

# KNOWLEDGE OF ENTERPRISE AS A TOOL FOR BUSINESS PROCESS OPTIMIZATION USING MARKETING ACTIVITIES

*Jakub Recicar, MSc.*

*Juraj Tomlain, MSc., PhD*

Slovak University of Technology, Institute of Management, Bratislava, Slovakia

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## Abstract

Knowledge as one of the most valuable forms of corporate capital during the current crisis seems to be a very effective tool. Effectiveness lies in its ability to transform raw data, statistics, pictures and another type of information into usable forms of knowledge. This is useful particularly in business processes, where this knowledge as one of the production factors can significantly impact on business results. Proper continuous management (creation, sharing, storage, processing, and exploitation) knowledge is one of the necessary conditions of competitiveness among firms that have worked with knowledge actively. They are found in various forms as either in the form of data in databases or as the partial result of their employees in project information systems. Selected questions from the corporate sector were examined in the author's empirical research. In research were demonstrated attitudes of selected SMEs in the manufacturing of chemical, pharmaceutical and food technology.

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**Keywords:** Data mining, process optimization, marketing, SMEs, knowledge society

## Introduction:

Knowledge management is an important part of business process management. It constitutes an integral component of linking knowledge in relation to other business activities. They are in the context of building a knowledge society conditioned and supported by specific forms of knowledge. The mere knowledge of the company is represented by different forms - raw data, useful information, which is transformed into knowledge. They are tapping into their own business processes are transformed into a higher form of knowledge - i.e. wisdom. In the context of current trends in contingent global economic crisis, it is necessary to use knowledge effectively and reasonable scale. Need to be handled in such a way that within the process guaranteed results. You can achieve optimum amount of knowledge that make use of all employees of the organization. It is also essential that the organization ensured the continuous creation, use, sharing and transfer of knowledge. This will allow the company to achieve a state in which comes to reducing operating costs, building a knowledge base business himself if creation of a knowledge society. Building the evidence base as a fundamental principle of successful businesses on the market is a partial implementation of knowledge management functions. Each function of the interaction of their knowledge management and creating unique for each subject requires a system of knowledge management.

The main issue of small and medium-sized enterprises (SMEs) is in the present recession steadily achieving prominence in the context of the existence of these companies. SMEs represent by their nature less, but more flexible production units. For these benefits SMEs are perfect replacement to large enterprises. Activities of SMEs can substitute selected activities of large enterprises. The disadvantage of these companies remains the lack of funding, resulting in the emergence of some negative phenomena. Many SMEs with lack of funds decline and seek to death. They are unable to progress effectively in comparison to large enterprises. Contrariwise large enterprises have stable financial base, capacity for innovation and creation of new knowledge is attenuated and weak competitiveness.

**Definition of knowledge in the context of SMEs:**

Worldwide management and marketing are currently relies on the concept of knowledge. This needs to be properly defined. Knowledge is not all the data and they are often inappropriately confused for the information. Most authors (Tobin 1996, Beckman 1997) outlined the following link definitions:

- Data** are facts, pictures, and sounds  
+ *Meaning and interpretation* →
- Information** is formatted, filtered and summarized data  
+ *Application* →
- Knowledge** is ideas, rules, procedures, which determine the actions and decisions.

Knowledge can be defined as the information and data converted into useable form and their subsequent interpretation respectively uses to solve problems in order to increase performance and efficiency of the organization. Owners of knowledge is especially knowledge workers, but also companies whose knowledge acquired purposeful activity, the same value in form of *Intellectual capital*.

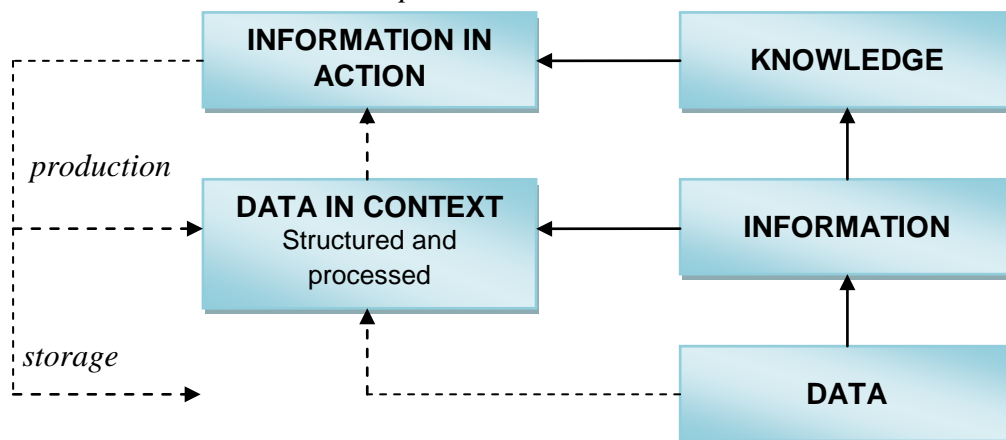


Figure 1: Procedural relationship between data, information and knowledge  
Source: De Vasconcelos, 2001

Individual relationships between data, information, knowledge and wisdom describes Bureš in the Figure 2 - it follows a clear hierarchical traceability of individual steps form the data with the trend of accretion their level of knowledge. Direct link data, information and knowledge with the dissertation presents a close link between these various constituents of filling knowledge or wisdom itself, respectively.

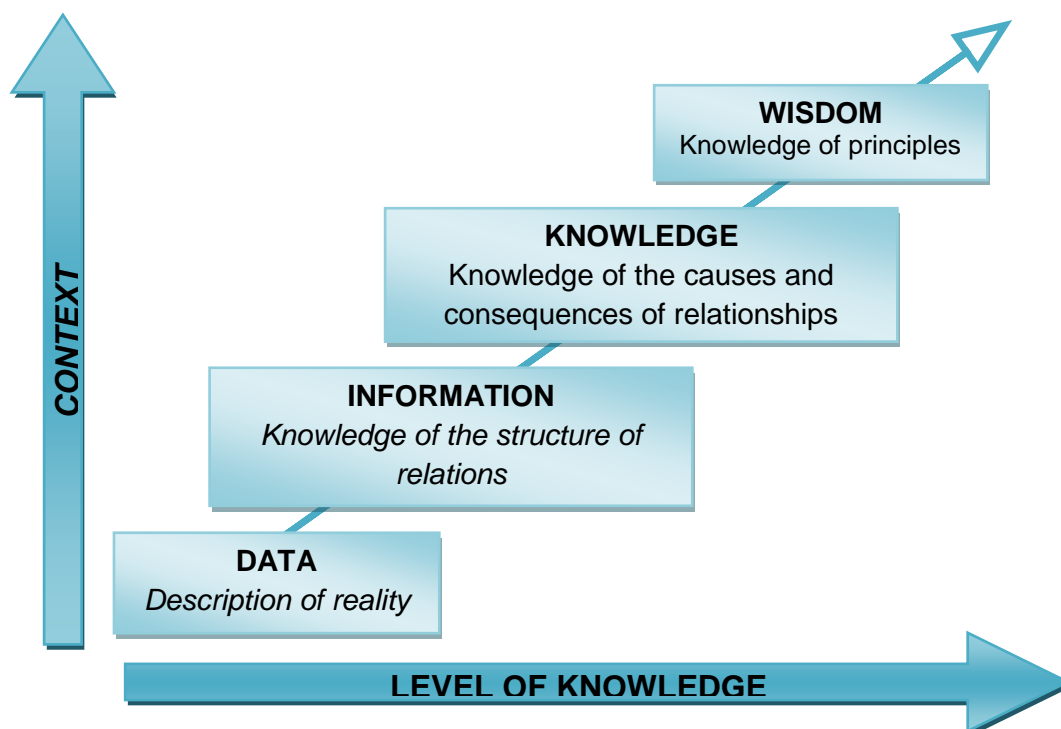


Figure 2: Relationship between the level of knowledge and contexts  
Source: Bureš, 2007

Their interpretation and application is in the higher form of data. To better understand the problems of knowledge it is necessary to clarify the basic - elementary forms of data followed by upward interpretation given higher content value and dimension of knowledge itself. Without actual data does not generate purposeful information processing, which would be transformed into a useable form - the proper interpretation not turn in the knowledge that the use of branding experience itself already represents wisdom. (Bureš, 2007)

**SMEs in context of optimization process:**

Period of economic crisis, characterized by rapid deterioration of all or most financial indicators that define the short-term interest rates, stock prices, real estate, land, insolvency firms eventually decline of financial institutions. Severe manifestation of the economic crisis is the emergence of the debt crisis, which is characterized by an inability to pay debts - public and private. (Bakanauskiene, Ubartas, 2012)

Necessary for the realization of empirical research and representations of research is necessary to define research units.<sup>436</sup>

<i>Company category</i>	<i>Employees</i>	<i>Turnover</i>	<i>or</i>	<i>Balance sheet total</i>
<i>Medium sized</i>	< 250	≤ 50 mil. EUR		≤ 43 mil. EUR
<i>Small</i>	< 50	≤ 10 mil. EUR		≤ 10 mil. EUR
<i>Micro</i>	< 10	≤ 2 mil. EUR		≤ 2 mil. EUR

Table 1: Characteristics of SME's - Employee number and Turnover/Balance sheet total  
Source: Innovation Union Scoreboard, 2013

<sup>436</sup> Definition of Small and medium-sized enterprises (SMEs) , Source: <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/>

The European Commission in its policy of taking active steps to support small and medium enterprises. Union's commitment to help create an environment in which they can develop businesses, industry and innovation is formally enshrined in Article 173 of the Treaty on the Functioning of the European Union. European companies are compared with Japanese and U.S. minor. The average Japanese firm has 10 employees; a firm in the United States employs an average of 19 people and businesses in the European Union employs approximately 6 employees (Holešová, 2003). SMEs in Europe have lower productivity and grow more slowly than small businesses in the United States. Functioning organizations in the U.S. will grow seven years after their establishment employment by an average of 60 percent, while employment in organizations operating in Europe is about 15 percent. Experts in small and medium enterprises see as the main problem of these negative balance common market failures undermining the conditions for entrepreneurship and business competitiveness. To critical areas classified difficult access to finance and the low rate of innovation. Commission of the European Communities has developed because the initiative, which calls on EU Member States to create better conditions for small and medium business. The challenge is comprehensive and its proposals including an appeal to Member States to reduce the amount of fees that the authorities request for registration of the company not to seek business from information already available within the administration to seek to reduce the time for setting up a company and so on. (European Commission, 2008). Not all experts on small and medium enterprises are unreservedly share this view, since factors such as difficult access to finance and lower rate of innovation in comparison with the U.S., for example, is not indicative of market failure (if so only very partially), but proves incorrect, unclear and inconsistent instruments governments. As representatives of the State can identify differences (between 'successful' SMEs in the U.S. and "unsuccessful" or SMEs in the EU or Slovakia) and, consequently, causes and effective countermeasures can we fail to talk about the failures of government. As one previously prepared by a group of measures in Slovakia was the initiative "Singapore". It's visions were interesting, but the real impact only marginal. (European Commission: The Small Business Act for Europe, 2008)

### **Collection and systemization of information:**

For SMEs it is important to properly seek information processing and systematized knowledge. These can then be used effectively staff the benefit of individuals, work teams and also the whole society.

Data collection or „Data mining“<sup>437</sup> is the process of search and data analysis in order to find implicit, but potentially useful information. This includes the selection, exploration and modelling of large amount of data to uncover previously unknown samples and ultimately comprehensible information obtained from large databases. Data mining uses a wide range of computational methods, which imply statistical analysis, decision trees, neural networks, rules induction and refining as well as graphic visualization. Data mining tools have been available for a long time, advances in computer hardware and software, in particular exploratory tools such as data visualization and neural networks, data mining made more attractive and practical use tool. Extraction of the sample is an important component of any data mining activities and in the relationship between the subsets of data. (Shaw et al., 2001)

Generally, data mining also known as knowledge discovery is the process of analyzing data from different perspectives and summarizing them useful information that can be used to increase revenue, reduce costs, or both. Data mining software is one of a series of

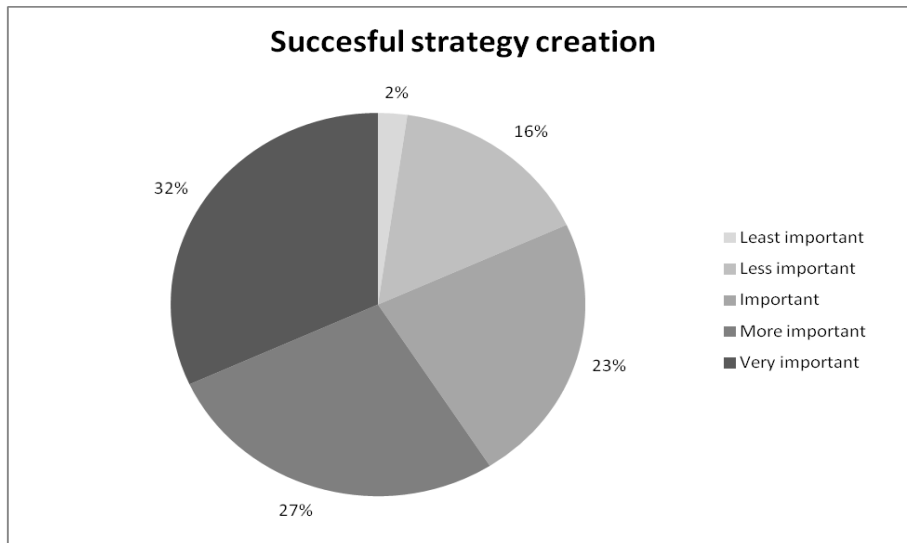
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<sup>437</sup> Generally, the "data mining" is also known as knowledge discovery, it is a process of analyzing data from different perspectives and summarizing them useful information that can be used to increase revenue, reduce costs, or both.

analytical methods for data analysis. Allows users to analyze data from many different dimensions or angles, categorize and summarize the relationships identified. Technically, data mining is the process of finding correlations or patterns between the amounts of fields in large relational databases. (Suman et al., 2011)

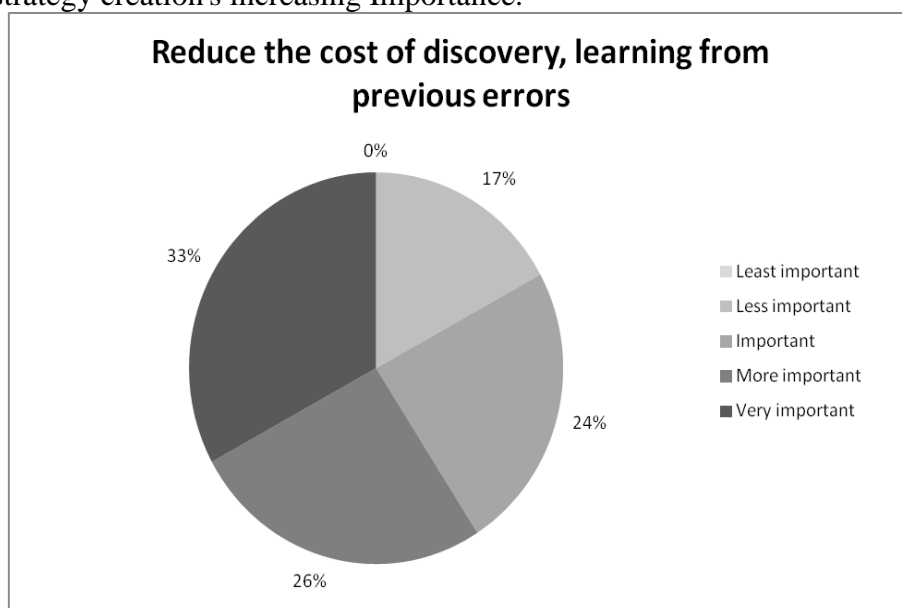
**Empirical research:**

To validate the theoretical principles of empirical research was carried out in SMEs operating in the field of production of chemical, pharmaceutical and food products. Researched companies belong to manufacturing technologies, operating in the Slovak Republic. Empirical research was carried out in 88 companies during 2013 in the form of an electronic questionnaire system.



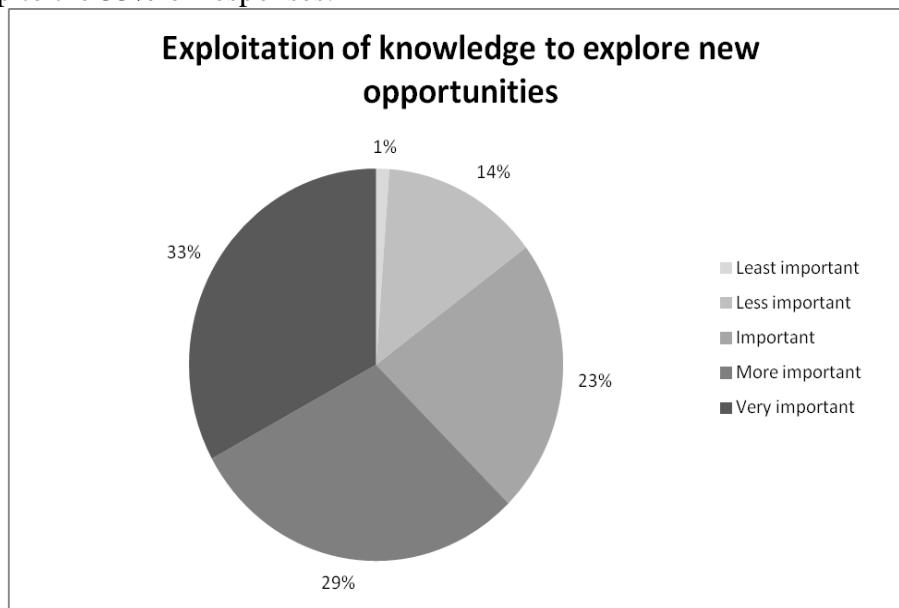
Graph 1: Evaluation of Successful strategy creation in SMEs.  
Source: own processing

*Successful strategy creation* was evaluated (Graph 1) respondents in the range from *Least Important* to *Very important*. Result of research pointed to the fact that only 2% of SMEs considered the Successful creation strategy for *Least important*, other SMEs assigned Successful strategy creation's increasing Importance.



Graph 2: Evaluation of Reduce the cost of discover, learning from previous errors.  
Source: own processing

In the Graph 2 are shown results describing survey question *Reduction the cost of discover, learning from previous errors*. SMEs considered the importance of this factor in balance. Rating *Least important* was not defined by any SME, the rating *Most important* achieved up to the 33% of responses.



Graph 3: Exploitation of knowledge to explore new opportunities.  
Source: own processing

*Exploitation of knowledge to explore new opportunities* is considered a significant factor in empirical research. The results presented in Graph 3 show that a significant proportion of the importance of that issue. Only 1% of SMEs considered the question of the least important factor.

### Conclusion:

On the basis of the results of research can be concluded that the issues are considered by Slovakian SMEs as significant. Only a small amount of SMEs characterized the issues at least as important in their functioning. Therefore, it is necessary that within these SME will be these issues discussed and potentially solved. It is necessary to process and prepare models and methodologies to identify the way of transformation of basic information systematically to knowledge. They inherently contribute to the efficient running of the company, as a positive effect on earnings of the company. To maintain competitive advantage of SMEs is necessary to consider certain issues. The main feature is creation of successful strategy, which represents a target-oriented direction of the company. Reduction of the cost of discovery and learning from previous errors highlights the importance of research and discovery. The importance is based in to learning from previous mistakes. Exploitation of knowledge to explore new opportunities discusses the perspective of behavior in relation to the use of any kind of business opportunities to achieve long-term set out objectives set out. The actual business approach of each SME should not only be focused on making a profit, but also the status of building knowledge-based society with elements of social responsibility.

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