

Knowledge Management: The Czech Situation and Approach

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ABSTRACT

Recently, knowledge management (KM) has become a very popular business concept. Unfortunately, there are still problems connected with the incorporation of KM into particular organisations in the Czech Republic (CR). These problems can be identified at all knowledge levels, which are a supranational level, national level, organisational level and management of knowledge level. Examples of problems at an organisational level are a lack of utilisable methodologies of KM implementation in the CR that are described in sufficient details, different perception of KM by different people, where KM is mostly substituted by information technologies, etc. As a reaction to some problems described in this contribution, a new methodology of KM implementation was developed at the Faculty of Informatics and Management at the University of Hradec Kralove. This paper briefly describes the situation of KM in the CR and basic features of the methodology KM-Beat-It.

Keywords

Knowledge management, Knowledge levels, Methodology, KM-Beat-It, Implementation, Czech Republic

1.0 INTRODUCTION

The reason for the effort to implement KM within organisations is usually in the hope of improved competitiveness or performance. The same argument drives Czech companies, which have been interested in KM for several years. However, successful implementations of KM, in the CR, are rare. One of the causes of this situation is that successful implementation of KM at an organisational level is dependent on the state of other levels, where attention to knowledge is paid. In further paragraphs, there is a brief characterisation of these levels, outline of a basic

state of these levels from CR's perspective and description of one possible solution in a form of a new methodology of KM implementation that was created at the Faculty of Informatics and Management at the University of Hradec Kralove.

2.0 KNOWLEDGE LEVELS FROM THE CZECH PERSPECTIVE

Successful realisation of KM in organisations is closely related to the situation at both higher and lower levels. Besides an organisational level, these knowledge levels are a supranational level and a national level that are above the organisational level and management of knowledge level, which is below. These basic levels differ in many aspects. A brief description follows in later paragraphs. It is important to notice that by an increase of the resolution level, further levels can be identified. These other levels can be considered as independent. An example is a level of clusters, which can have different knowledge needs and utilisable tools, techniques or procedures. This level can be found between the national and the organisational level. That is why, the borders between single levels are not clear.

2.1 Supranational level

This level is the broadest and the most general one. This level operates with concepts of knowledge economy (KE) and knowledge society (KS). Concrete knowledge does not play any role here. From CR's perspective, this level is ensured in a proper way. This fact is obvious from strategic documents of the European Union (EU), for example, the Presidency Conclusions from a special meeting of the European Council that was held in Lisbon. This document, also known as "Lisbon Strategy", pays attention to KE in different contexts and paragraphs. KE is, for example, part of a strategic goal of the EU for the next decade. It is written here, that "the Union has

today set itself a new strategic goal for the next decade: to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion” (European Council, 2000). Apparently, KE and knowledge-based competition are not theoretical concepts produced by authors of particular books or articles in scientific journals (Drucker, 1993; Nonaka & Takeuchi, 1995) any more. Consequently, the Czech government has adapted its strategic documents to this strategy (see chapter National level).

The existence of several scientific and research projects that are fully or partially supported by the EU, can also be considered as a part of this level. Many of these projects are focused on different aspects of KM (Bousdira, 2004).

However, it is obvious that the CR is influenced also by other supranational institutions that have an impact and are in charge of KE and KS. Examples can be OECD and UNESCO. OECD’s orientation on KE is visible, for example, from annual reports (e.g. 2004 annual report (OECD, 2004)) or the document “The Knowledge-Based Economy” (OECD, 1996). On the other hand UNESCO published, at the end of the year 2005, a document with the name “Towards Knowledge Societies” (UNESCO, 2005). Basic orientation of this document is obvious. Understandably, all these supranational institutions influence and have an impact on the perception of KE and KS in the CR.

2.2 National level

The national level is very similar to the supranational level, nevertheless, KE and KS gain a national dimension here. These concepts are closely related to concrete conditions and needs of a particular organisation of a given country. The effort to illustrate the existence of support of KM at the national level of the CR can again be supported by strategic documents. The best way to visualise the current situation, is to refer to the Programme Declaration of the Government of the Czech Republic, the Strategy of the economic growth of the Czech Republic, the Strategy of the human resources development for the Czech Republic or the Strategy of the Government of the Czech Republic in the EU framework.

The Programme Declaration of the Government of the Czech Republic mentions the importance of knowledge in the second chapter that is related to basic aims and principles. It is written here that “...the Government will help within the framework of the European model to develop the Czech Republic as a democratic and modern social State with advanced market economy based on knowledge and able to guarantee stable economic growth...” (Paroubek et al., 2005). This strategic document also pays attention in one chapter to information and knowledge society. Several paragraphs are also dedicated to science and research, education, culture, information society, etc. The Strategy of the economic growth of the Czech Republic is also knowledge-orientated. It is obvious immediately from the first chapter with the title “Czech Republic – knowledge-technological centre of Europe with growing living standard and high employment” (Jahn et al., 2005). This document also suggests to “...support the creation of centres for KM and its education at universities and public research institutions” (Jahn et al., 2005). A similar approach and ideas are incorporated, also, in other strategic documents like the Strategy of the human resources development for the Czech Republic (Strategy, 2003) or the Strategy of the Government of the Czech Republic in the EU framework (Strategy, 2004). However, a detailed description of these documents is not necessary.

This level can also be presented by particular private institutions. An example can be the association of single organisations, named Association for Information Society and its document “Manifest of Knowledge Society” (SPIS, 2004). This association tries to outline, what the CR has to do to be successful “in global capitalism in the 21st century as a highly developed country” (SPIS, 2004).

2.3 Organisational level

At this level, real KM is conducted. Here, KM means a knowledge-based and knowledge-orientated management of an organisation, regardless of the main objective or type of an organisation. Therefore, KM can be introduced, for example, in business organisations, educational institutions or public administration. Many organisations, including Czech companies, realise that traditional resources are not the only sources that should be managed during the transition to KE and KS. Hence, enhanced

attention to knowledge resources and knowledge processes is given.

The organisational level has many problems in the CR. A few of them will be named as examples. Firstly, in the case of CR, transition to KE and KS has to be done in parallel with other changes. The reason is that CR as a country with a transforming economy has many problems with its cultural heritage from the socialist era. Cultural aspects, including social and individual barriers, play a significant role here (Bureš, 2003). Secondly, KM is generally perceived in different ways. The Czech business environment is not an exception. Different perceptions cause problems in communication and cooperation. Regrettably, these perceptions are usually based on the substitution of a complex KM by partial technological solutions. Of course, technological support is necessary, however, KM is not only about implementing advanced technologies. The last problem is connected with KM implementation. There is a lack of methodologies of KM implementation available in the CR. Unfortunately, case studies of successful KM implementation mostly deal with huge organisations like Chevron, British Airways or BP Amoco (Ahmed, Kok & Loh, 2002). The vast majority of Czech companies are small or medium size enterprises. Therefore, models described in single stories are hardly applicable in the Czech business environment and successful implementation of KM is sporadic. Czech organisations have to either utilise expensive services provided by consultant companies, or if they want to implement KM without any external help, use foreign methodologies created in different environments with different conditions. These methodologies either do not reflect the needs and specificity of the Czech business environment or are mostly not described in full details with sufficient guidelines.

2.4 Management of knowledge level

This level is presented by the basic research in fields like artificial intelligence, knowledge-based systems, representation of knowledge, etc. This level really works with concrete knowledge. It seems that distinguishing between KM and management of knowledge (MoK) is only making it unnecessarily complicated. However, the opposite is true. Now it is necessary to agree with one attendee of the scientific conference Znalosti 2006 that was held in Stara Lesna in High Tatra,

Slovakia. He asserted that there is no relation between managers and MoK. It was difficult to understand his point of view, but he was partially right. The reason is that MoK is a well established technological discipline that represents the lowest, but also the most basic level, where attention to knowledge is paid. MoK is focused, for example, on data mining from databases, knowledge acquisition from experts, information extraction from text, knowledge systems, multi-agent technologies, mark-up languages, semantic web, knowledge ontology and other conceptual models, natural language processing, etc. Nevertheless, a relation between managers and MoK exists. KM is achieving its own goals by utilising the outputs of MoK in its own activities. Managers usually do not know in details the principles, on which the products of MoK are based. However, this situation is not unusual. How many managers know the main principles of a generation of pseudo-random numbers in the wide spread application MS Excel? Or how many managers know the exact equations that are used in this application for the calculation of some indicators, even from an area of financial management? The truth is that managers should have at least some awareness of basic approaches or technologies that are used at the MoK level. The reason is that MoK products or services can not be used blindly. Some products are, for example, very sophisticated and based on new principles and approaches, and managers could have problems not only to understand their essence, but also in figuring out the reasons for their utilisation in practice.

Although it is not very frequent, the main methods, techniques, procedures and principles of work with knowledge from other non-technological fields (e.g. psychology or sociology) should be a part of this fundamental level. Methods and techniques utilised at these disciplines work with knowledge too, but for example with different types.

2.5 Relations among single levels

The described levels create one coherent system that has its own significant relations. It is evident from the paragraphs above, that MoK and other disciplines working with any type of knowledge represent the basis of all activities connected with knowledge. Their products are applied at the organisational level. If this fundamental level does not work properly, all other activities at

higher levels will not necessarily be complex and complete. Although there is a very strong technological basis of the MoK level nowadays, this statement neither supports a technological approach to KM, nor stresses its partially technological origin. It only tries to draw attention to the fact that modern technologies catalyse many changes. Then, the organisational level constitutes the basis of KE both at a national and supranational level.

It is also apparent that the higher the level, the higher the generality. While the basic level of MoK is working with real knowledge and is developing instruments and procedures, how this knowledge is acquired, processed, distributed or exploited, at the organisational level, is the possibility to work with knowledge still subject to discussion. Some authors are convinced that it is not possible at this level to manage knowledge, but only to create an appropriate environment for successful knowledge production, sharing, development or usage (Sveiby, 2000). What is the subject of discussion at an organisational level is a matter of fact at national and supranational levels. Concrete knowledge does not play any role here. The main goal and purpose of all activities is the creation of an environment and framework (economical, political, legislative, etc.), in which lower levels will successfully operate.

Another obvious interconnection of single parts is presented by institutions that deal with supranational and national affairs (e.g. institutions of EU public administration or particular Czech national authorities). KM at the organisational level and products of the MoK level can be utilised by these organisations for their improved performance.

At all of these levels, people that are focused on knowledge, are politicians, managers, information technology experts, academicians, etc. There are various problems at these levels from the CR's perspective. That is why, the systemic view to this problem is essential. A single phenomenon, including KM, needs to be embedded into the context of a greater whole. In this way, substantial relations at a single level and among particular levels are not only preserved, but also emphasised.

3.0 KM-BEAT-IT METHODOLOGY

To overcome some of the mentioned, and other, problems, a new methodology called KM-Beat-It was created. The design of the methodology was based on the detailed analysis of existing methodologies (e.g. A. Tiwana's KM Toolkit (Tiwana, 2000), K. Wiig's building blocks (Wiig, 1999), Y.G. Kim's P2-KSP (Kim, Yu & Lee, 2003), etc.). The process of creation was composed from several stages. Activities that were performed in these stages were, for example, the analysis of existing definitions of KM and setting of an initial KM definition, the identification of particular strengths and weaknesses of existing methodologies or the definition of basic attributes, which should be possessed by the new methodology.

3.1 Particular phases and activities

KM-Beat-It consists of several phases. The description of every phase comprises of the main goal, purpose and content, basic prerequisites of initiation, a criteria of completion, key documents, critical success factors, and activities and relationship of these activities. It is obvious from this description that every phase consists of several activities. Since KM-Beat-It works with this level of resolution, there is also the brief specification of a single activity including the main goal and description, inputs, outputs and examples of utilisable methods, techniques and tools. In the following paragraphs, there is a brief outline of single phases. A detailed description with reasoning or concrete examples can be found in (Bureš, 2005).

Assembly of a realisation team is the initial phase of the KM-Beat-It methodology. The main objective of this phase is to acquire the support of top management and/or owners of the organisation and to assemble a realisation team that will deal with, and will be responsible for, the whole process of KM implementation. In this phase, it is necessary to conduct the following activities:

- 1) creation of an interest about KM by top management and/or owners of the organisation,
- 2) weighing up of the real possibilities and capabilities to start up the process of KM implementation,
- 3) decision about implementation of KM,

- 4) nomination of team members from top management, employees and the external environment,
- 5) explanation of the presence of single team members and a definition of their team role, and
- 6) definition of time of employment for each member.

Analysis of the initial state is the second phase. The main objective of this phase is to create an integrated view on the current state in the organisation from a KM perspective and specification of its strengths and weaknesses. The phase of analysis of the initial state comprises of the following basic activities:

- 1) creation of a survey of knowledge resources,
- 2) description of knowledge contained in identified knowledge resources,
- 3) definition of knowledge processes,
- 4) analysis of the current state of knowledge processes in an organisation,
- 5) description of organisational processes,
- 6) finding out the current state of an organisational culture,
- 7) linkage of acquired results, and
- 8) analysis of strengths and weaknesses of the current state in an organisation.

achievement of business and KM goals. It is necessary to conduct these activities:

- 1) definition of a required state (i.e. KM goals),
- 2) comparison of the current and required state and identification of main gaps,
- 3) creation of the list of KM activities,
- 4) selection of activities,
- 5) elaboration of plans and projects,
- 6) creation of a knowledge strategy, and
- 7) identification of KM metrics and their relation to the system of an organisation's metrics.

The last phase is a realisation of KM activities. The main objective of this phase is to conduct different activities, projects or plans leading to KM. It is obvious that these activities will differ in their amount, forms, time and resource requirements, orientation, or particular objectives that should be achieved in every organisation. The order of their realisation will depend on the priorities assigned in the previous phase. As examples of activities, they can be named as the creation of a motivational program, establishment of a CKO (knowledge manager), implementation of intranet knowledge portal, changes in position and content of human resources management, the start of communities of practices, the implementation of an expert or knowledge system, adjustments in the descriptions of

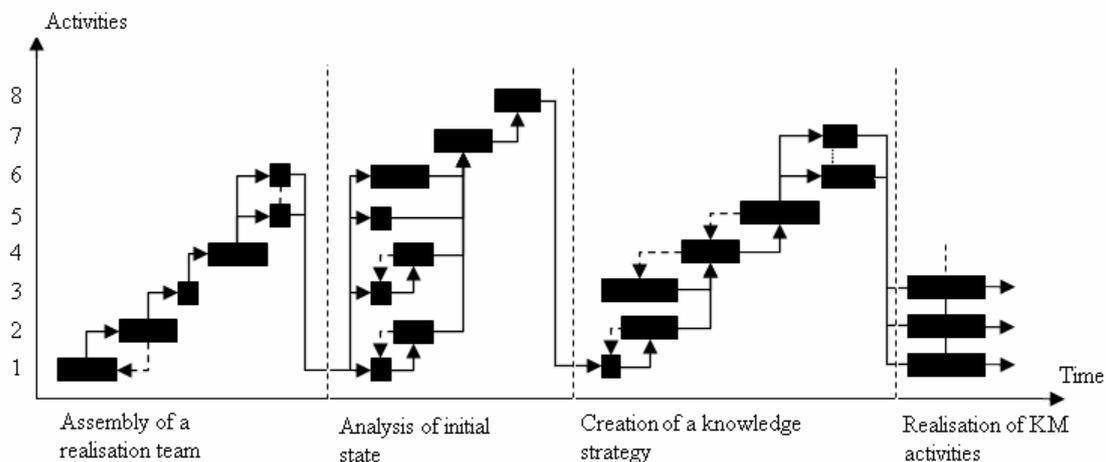


Figure 1: Phases and activities of KM-Beat-It

The third phase is the creation of a knowledge strategy. The main objective of this phase is to create a knowledge strategy that will support the business strategy and identify particular knowledge activities, which will support the

working places, identification of social and individual barriers of knowledge sharing, training of employees, etc. The main mutual goal should be quantitative and qualitative changes in a current state of knowledge resources and implementation or support of knowledge processes.

All activities in single phases are depicted in figure 1. It is possible to see all the iterations and loops among activities. The relative width of the rectangle refers to the time needed to perform the activity. These time estimations are only approximations due to different needs and conditions in every organisation. This principle can not be followed only in the last phase because of the diversity of possible activities.

3.2 Continuous knowledge management

Utilisation of KM-Beat-It methodology is the first step on the long journey to KM. Obviously, it is necessary to go back to the beginning of the methodology, after realisation of all phases, and perform more cycles, i.e. conduct all the phases again. Otherwise, all the used resources were consumed for no purpose. The aim of the first cycle is to “allow things to move”. Only other performed cycles lead to desirable changes. In this way, continuous KM is secured in

requirements on methodologies (Hoog et al., 1999) and requirements posed on methodologies of KM implementation (McElroy, 2004);

- concordance with KM frameworks (e.g. (Wiig, Hoog & Spek, 1997));
- complexity – KM-Beat-It pays attention to all KM perspectives as described by (Beckman, 1999) and is not based only on a technological perspective; KM-Beat-It assumes the utilisation of information, communication or knowledge technologies, but does not rely on them;
- attention focused on an organisational culture and its influence on success of KM realisation;
- linkage with economical aspects and business objectives;
- possibility to use existing conventional methods, techniques and tools; KM-Beat-It is not based on specialised tools that are not common nowadays;

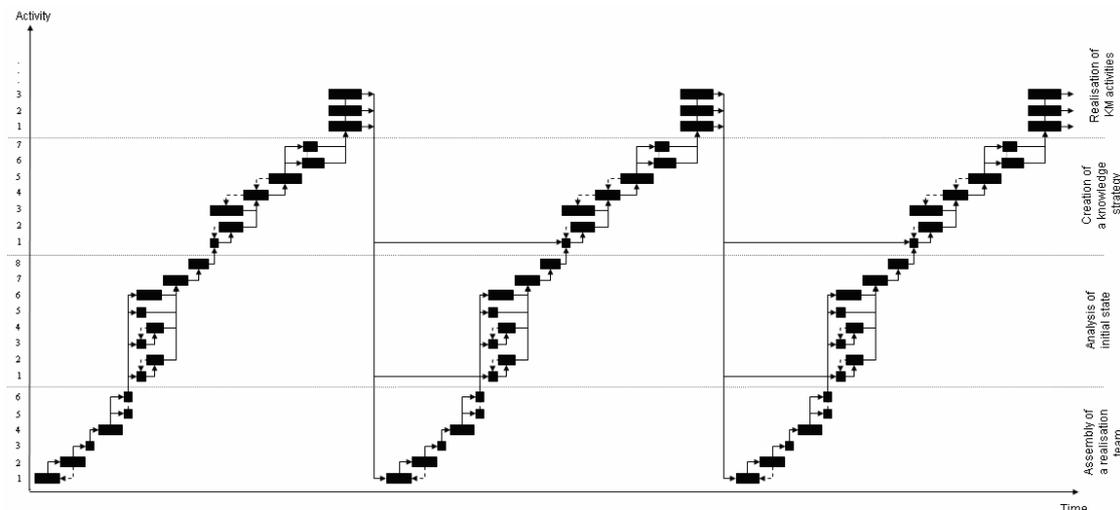


Figure 2: Continuous KM

organisation. Therefore, continuous KM is presented by its never-ending introduction. Naturally, with relation to the extent of implementation of KM, the existence of particular phases, along with their content will change in subsequent cycles.

3.3 Benefits of KM-Beat-It

The KM-Beat-It methodology brings new benefits and advantages. Among these it is possible to find for example:

- KM-Beat-It fulfils basic characterisations of methodologies (Jayaratna, 1994), general

- applicability by medium and small size enterprises that usually do not take the effort to implement KM nowadays;
- generality, i.e. KM-Beat-It did not originate in the context of any organisation or branch of industry;
- deployment of both approaches to KM realisation, i.e. “top-down” that is used at the beginning of KM implementation, and “bottom-up” that can be used in further cycles of this process;
- openness – every methodology should be able to absorb new findings and knowledge in its own domain; KM-Beat-It fulfils this requirement;

- discretion in the realisation phase, where the users are not pushed to conduct any activities that could be useless (e.g. unnecessary investments into information and communication technologies).

3.4 Further steps

According to (Řepa, 1999), every methodology has its own life cycle consisting of development, implementation, utilisation and further expansion, and replacement (either by a new methodology or by a newer version). The first important step has been done. Now, particular Czech organisations can freely use this methodology and implement it in their environments. That is why, other improvements and adjustments of KM-Beat-It are not planned at a theoretical level. They will be automatically performed in the third stage of the life cycle, i.e. during an accommodation of a little bit more general methodology to specific needs and conditions of concrete organisations. Also, there is no reason for an increase of a level of resolution that is compassed in the methodology, i.e. dividing every activity into detailed steps. The purpose of a new methodology is not to describe the implementation process in all details and in all possible variants. The main purpose is to stress all the significant aspects and principles and focus on the process of implementation from the beginning to the end. Methodology does not have to be detailed but complete.

4.0 CONCLUSION

There are several problems with implementation of KM in the CR. Due to space limitation of this paper, attention was mostly paid to problems at the organisational level. Although the supranational and national levels seem to create suitable conditions and basic framework for Czech companies, obviously, some problems can be identified (e.g. insufficient financial support of science at the national level or gaps in the employment policy). On the other hand, MoK level should be formally extended by single disciplines of social sciences, which also work with knowledge. Because of the huge significance of this basic level, more scientists and researchers have to be motivated to work here in the CR. However, the greatest problems are at the organisational level. Only some problems at the Czech organisational level were mentioned. Although some problems can not be easily and quickly solved (e.g. cultural changes need the

huge amount of energy, patience, time and other resources), some of them can be relatively more easily shifted away. Therefore, the new methodology of KM implementation called KM-Beat-It was created. Now, several Czech organisations can utilise it and accommodate the methodology, according to their needs and special conditions, into their own environments.

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