental Models (SMM) lead to more stable processes, a Knowledge Audit (KA) has been developed for Hüttenwerke Krupp Mannesmann (HKM), a steel producing company in Duisburg, Germany, which is based on a SMM measurement approach. This approach fits the HKM specific needs (e.g. rotating shift, decentralized shift over) based on the assumption that SMM are regarded as essential elements to coordinate the adaptability of work groups which allows them to act purposefully and mindfully as a unit. In the present study, SMM are selected to develop an innovative approach to measure within a KA what is assumed to improve team performance which leads to a more stable (slap casting) process.

Keywords: Shared mental models; knowledge management; experience management; stable processes; measuring

What's your Strategy for Measuring IT & Non-IT for Knowledge Management in an Organisation?

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Abstract: This paper presents and describes a new pragmatism orientation technique for identifying and measuring knowledge management to grow an organisation. The technique brings together Dilip Bhatt KM components. The empirical study presents results, a Kiviat diagram, highlights the principal significance for comparison alignment between two KM models (Non-IT and IT connections) using Composite Features Diagramming methodology. This method illustrates an abundance characteristics component results in visual qualitative technique that also enables conducted quantitative evaluation to fundamentally analyse, measure and transform an organisation success level retrospectively. It studies these links in a Healthcare organisation context, where KM is a strategic concern. Finally, further recommendation is subsequently addressed for future exploration works.

Keywords: knowledge management (KM), composite features diagramming (CFD), knowledge management systems (KMS), knowledge management models (KMM), information technology (IT) models metrics, Kiviat

Scope of Knowledge Management for Improving Performance in Call Centre Service Delivery

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Abstract: As in other services, call centres may primarily be characterized by their interface, the point where the customer and provider meet (Teboul, 1991). The interaction plays a major role in forming the customer's perception of the company and hence will determine its success (Bitner, 1990; Bitner, Booms, & Tetrault, 1990). Performance in a call centre service interaction is influenced by three interacting dyads, namely customer-agent, agent-knowledgebase, agent-management.

When a customer is calling a call centre, his/her first interaction is with the Interactive voice response system, which is basically a automatic knowledge repository designed to help customers in solving basic queries; if the customers queries are not resolved here, the next stage is the interaction with the agent. The agents interact with their reference database on the desktop to obtain information on the customer and his query. Management has to interact with the agent in terms of providing consistent on/off floor

training/support, monitoring and appraisal in handling customer calls. The goals of a successful customer encounter would be forfeited only when the agent is able to communicate with its counterparts in all three dyads, in the most effective and efficient manner.

Therefore, the questions this research is asking are:

- What is required of each of these interactions in order to be effective? and
- How can the available knowledge resources be utilised to the optimum to remove unwanted glitches so that appropriate efficiency in the processes can be achieved?

To answer the first question the research will involve an analysis of the customer-agent interaction, regarding what constitutes an effective service encounter from the customer's stand point. This will involve a qualitative investigation into what factors influence customer satisfaction (involving literature review, interviews and focus groups with call centre staff) contributing towards forming a survey to be used to analyse customer perception of these factors with regards to their influence on overall satisfaction with the interaction.

The second research question will involve a content analysis of the available knowledge base to see if they contribute to the effectiveness of the service as identified from the first research question, and also path analysis of the communication system in a call centre with attention to identifying hurdles and ensuring efficient flow of information in between all the actors.

This research contributes towards both theory and practice of performance management in understanding the needs that call centre communication must meet so as to produce positive experiences for their customers.

Keywords: Performance management, Knowledge management, call centre service

A Model for Risk Analysis in the Process of Building a Knowledge Cluster in Colombia

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Abstract: In such a competitive world, where companies face new challenges every day, clusters, defined as strategies that dynamize national, regional or world economic growth, have become a space leading to knowledge creation, ownership, transferring and diffusion inside companies. This strategy represents a growing source for companies and cities as much as they allow companies belonging to a common sector group into business

networks, also, they can spot new business opportunities and become more competitive and sustainable. Knowledge clusters involve different agents from diverse nature such as governmental, private, industrial, educational or entrepreneurial. In other words, these represent a space where demandants (companies) and knowledge offerors (universities, research institutes, consulting groups, etc) interact. These clusters' main goal is to support knowledge creation, ownership, and application processes which can lead to a better development of competitiveness among companies by means of creating a dynamic exchange of information among the companies belonging to the cluster. This paper aims at presenting a model for risk analysis in the process of building a knowledge cluster between private companies and high education institutions (IES*) from a qualitative point of view. This methodology has been used in a process of building a knowledge cluster in Colombia.

Keywords: Knowledge cluster, risk, knowledge network, philosophy

Abstracts with Posters

Collaborative Decision Support System Proposal Model to Reduce Delay of airline Operation Process and Implementation for Istanbul Ataturk Airport

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Abstract: The most important difference of airline transportation service from other transportation services is the short duration of transportation time. However, delays and cancellations in airline transportations reduce this advantage. In order to minimize costs and maximize revenues of companies in airline service processes, scheduling plans must be prepared and implemented in correct way. Delays and cancellations due to disruptions cause extra costs and extra work because of replanings for the companies in this process. According to researches, one minute delay costs companies between 39.4 and 48.6 Euros. It is estimated that the total cost of delays and cancellations to the aviation service companies is about 5.1 billion Euros in Europe, annually. According to the report of Intergovernmental Panel on Climate Change, more than 18 % of the fuel is used due to unproductively in the operations in aviation and this can be prevented by the right management of these operations. According to literature review, it is determined that various models are used for the management of delays in aviation companies. The developed models are usually tried to minimize the delays by the optimum arrangement of the schedules. However, not so many studies can be found about correct management of disruptions in order to minimize delays. The most important reason of it is to give the entire responsibility only to the airline companies for the correct management of disruptions and to present airline services, totally. Therefore, this shows the necessity of collaborative disruption management approach in airline service process. In the progressing Scientific Research Project, it is aimed to propose an innovative decision support system for the management of delays and cancellations, which is one of the most important problems of civil aviation sector. This decision support system is to present the decision alternatives that is able to be used in disruption management for the possible delays to the people working in airline service process. Then, the decision maker will decide on what to do to manage it according to these decision alternatives. By the help of this decision support system, economic, social and ecologic effects of delays and cancellations are tried to be decreased for the companies in airline service process. The delays and cancellations are tried to be predicted before it is happened in order to minimize the deviations in planned schedules by the proposed model. The proposed model is important because it supports the studies about Ataturk Airport CDM Project which is a part of IATA, ACI and EUROCONTROL Projects, and helps the ground handling companies to manage disruptions. Moreover, it will be a basement

for the related studies made in different disciplines. Besides, it is very important to support the civil aviation developments in Turkey by this type of academic studies. It is planned to collect data by literature review and surveys then analyze this data by statistical tools like regression, factor analysis and structural equation modelling and finally propose a decision support system model to help the decision makers.

Keywords: Airline management, disruption management, decision support system, Istanbul Atatürk Airport

The Multiculturality Aspects in Knowledge Management within the Slovak Industrial Enterprises

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Abstract: The phenomenon of globalisation has been persistent since the last decade of 20th century and is still a factor that influences organisations and people these days: businessmen, entrepreneurs, public sector employees and professionals communicating with people from other cultures face to face or in an electronic form. Therefore, people should understand and respect their counterparts and they should strive to improve their competencies in order to boost their work effectiveness. Managing multicultural aspects and differences becomes imperative for managerial work. Understanding business environment creates a basis for competitive advantage while successful adjustment to the changes is a necessary for survival on the market. Furthermore, the contemporary situation in the arena of knowledge management, particularly in intercultural management underlines the main concepts that both academicians and industrial enterprises should focus on. To understand the culture effect within the organisation is a fundamental prerequisite of effective intercultural management. Culture is perceived as a value to be exploited and benefited from, as well as knowledge to be applied to a useful purpose – achieving business goals. Thus, culture is finding its place of significance in the experience of global individuals. As the workplaces become more diverse, culture and intercultural management gain more importance. The importance stems from the fact that the present world is not a homogenous “monoculture” and the organisations increasingly face two simultaneously evolving issues: a) the challenges presented when companies / enterprises move to new, often culturally different locations; and b) labour mobility that resulted in diverse workplaces where people from different cultural backgrounds share their work experience. This presents a twofold challenge for companies and underlines the need to focus on intercultural management as a part of knowledge management. To conclude, the globalisation impact and

international business underline the intercultural management importance. In actual conditions it is necessary to deal with this field of management to ensure high performance of organisations, especially the global ones. In the article the outcome represents multiculturalism survey and the focus is put on the Slovak Industrial enterprises and the survey results that are highlighted, explained and supported by the statistics and graphs.

Keywords: knowledge management, globalisation, survey, multiculturalism, industrial enterprises

**Extended
Abstract
for
Presentation
Only**

Communities of Practice and the Development of Comprehensive Knowledge Management Models

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Abstract: The eOSMO - Providing Support for Advancing Social and Health Care Services through New Innovations in Knowledge Management project developed knowledge management (KM) solutions for four organisations in the social and health care sector. The project also developed a regional network of KM and a knowledge-enhancing career path model.

Keywords: comprehensive knowledge management model, community of practice, knowledge leadership, innovation capability, knowledge network

Communities of Practice as Developers

The core of the development efforts was built around different communities of practice (CP). Members of a CP wish to share their knowledge, to learn together, and to develop new knowledge and skills through constant interaction with one another within the framework of the shared values (see Wenger 2006; Hakkarainen et al. 2003). The CPs developed knowledge management tools and comprehensive models which were suitable for their own organisation. The development efforts were supported by coaching, which used an approach that emphasised dialogue to create a shared understanding of the subject to be developed. This is how the CPs produced different solutions and chose the most well-suited ones for their own organisation.

Comprehensive Models of Knowledge Management

KM can be defined as referring to all purposeful and planned activities which are used to renew, foster, develop, share, utilise and acquire the knowledge required by the strategy of an organisation (Viitala 2007). Hence development efforts relating to the organisation's KM were started by a CP which involved the organisation's top leadership. This CP defined the strategic core competencies of the organisation, which were founded on the organisation's strategy, goals, future challenges and changes in the operating environment.

After this, a CP involving the superiors and employees of the organisation was set up to develop tools and instructions for mapping the existing knowledge and drafting a knowledge development plan. These tools and instructions included knowledge maps, knowledge surveys, individual and group discussions and knowledge development plans at different levels of the organisation. The tools were tested in trial projects. The experiences gained from the trial projects served as the foundation for the organisation's

leadership to develop, with the help of a ‘dynamic puzzle’, a comprehensive KM model suitable for the organisation’s needs, strategic goals and structures. The pieces of the puzzle describe the different components of KM (see Figure 1), which can be dynamically joined together in different combinations to meet the needs of the organisation. The KM models were described in writing and they included process descriptions and flow charts.

KM should be linked to decision-making which is dependent on, or affected by, knowledge resources (Boudreau & Ramstad 2010). Hence, the KM models were included as part of the organisations’ operational and financial management. This can be seen in the process descriptions, in which KM is linked to financial and operational management and human resources planning. This is how KM supports operational and financial management and enables activities which are in accordance with the organisation’s strategy (Figure 2).

Knowledge management in organisations (eOSMO project)

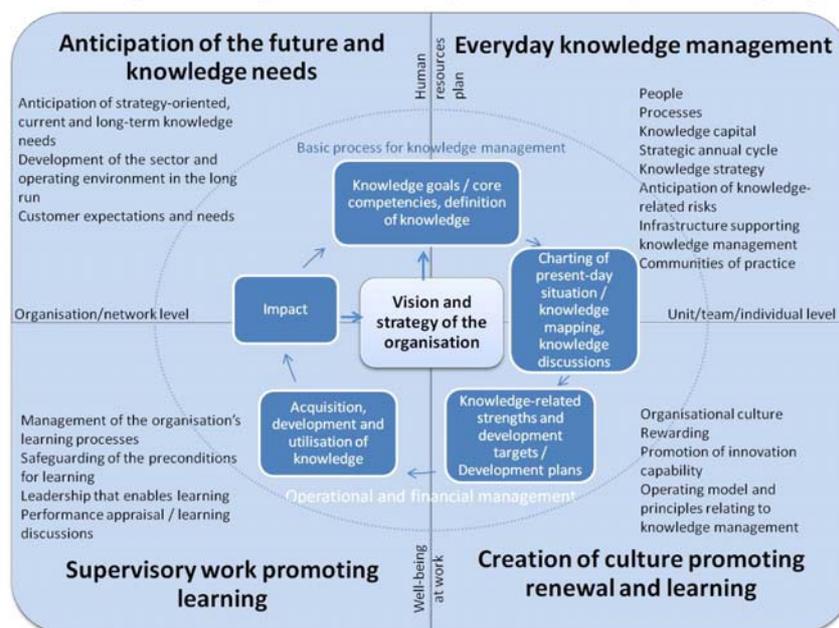


Figure 1: Knowledge management and leadership in the eOSMO project. © The eOSMO project, Arttu Puhakka, Katja Väyrynen, Päivi Sihvo.



Figure 2: Knowledge management as part of operational and financial management. © The eOSMO project, Arttu Puhakka, Katja Väyrynen, Päivi Sihvo.

Knowledge-Enhancing Career Path Model

The project also developed operating models promoting knowledge assurance, renewal, sharing and development. This gave birth to the idea of a knowledge enhancing career path model, which looks at knowledge development from the viewpoint of the goals of the organisation and the individual. The significance of tacit knowledge and knowledge sharing were highlighted, which gave birth to the idea of a ‘key expert’. A key expert has strategically significant knowledge the sharing and transfer of which should be taken care of within the organisation. This is why it is important to recognise key experts and to utilise their knowledge.

Regional Network of Knowledge Management

The project established a regional network of KM for the social and health care sector, which works in accordance with the principles of the community of practice. The central tasks of the network are to foresee regional knowledge needs, to direct the knowledge development efforts in accordance with the regional strategy, and to support the regional actors in issues relating to knowledge management. This is how the network plays a role in the renewal of social and health care services.

Conclusions

A total of four comprehensive, organisation-oriented KM models were created. These models cannot be transferred to other organisations without making the necessary, organisation-specific alterations. Indeed, each organisation should develop and create a model of its own, which is suitable in view of the strategy, goals and operations of the organisation.

The KM model presented in Figure 1 and the ‘dynamic puzzle’ have proven to be efficient tools in the development of the KM models and in their integration into the organisation’s operations. The development of the process

descriptions, instructions and forms relating to the comprehensive model provide support for understanding the significance of KM, the structuring of the entity, and the introduction of the model. They can also be used to ensure that KM becomes part of the organisation's operational and financial management. However, the main benefits of the development efforts relating to KM can be found in the emerging dialogue on the organisation's future, goals and knowledge base.

The CPs in the eOSMO project were consciously constructed and the members had been selected based on their interest and they represented the different levels and professions of the organisations. They served as communities for learning and development in which the members learned and developed their organisations' knowledge management and the related tools while seeking to overcome the limitations of their current practices. In this respect, the CP can be referred to as innovative communities of practice. The organisations also have unofficial CP, but in our opinion, it is the consciously formed CP that constitute the unused resource within organisations.

It seems that the introduction of the KM model requires the following things: KM as an integral part of operational and financial management, commitment of the leadership and superiors, in-depth understanding of KM throughout the organisation, and goal-oriented leadership that enables learning at different levels of the organisation. Understanding of KM requires personal reflection of its significance, testing the developed tools within the organisation, and thus a clear vision of KM and leadership as a whole.

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