



2nd GLOBAL CONFERENCE on BUSINESS, ECONOMICS, MANAGEMENT and  
TOURISM, 30-31 October 2014, Prague, Czech Republic

## Decision - Making, and Their Relation to The Knowledge Management , Use of Knowledge Management in Decision - Making

Ivan Litvaj<sup>a\*</sup>, Dana Stancekova<sup>a</sup>

<sup>a</sup>University of Zilina, Univerzitna 1, 010 26 Zilina, Slovakia

---

### Abstract

Our study focuses on two basic areas, firstly on knowledge management, describing its significance and benefits to enterprises, but our main focus is the decision-making, decision making procedures and their relation to the knowledge management. In our study we deal with use of knowledge management in decision-making. As far as the products are changing, so do the technologies, markets and business conditions as well – same stands for enterprises in global market economy. Consequently, there is the need to change business strategies and management systems used by enterprises, because they are subject to changes as well. These changes have to help enterprises to adapt to global economy changes, so the frequency of these changes is growing. But what does it mean to successfully adapt? Answer lies in responding to and satisfying customer needs, effectively answer to their requirements and innovate, change the business and its management systems as well. The knowledge management belongs to up-to-date management systems and more and more enterprises implement it. This is the reason why we focus our study to its use in decision making procedure as one of the key managerial process.

© 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Selection and/ peer-review under responsibility of Academic World Research and Education Center

**Keywords:** knowledge, management, optimization, decision-making, process;

---

### 1. Introduction

The relation between modern management and knowledge management is explained in the professional literature as follows – Organizational development as a reaction to changes is part of changeover of industrial company into a

---

\* Ivan Litvaj. Tel.: +421 41 513 2168.

E-mail address: [ivan.litvaj@fel.uniza.sk](mailto:ivan.litvaj@fel.uniza.sk)

company based on knowledge. Its economic base is production and exchange of non-tangible goods and services. The main factors of company using the knowledge are people able to generate and use new knowledge efficiently, considerably and constantly. The response to such requirements is creation of a new discipline – knowledge management – trying to develop a systematic way of identification, obtaining, keeping and using the intellectual capital. (Carnicky, et al,2006; Náprstková, et al, 2014; Sadilek, 2014)

Therefore, knowledge is becoming a very important source for the 21<sup>st</sup> century. Knowledge and its use may ensure production rate growth of companies and organizations and help them in keeping competitive. Therefore, the companies should accept this fact, this modern management challenge. This challenge is intended for the 21<sup>st</sup> century and this development has been observed in the global economy. Obviously, the knowledge management is primarily implemented mainly in large companies. The task of knowledge management is to create conditions for identification, obtaining, keeping and using the intellectual capital in the company. We think that the knowledge management deserves greater attention in small and medium-size companies than it is currently paid by management and owners of such companies. This is due to the fact that small and medium-size companies are the back bone of each national economy. The majority of employees are employed in small and medium-size companies (70% in Slovakia); therefore their importance for each national economy is principal and undisputable. Large companies, in comparison with small and medium-sized ones, are more flexible in establishing the knowledge management systems. They have sufficient sources of all sorts (information, personnel, financial, material) that cover the particular area of management.

## 2. Decision-making in management, decision-making process

Decision-making is a very important complex process consisting of specifically determined steps, activities, leading gradually from formulation of a specific problem that needs to be solved, to the establishment of a goal. The goal is selection of an optimal solution of the problem. The decision-making process is one of the most important activities of managers in companies, therefore it is considered to be the core of management.

### 2.1 Present-day decision-making and decision-making process requirements

These days, the managers are under greater pressure than in the past, e.g. in the last century. They are under the pressure of environment; such pressure is caused by constantly changing external factors affecting all companies. It is possible to say that globalization and rapid development and sharp expansion of technologies are the main mega trends there days. Further noticeable trends are constant market changes (while the frequency of such changes is ever increasing), expansion of competition, product and technology innovations in company management. Those are just some of the factors influencing success of companies at the market.

The managers have to make decisions in such complicated and difficult environment. It is possible to say that in such environment, it is natural that requirements to managers to be able to make the right decisions are increasing.

The picture below shows the description of activities within the decision-making process, (fig.1):

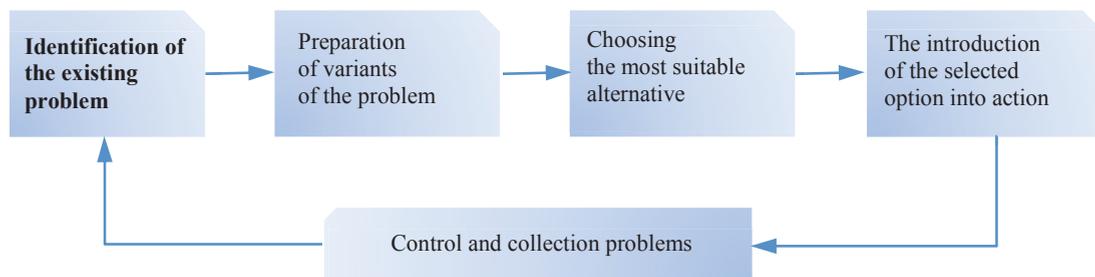


Fig. 1. Decision-making process (Riplová, et al, 2008).

Companies using the knowledge management system can be divided into two basic types:

- a) Lower Level - Level 1: Companies need to manage the basic activities only.
- b) Higher Level - Level 2: The company at the higher level wants to manage to the above standard knowledge too, therefore getting additional knowledge providing such company with the additional advantage in comparison with its competitors.

The goal of each company should be the switch to the higher level, otherwise it may be in danger of extinction.

In standard companies, the basic level of knowledge area and knowledge management covers only 2 out of 4 basic knowledge levels:

- "KNOW WHAT",
- "KNOW HOW".

Effective knowledge model is trying to cover also the "KNOW WHY" knowledge level, i.e. answers to questions why the particular knowledge is important, not only how to use it. The highest level of use of knowledge in a company is "CARE WHY" (caring after the spirit of people). It answers the question why to use and how to use particular knowledge in such way to support people's passion, their spirit. (Riplova, et al, 2008; Litvaj, et al, 2013; Mrazova, et al, 2011; Sapietova, et al, 2012; Sadilek, et al, 2014; Czan, et al, 2014)

#### *The relation of knowledge management to decision-making*

The relation of knowledge management to decision-making, the decision-making process is shown at the following picture, (fig. 2).

#### *Knowledge management in relation to decision-making, decision-making process*

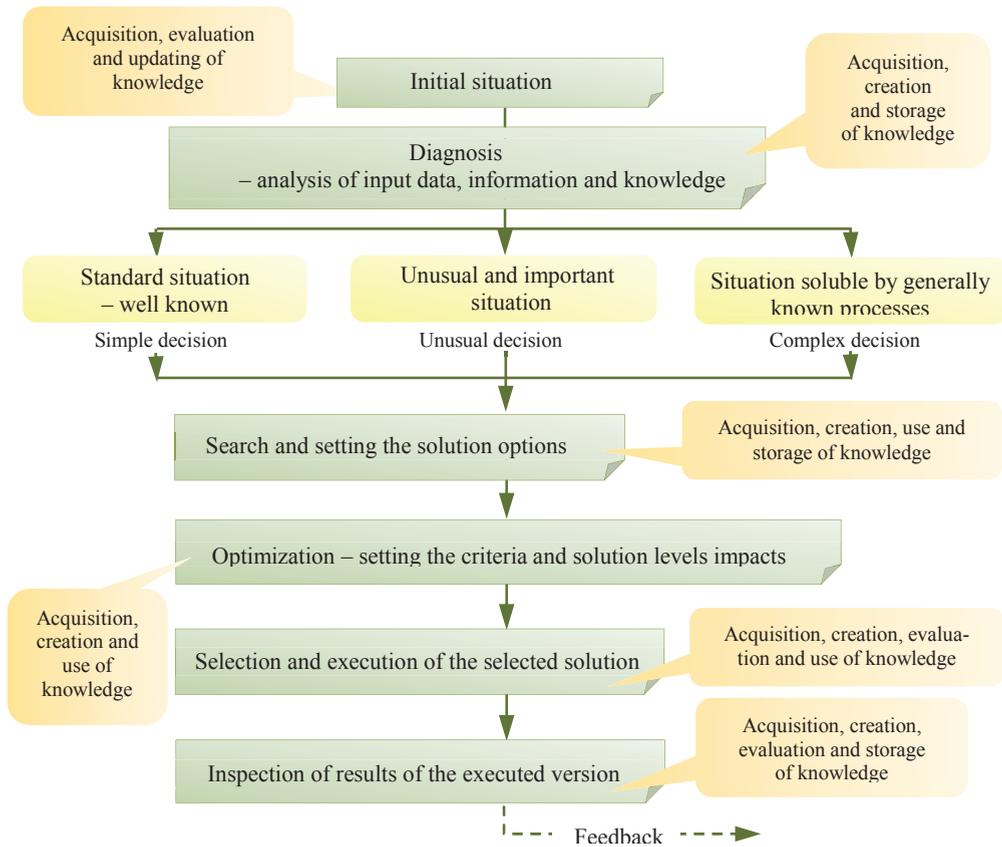


Fig. 2. Knowledge management in relation to decision-making (Hrubizna)

The description of a problem solution process begins with the complex description of a problem that is required to be solved by the so-called initial situation diagnosis. For such purpose there are specific tools and methods. Then there is a decision on how to solve the particular problem. The final stage of the process is optimization of the proposed solution.

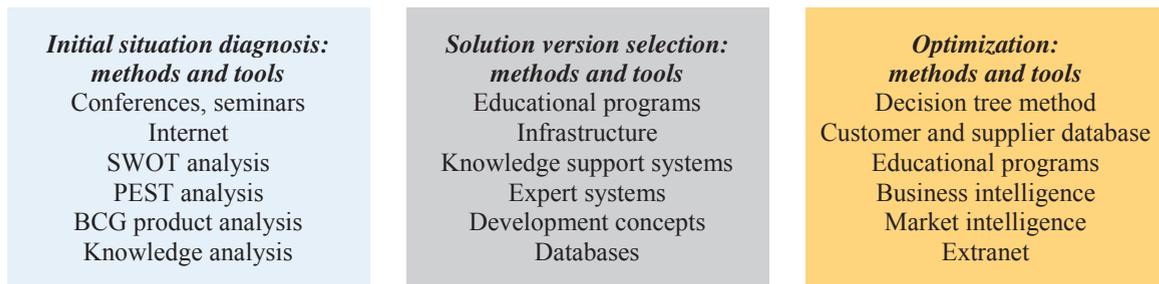


Fig3 Problem solving, decision-making – selection of solution variant, solution optimization

General recommendations for a company:

- For decision-making based on knowledge, it is necessary to take into account matters related to the company management, i.e. employees, processes, equipment.
- Regular identification and update of critical knowledge of a company.
- Continuous conduction of critical knowledge areas analyses.

– Monitoring and development of knowledge assets and their content.

The knowledge management successfully implemented in a prosperous multi-national company

Example: KM in AIRBUS - KM Solution Portfolio

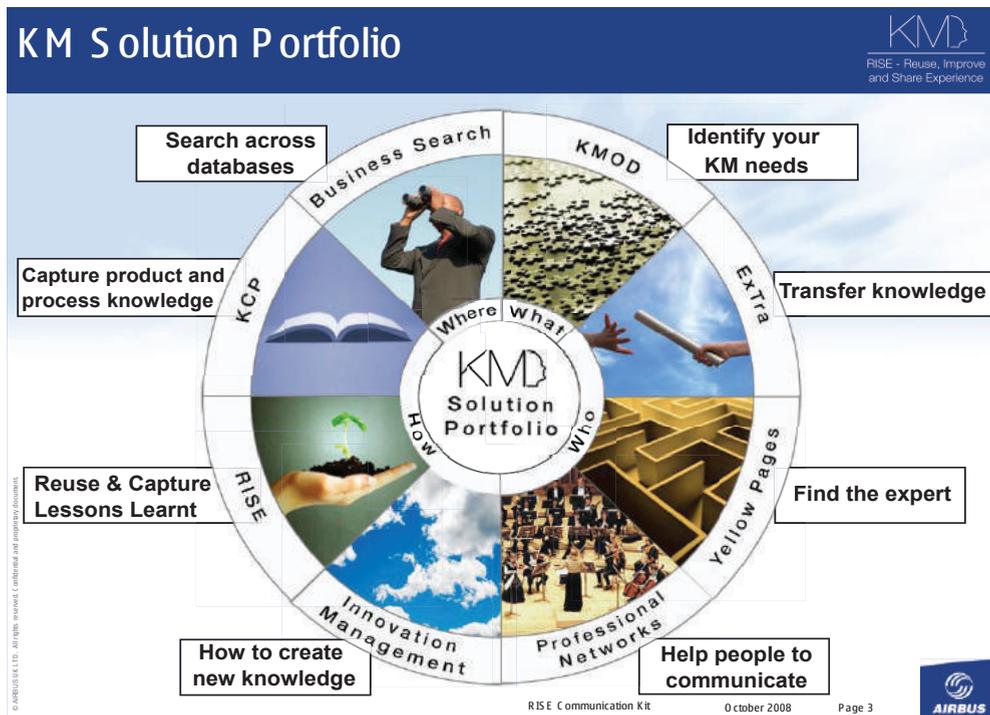


Fig. 4. KM in AIRBUS, KM Solution Portfolio (Carnicky, et al,2006)

### 3. Conclusion

The intellectual capital and its effective use is one of the key conditions for competitiveness of companies in the 21<sup>st</sup> century. The knowledge management focuses to the intellectual capital. The sufficient use of knowledge is a challenge for companies, because the companies may adapt to ever faster changing conditions for business at the global market by using the knowledge of employees. The companies have to understand it, they should identify themselves with it and implement the knowledge management. The business is changing, the conditions are changing faster day by day. This is the trend for the 21<sup>st</sup> century. And the fact is that you cannot manage your company in the 21<sup>st</sup> century in the same way as you did it in the 20<sup>th</sup> century.

The decision-making as the managing process, in the current conditions of uncertainty, puts a lot of pressure on company management, managers and their abilities. The management has to innovate the management, managerial systems in the company, therefore so-far not used but beneficial management systems should be implemented. The knowledge management is one of them, it should be positively and efficiently used in the decision-making process with the goal to improve such process.

### Acknowledgements

The article was made under support grant project VEGA 1/0773/12 Implementation of technical ceramic material research to increase the innovation of hybrid products

## References

- Carnicky, S., Mesaross, P., (2006). The need for the implementation of knowledge management in the Slovak enterprises. *Journal of Economics*, Volume 54, No. 4, pp. 386-402.
- Czan, A. - Sajgalik, M. - Martikan, A.- Mrazik, J., (2014). Observation of dynamic processes in cutting zone when machining nickel alloys. *Communications*, volume 16/3A, pp 161 – 168.
- Hrubizna, M. Decision-making in knowledge management, University of Zilina, PhD thesis, pp. 118
- Litvaj, I., Ponisciakova, O., Stancekova, D., Drbul, M., (2013). Knowledge processes and their implementation in small transport companies, *Transport means*, pp. 153 - 156.
- Mrazova, M. - Stancekova, D. - Semcer, J., (2011). Comparasion of machinabile materials used in medicine for dental implants. DAAAM, Vienna, pp.1115-1116.
- Náprstková, N., Cais, J., Stančeková, D., (2014). Influence of strontium in AlSi7Mg0.3 alloy on the tool wear. *Manufacturing Technology*, Vol. 14, No. 1, pp. 75-79,
- Pilc, J. - Derbas, M. - Janota, M. - Kosut, M., (2014). Studying the Implementation of Potentiometric Methods for the Detection of Cracks in Renovation of Forging Tools. *Communications*, volume 16, 3A, pp. 90 – 95,
- Riplova, K., Hrubizna, M., (2008). Strategic decision-making and knowledge management in the enterprise. II. "Opportunities young generation in science, research and innovation. "EPI, European Polytechnic Institute, pp. 25-29.
- Sadilek, M., Kratochvil, J., Petru, J., Cep, R., Zlamal, T., Stancekova, D., (2014). Cutting tool wear monitoring with the use of impedance layers. *Tehnicki Vjesnik*, Volume 21, pp. 639-644
- Sapietova, A., Saga, M., Novak, P., (2012). Multi-software Platform for Solving of Multibody Systems Synthesis. *Communications*, vol. 14/3, pp. 43-48.