

IT investments justification based on the business driver tree

M Fay, V Grekul*, N Korovkina

National Research University Higher School of Economics

20 Myasnitskaya Ulitsa, Moscow, 101000, Russia

Received 25 December 2013

Abstract

Choosing the right IT project for supporting the company business development is nowadays one of the most critical tasks in information technology management. No one has yet managed to create one optimal solution, equally suitable for different types of stakeholders (business owners, managers, investors). This article, based on the ideas of Value Based Management and business/value-driver trees, concentrates on an original approach to managing investments in enterprise architecture IT component. The method suggested has been successfully applied to evaluate the IT project portfolio within a large metals company in Russia.

Keywords: Value Based Management, IT-project, IT investments, business driver, IT projects portfolio, investments justification

1 Introduction

In 2012 Harvard Business Review published the results of a survey [5] conducted among the top-managers of the world leading companies. According to HBR, 72% of respondents stated that “the use of technology has helped to create new value in business areas” – and also noted that IT departments have become full-scale players able to influence company’s competitive advantages and profits. IT projects go after investments playing on the same field not only with other IT projects, but also with the core operations projects. Due to this fact, the objective of justifying the planned IT project outcome (and, needless to say, choosing it) has becoming more and more relevant, especially in connection with the business outcomes and business goals.

According to Gartner Group [3], 35% of all IT expenditures would be managed outside of IT departments. Independent IT projects would be budgeted by business specialists – which It means their strategic importance would be the key focus. However, economical methods of IT investments justification, used by the majority of enterprises, are mostly based on the forecasts and are not able to preview all the possible risks and take into account company strategy and tactics.

One of the latest researches conducted by the Russian ITSMF-forum [6] note that entrepreneurs tend to invest “spontaneously” and 3 out of 4 CIOs report on the non-comprehensive current justification methods that will have its negative impact in a long-term period. “Business-oriented IT assets” is a goal stated by many companies but, unfortunately, in most cases this will not come true.

Multinational experience and best practices can help in such a situation to define and consider companies’ business priorities in terms of “business drivers”. Without

doubt, IT investment planning should be systematical and based on the contribution to the business-oriented information services provided to the company. Let us define the “information service” here as “a way of presenting the IT value to the users by helping them in achieving the desired results”.

This term appeared back in 2007 in ITIL 3rd edition and only now it is gaining its well-deserved popularity among Russian CIOs, while it is one of the most direct ways to link together the company value growth factors (business-drivers), IT services offered to the business and IT systems/infrastructure costs. For instance, the project of creating a corporate web site can (and should!) be regarded NOT as a simple web-site creation (which is a method), but as creating “a company office/representation” online (which is the primary objective). Thus, the business service provided can be seen from the point of view of improving the company image and brand recognition (they could already be examples of business-drivers).

According to the researches of the practices of evaluation and IT benefits management for SMEs, provided by Edith Cowan University and Brunel University professors [2], the lack of a holistic model for IT investment management is likely to result in several consequences:

- ✓ Refusing the IT infrastructure investments (with negative outcomes in the long-term period);
- ✓ “Intuitive” and “spontaneous” investments;
- ✓ Not taking into account the business and industry specifics – and thus, losing potential competitive advantage.

* Corresponding author: grekoul@hse.ru

Many monographs published at some point highlight these questions. From the scientific point of view really important is the research done by Love Peter E.D. and Irani Zahir [7]. They take a close look at the key difficulties that companies have while justifying the projects, the practices they use to define the strategic/tactical/operational IT outcomes as well as the most popular reasons for positive decisions on IT system implementation.

The problems formulated above demand the creation of IT investment justification method that would rely on both the strategy and business-drivers for defining the IT projects business value. It is the basis for the current research relevance. Important to mention, this article does not pose the aim of describing the existing or creating new and universal ways of defining the strategic goals and IT assets necessary. The article concentrates on the common both for business and IT area of business drivers, proposing a mechanism for their implementation to IT investment justification process.

The key objective of the current research is ensuring the business priorities consideration for the IT projects portfolio creation process through the development of a complex IT investments justification method for the large Russian metals company, whose headquarters is based in Russia with several foreign branches.

2 IT project justification method components

As already mentioned above, Gartner Group research shows that to the year of 2015 corporate IT expenditures would continue to become the area of expertise and decision-making for business specialists. To define the criteria for the suggested approach adequacy we shall turn to the results obtained by a group of Russian researchers and practitioners, united in the “IT value” project aiming at developing the topic of information systems economic efficiency. Their findings define the key problems mentioned by managers on the topic of IT [1] (Table 1).

TABLE 1 Key problems in evaluating IT investments

Business stakeholders	Highlighted problems
Entrepreneurs	Low comprehension and consideration level of business and industrial specifics
Investors	High rate of errors for cash flow forecasts for IT.
Top managers	Lack of IT evaluation possibilities without the deep understanding of business strategy
Line managers	Lack of investment business effect possibilities and inability to formulate the requirements for the investment projects

Analysis of these results enabled us to define the following criteria for the method to be developed:

- 1) Relying on the best practices that take into account company strategy;
- 2) Having the opportunities to define the potential benefits from IT projects in business terms;
- 3) Assembling the IT projects portfolio based on the strategic priorities.

2.1 RELIANCE ON THE BEST PRACTICES THAT TAKE INTO ACCOUNT COMPANY STRATEGY

In the VBM concept, graphical model of which is presented at Figure 1, the drivers are considered to be ‘the performance variables’, influencing ‘customer satisfaction, cost, capital expenditures, etc.

However, as suggests the manual published by McKinsey, who originally introduced the method in their quarterly review, generic value drivers might apply to most business units. But the lack of specificity forced us to make adjustments to the model by adding the non-financial factors as well.

Due to the results of the annual report analysis (especially the part concerning company’s strategic objectives), six interviews, conducted with business and IT managers, and the consideration of the IT annual budget (based on the project portfolio) the information gathered was sufficient to build a business-driver tree.

To begin with, it is important to highlight ABC’s strategic priorities. Company’s branches are located in different countries and continents with the focus on the USA’s market while during this project realization the enterprise was preparing to conduct the IPO. Top managers named several critical tasks, such as:

- ✓ Standardization of the key business processes at the level of business divisions;
- ✓ Establishing effective cooperation between production and management units as well as between geographically distant branches;
- ✓ High business flexibility to quickly adapt to the changing market conditions.

Company’s economic value optimization is supported by several drivers, providing detailed description of the Level-1 VBM model:

- ✓ Revenue: Market coverage and Market share;
- ✓ Costs: Production and SG&A costs;
- ✓ Working capital: Operational investments and Macroeconomic factors;
- ✓ Fixed capital: Net assets value and Assets turnover.

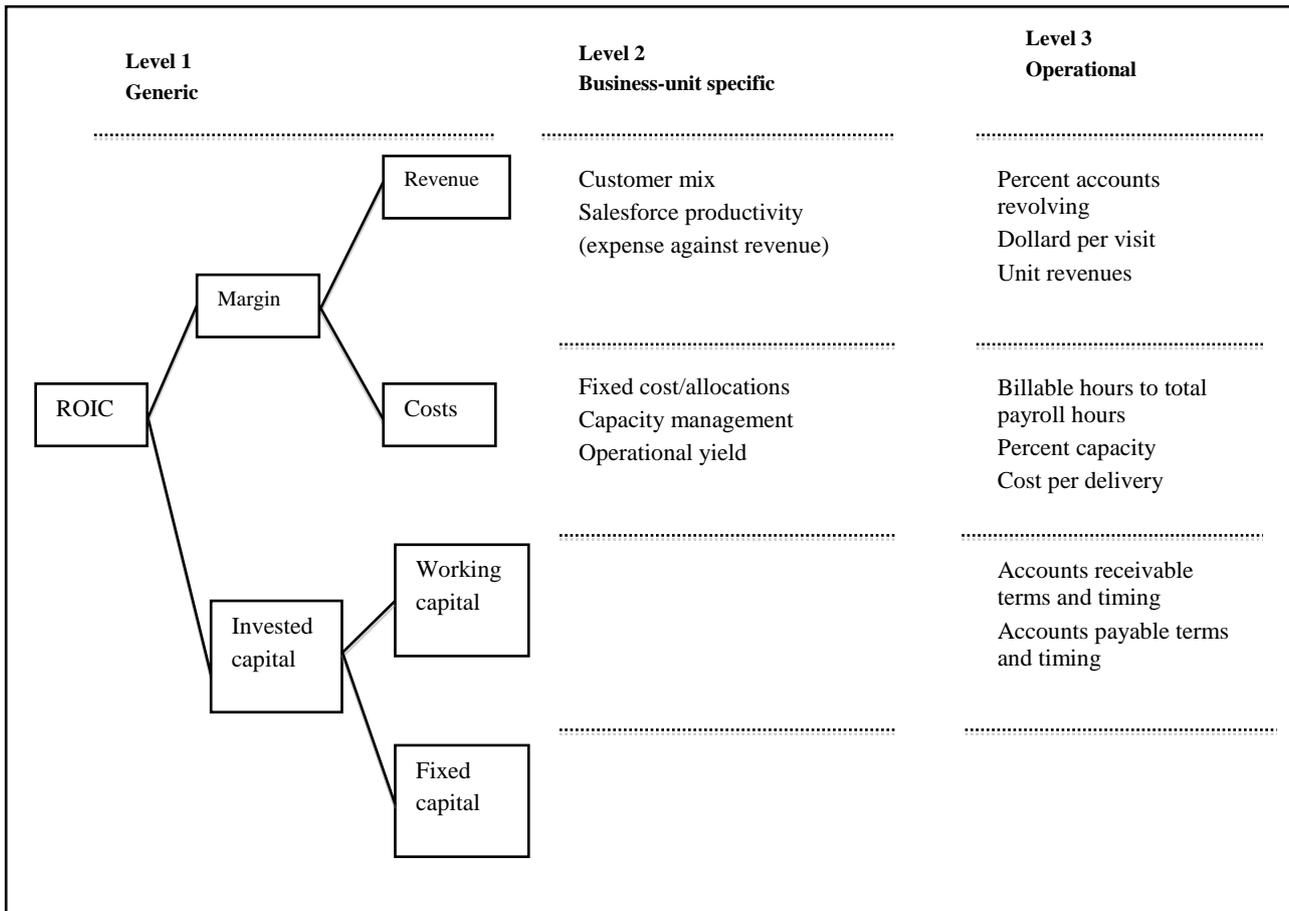


FIGURE 1 VBM value driver tree model

Company’s strategic value optimization is supported by several drivers, extending the original VBM model:

- ✓ Proactivity;
- ✓ External optimization;
- ✓ Focus on perspectives;
- ✓ Analytics efficiency.

Based on whole business modelling and analysis activities conducted the driver generic extended tree was built (Figure 2), so let us now turn to its potential application in the IT justification process.

2.2 FORMULATION OF THE POTENTIAL BENEFITS FROM IT PROJECTS IN BUSINESS TERMS

Another problem, associated with evaluation of program realization gross profit, is refusing the projects that do not reach the critical values in terms of NPV and ROI. However, if the company management estimates the highlighted business services as critical, this difference

between the actual and target values can be remitted. For instance, if the costs for the urgent organization of telepresence facilities for some important events have not been planned and justified, the project would be rejected without perhaps even being considered. At the same time, with the business-drivers tree expansion proposed the managers just need to justify that the non-financial benefits provided by telepresence outweigh the need for reaching the critical financial values. In the case above, business driver “internal optimization” that could present the objective of improving corporate communications, was considered critical according to the short-term (2-3 years) company goals.

2.3 CREATION OF IT PROJECT PORTFOLIO BASED ON THE STRATEGIC PRIORITIES

IT project portfolio could be formed being based on one more method: ValIT, introducing the whole concept of consideration financial and non-financial benefits as well as risk awareness [4].

Expanding it with the forth factor (outweighing of the financial indicators critical values by non-financial benefits), that replaces the original ‘Strategic alignment’ factor in Val IT case proposed, let us turn to the matrix

formed and applied to practice in the company described above (see Table 2).

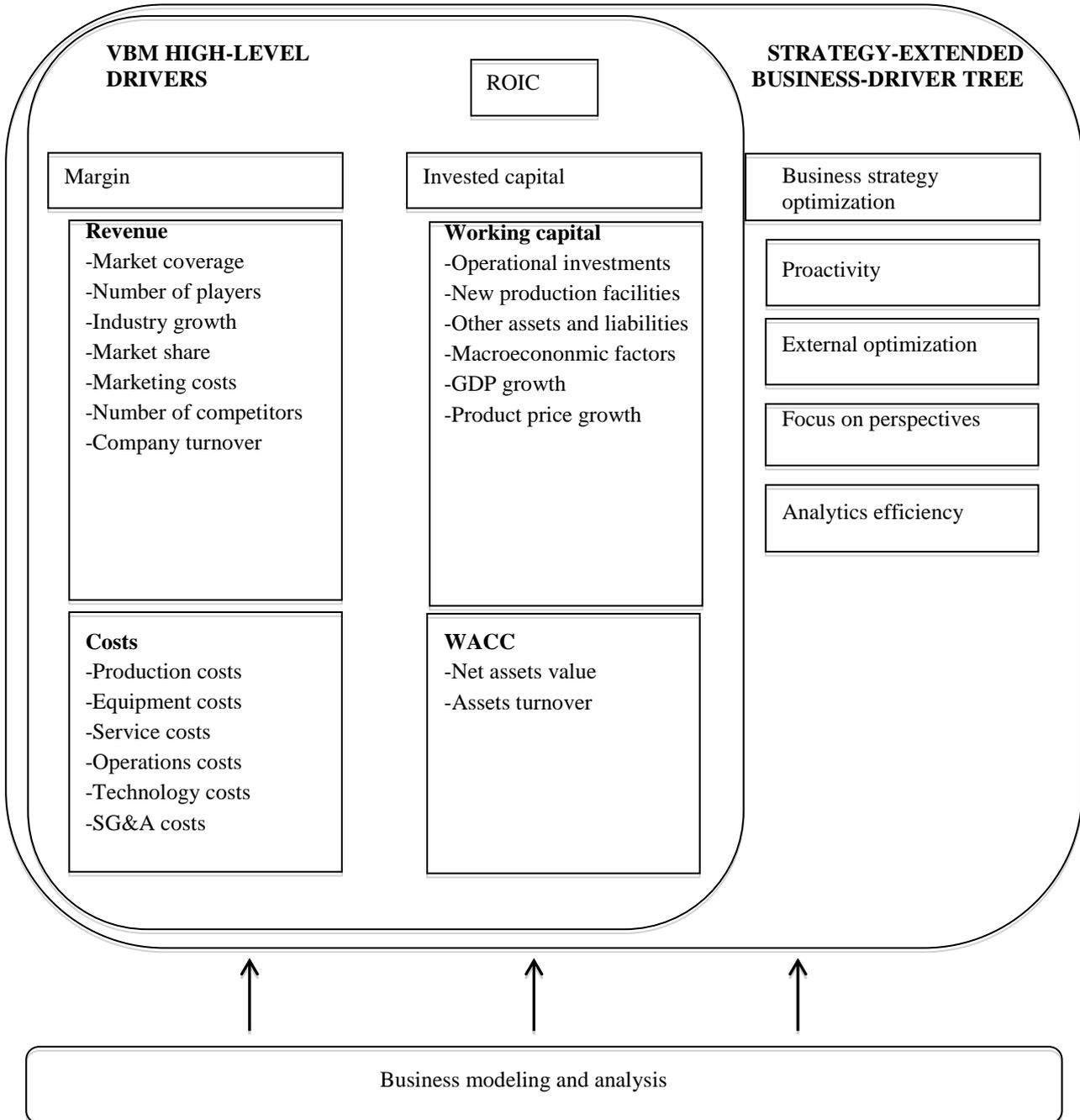


FIGURE 2 Extended driver tree

TABLE 2 IT project consideration matrix

Project	IT project consideration results			
	Calculated risk acceptable?	Financial targets met?	Do non-financial benefits outweigh the need for financial indicators critical values?	Non-financial benefits explicit
Shared service centre	Yes	Yes	-	Yes
RFID implementation to increase the accuracy of data processing and production control	Yes	No	Yes	No
Telepresence facilities to conduct negotiations and meetings with company branches and foreign offices	Yes	No	Yes	Yes

3 Conclusions

The practical results for the work conducted due to the specifics of the project and the topic itself could be evaluated for now only at the qualitative (not quantitative) level and be presented by the customer's reviews. According to the COO of the company where the pilot project implementation took place, *'...earlier the key technological reason for IT projects was the necessity to change the outdated legacy systems and make an upgrade, while now the primary goal is maintaining the alignment with current business priorities preserving flexibility of a system landscape transformation for the business requirements.'*

As the method proposed has been already adopted by several other enterprises, the first steps towards the professional business-oriented view on IT have definitely

been taken and the full-scale cooperation between business and IT would not be long in coming.

References

- [1] Anan'yin V, Zimin K 2012 *IT value, Theory and Practice* CIO Congress Kirov <http://bit.ly/139QkWJ> 28 Apr 2012
- [2] Alshawi S, Irani Z, Baldwin L 2003 *Benchmarking* 10(4) 414-423
- [3] *Gartner Reveals Top Predictions for IT Organizations and Users for 2012 and Beyond* <http://www.gartner.com/newsroom/id/1862714> 1 Dec 2011.
- [4] *Enterprise Value: Governance of IT investments. The Business Case. IT Governance Institute* 2006 <http://www.isaca.org/Knowledge-Center/Val-IT-IT-Value-Delivery-/Documents/VAL-IT-business-case.pdf> 20 Oct 2013
- [5] *Innovation from Efficiency: Unlocking the Value in IT Systems. Harvard Business Review Analytic* http://static.hbr.org/hbrg-main/resources/pdfs/tools/17441_HBR_Dell_Report_webview.pdf 1 Feb 2012
- [6] *ITSMF-forum conference*, <http://www.itsmfcon.ru/2013/> 12 Sep 2013
- [7] Love P E D, Irani Z 2004 *Information & Management* 42 227-242

Author	
	<p>Maria Fay, born 17.06.1989, Kirov, Russia</p> <p>Current position, grades: HPI School of Design Thinking (Potsdam, Germany) University studies: Master of Business Informatics, National research university – Higher school of economics (Moscow, Russia) Scientific interest: IT investments, IT governance, Technology commercialization Publications: 3 Experience: Maria has started her professional career in 2010 at Accenture Technology consulting practice, where as a part of a team she developed the enterprise architecture and IT governance solutions for major Russian utilities and production companies. Afterwards she continued her professional path in Skolkovo Foundation strategy department, getting a closer view on the business aspect of IT investment activities and taking part in CRM system implementation from the customer's side. Winner of organized by ITSM forum all-Russian research contest among graduates of 2013.</p>
	<p>Vladimir Grekul, born 15.09.1949, Sakhalin, Russia</p> <p>Current position, grades: professor, National Research University Higher School of Economics, Moscow, PhD University studies: Kiev Higher Engineer Aviation Training School of the Air Force Scientific interest: IT management Publications: 90 Experience: V Grekul has 40 years experience in design and implementation of information systems. He has been working at NRU HSE since 2001 as Professor, Head of the Department of Corporate Information Systems</p>
	<p>Nina Korovkina, born 24.10.1947, Moscow, Russia</p> <p>Current position, grades: Associate professor for the Corporate information systems department, National research university – Higher school of economics (Moscow, Russia) University studies: Moscow institute of railway transport, engineer-mathematician specialization majoring in "Mathematical and computing devices" Scientific interest: Design and implementation of information systems, IT project management Publications: 34 Experience: During her professional career, Nina Korovkina worked in the Central economics institute for economics and mathematics (division of the Academy of sciences, Moscow, USSR) as well as in the Main computer centre of State planning committee. Since 1994 she has been working in the National research university - Higher school of economics and took part in the projects carried out for the Ministry of Education, Ministry of Economic Development and Trade, Ministry of Information Technologies and Communications.</p>