

The Knowledge Management and the Human Capital

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Abstract The paper focuses on the knowledge management versus human capital. Its purpose is to describe mutual relations between the knowledge management and the knowledge worker as the holder of specific knowledge. It may be concluded that key information about the knowledge workers within the company, not just the higher-level management, but indeed all employees, should be important for each company.

Keywords - company management, knowledge management and knowledge worker, information

I. INTRODUCTION

Within the company management and its theoretical part, attention has now focused on the area of knowledge management, whose application is expected to increase competitiveness. The importance attached to knowledge management is also demonstrated by today's conference. Economy at the present time is based on information, knowledge and skills. Whereas in the past the main source of wealth was land and capital, the basic source of wealth and decisive factor today is knowledge as already mentioned.

Literature uses synonyms like "knowledge management/control" or "management of knowledge". What is then the definition of "knowledge management" and that of "management of knowledge"? Of course it is all Knowledge Management, but ...

- the knowledge management is more about organization management with an emphasis on the relevance of knowledge.
- the management of knowledge is everything relating to the attention given to knowledge in the company.

The management of knowledge is defined as the creation and maintenance of knowledge. The main goal of knowledge management is to identify and get hold of a specific piece of knowledge, know-how, experience or another skill and enable their transfer and representation so as to make it available for use for a larger group of users who will make use of the created knowledge. The use of knowledge improves their quality, effectiveness and productivity at work.

The knowledge management is an important component impacting most companies. Today, knowledge is viewed as the strategically most important source and learning as the strategically essential ability of companies and organizations. The attention given to knowledge worldwide and its management worldwide has been dramatically increasing and relates to many levels. We keep getting knowledge at all levels in all companies or institutions. The use of the knowledge is quite individual and it is up to the management how they will handle the knowledge and spread it among the other employees.

Knowledge in the broader sense may be defined as a *complex of created experience, values, beliefs, relating information and specialist views, providing a framework for evaluation and integration of the new experience and information, present and applied in people's minds.*

Knowledge is information created by means of :

- comparison – we compare new information with what we know (knowledge) from similar or different networks
- context – we evaluate the importance of information for decision-making and activity
- linking – we look for the relation to the knowledge that we or other people already have
- conversation – we are trying to find out what other people think about the information

Companies create, transfer and apply the knowledge acquired in different areas of their activities. Organizations take three basic steps: generation, codification and utilization of knowledge. By doing so they actually create a knowledge system. The functionality of the knowledge management system actually depends on six periodically repeated steps – generation, capturing, classification, storage, administration, spreading. Knowledge never reaches its finalized content, since it constantly changes being influenced by the environment. Therefore the importance of continuous updating of knowledge has to be recognized.

Knowledge is created in the human mind and its quality and importance are evaluated through activity. Sometimes it is difficult to uncover and describe this link between the knowledge and activities. Knowledge is very fragile and that is why it cannot be usually stored or transferred using technology.

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II. THE THEORETICAL BASIS OF THE MANAGEMENT OF KNOWLEDGE

The theoretical concept says that the management of knowledge accentuates attention to knowledge. It gives attention to its creation, formalization, transformation, way of its imprinting, its selection, processing, spreading, further development of knowledge, its utilization and evaluation of effectiveness of cost expended on knowledge development. Priority is attached to three activities in the first place: spreading, further development and use of knowledge. This does not involve mere accumulation of information specified by mutual relations, but the covering of specific needs of an actual process of management and provision of all functions vital for the company.

The relation between information and knowledge is as a rule expressed as follows: *data - information (data and link between them) - knowledge (information and experience) - complex evaluation*. The complete understanding is considered as a set of knowledge, information and data relating to the relevant problems. The management of knowledge looks to it that knowledge is not just accumulated, but it is rationally used. This first of all includes the spreading of knowledge and methodical purposeful analyzing of effectiveness of all the steps in relation to the management of knowledge. Examples of knowledge: a method of market analysis in specific conditions, efficient care for patents and their complete utilization, a project of a product or service innovation, a system of effective customer care etc.

According to the authors, knowledge may be structured as *explicit* (expressible), as defined by authors V. Bureš (2007) - Classification of Knowledge, Knowledge Strategy and Knowledge Management Styles, or J. Vymětal (2006) - Information and Knowledge Management in Practice. This is the most wide-spread structuring as well as the most frequently quoted classification of knowledge and *tacit* (hidden) knowledge.

1. Explicit (expressible) knowledge

This involves the kind of knowledge that can be represented: by words, drawings, plans, equations, numbers and so on. Such knowledge may easily be shared through communication between people. Expressible knowledge can be appraised by formal methods and subsequently also its drawbacks may be appraised that begin to emerge with regard to timelessness, and knowledge-associated risks.

2. Tacit (hidden) knowledge

This involves the kind of knowledge which is not easily demonstrable (observable) and expressible. It is very difficult to formulate as well as share it. The hidden knowledge is very difficult to appraise. However, it is very important to recognize its importance and it is basically impossible to determine its value until it has been transformed into expressible knowledge. But the process is very difficult and lengthy and frequently it is almost impossible to express this kind of knowledge.

According to Collison, C., Parcell, G. (2005), the management of knowledge is a *hybrid discipline*: this is not purely a science or a specific skill. In terms of function it may interconnect *the areas of learning and development of organization, management of human resources and information technologies (IT)*. This interconnection is frequently illustrated in a drawing with three circles. The management of knowledge is where the three circles overlap.

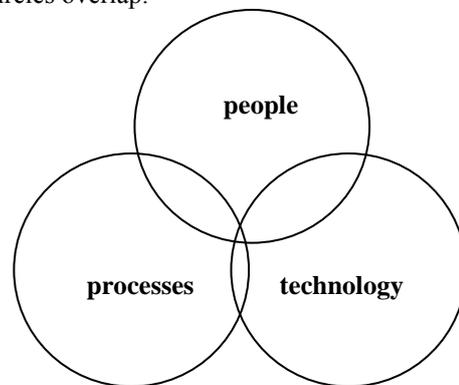


Fig. 1 Overlapping of the three essential areas of the management of knowledge

A number of important findings follow from this chart. First and foremost: **the basic elements** of a successful management of knowledge are the following :

- reliable common **technological infrastructure** that enables sharing of knowledge;
- joining people who have **knowledge** and are willing to share it, ask questions and listen;
- established processes for **simplification** of sharing, verification and extraction of knowledge.

Author Y. Malhotra (2006) defines the management of knowledge which deals with critical aspects of adaptation, survival and competence of organizations faced with ever increasing discontinuous changes in their environment. It includes mainly those processes in an organization which produce the synergy of information technologies potential within data and information processing with creative and innovative abilities of human individuals.

Another view of the knowledge management in relation to a *knowledge company* is introduced by Czech author J. Jirásek, (2004):

- Some 15 years ago, "knowledge-based management" appeared. It immediately got attention and leading companies found it an attractive concept. Earlier, we have seen the success of the inventive 3M, but what is important today is that many companies at the cutting edge need to become an inspirational model of a knowledge based organization. In 1980, Peter Senge published its "Fifth Discipline" where he explained that a company who wants to go forward has to learn. He explained the concept of a "learning organization". The idea was actually not entirely new, Japanese companies has used it in practice

as part of their rapid development ten years before.

- A knowledge company not only absorbs new knowledge, but it also creates it, does creative, cognitive work. To some extent it somehow comes closer to a research workplace. It generates new knowledge that it needs at that point and uses it as its competitive advantage. Its employees have acquired a higher ability – to create original knowledge. Knowledge has a unique ability in the development of enterprising and management. It does not shrink, deteriorate or dissolve due to use. On the contrary, it is continuously enriched by use, like a snowball which becomes bigger and bigger. Knowledge as a productive force constantly grows. What makes it invalid and useless is not its use, but the new higher-level knowledge, which makes the earlier obsolete.
- The knowledge company treats knowledge in the same way as the other assets. It gathers, uses and modernizes it, writes it off and discards it. And first and foremost it organizes its utilization, circulation, carefully decides on its connecting with other assets and use in competition. It is not the accumulated, but the used knowledge which brings benefit for the company.

In relation with defining the management of knowledge, the knowledge management in the company can be understood as a system-oriented, informational and organized management approach to finding, understanding and utilizing of knowledge within the company, with the aim of creating value, improving the organization's performance and achieving the set goals. The knowledge management enables the spreading of individual knowledge throughout the company, whereby creating knowledge at a higher level – the company knowledge. In a simplified way we can say that it relates to gaining, creating, sharing and using of knowledge within the whole company management. In this context, knowledge may not be confused with data or information – *knowledge is understanding gained by experience*.

III. THE KNOWLEDGE MANAGEMENT AND INTELLECTUAL CAPITAL

With the development of knowledge management, the attention focused not only on technologies, but first of all on the human factor has increased – on what is known as *intellectual capital*, representing a sum of values and abilities to develop knowledge. This above all involves the capacity of human memory and that of external memories used by humans in handling knowledge (including the synergy effect).

What is the relation between the intellectual capital and the knowledge management?

The knowledge management is unthinkable without the intellectual capital, and the knowledge management includes processes of greater completeness than the intellectual capital. The effectiveness of KM impacts the effectiveness of investments into IC (intellectual capital). The relation can in a simplified fashion be expressed as follows: - In literature you can find information about the huge differences between the market and book values of some of the world's leading companies (Microsoft, IBM, Lotus, Oracle a j.) It is a result of the successful goal-directed development and management of the resource of intellectual capital wealth. IC continues to push the traditional sources of wealth, characteristic of the period of industrial revolution (fixed assets, financial assets, stock etc.) more and more out of the priority influence zone. This change requires a new method of managing the current business factors, among which the intellectual capital plays an increasingly important role.

According to author A. Katolický (2006), who divides the intellectual capital into 4 basic kinds of capital: innovative, customer, process and human capitals.

Innovative capital is mainly assessed by the following identifiers: the share of research cost in the company total turnover, the share of workers (including managers) engaged in innovations or proportion of new products in the whole portfolio.

Customer capital is mainly assessed by the proportion of fully satisfied customers.

Process capital is mainly assessed by the proportion of documented and stabilized processes, the proportion of commitments not met and the promptness and quality of communication.

Human capital is mainly assessed by the turnover of managers and specialists, attractiveness of the company for workers, the relation of the cost of education and the total wage cost and by the satisfaction and loyalty of key employees.

The intellectual capital development and control in close connection with modern technologies is one of the main factors of knowledge management effectiveness.

IV. THE KNOWLEDGE MANAGEMENT AND THE HUMAN CAPITAL

The starting point in knowledge management is the focus on the human factor. Decisive is the part of information handled by and available for workers of the relevant company. It is just this knowledge that needs to be refined and fostered and its sharing must also be enabled to other workers in the organization. It is important that the company fosters the kind of corporate culture encouraging employees to propose unusual solutions to problems just arisen and inspiring them to strive for continuous improvement, and which at the same time stimulates spontaneous innovative activities, leading e.g. to presenting innovative proposals or solutions to problems not yet encountered, which, however, should be forestalled in the future.

The Knowledge Worker

In his work entitled 'Post-Capitalist Society', P. Drucker (1993), renowned author in the field of

management, predicted the necessity of knowledge management and introduced the term *knowledge worker*, i.e. **worker possessing knowledge**

A knowledge worker is an employee who has specific knowledge. The knowledge held by a knowledge worker is vital for the organization and it has no alternative of acquiring that knowledge other than through one or another knowledge worker. A key knowledge holder may be an expert in a specific area, as well as they may be ordinary employees without anybody in the organization having an idea of them being very important knowledge workers.

A lawyer may serve as an indisputable example of a knowledge worker. In order to be a good professional, whether as a barrister, judge or public prosecutor, they have to follow amendments to laws and new developments in the rapidly changing legislation or international law. Further examples of knowledge workers are doctors, teachers, software specialists, as well as a pilot or meteorologist. But there are people working in positions that you would never associate with knowledge-based work.

In our time, specialized professionals and experts are indispensable, and numbers of knowledge workers employed in organizations are monitored more and more frequently. As a result of both technical and social developments, an increasing number of workers fall under the category of knowledge worker. Therefore, managers running organizations deal with knowledge workers more and more frequently and need to find an appropriate way of managing them. The traditional method of giving instructions and checking on their completion does not work, so it cannot be applied.

Managers working with knowledge workers have to tackle the following issues:

- How should they give instructions to someone who knows more about his work than the manager, and how can they check up on them?
- How can they order and check on something that is in the mind of the worker and is partially subconscious (and the worker himself is not fully aware of that)?
- How should a product quality be controlled if we cannot measure or compare it?, etc. The management of knowledge provides possibilities, using its tools, of managing knowledge workers.

However, you will need to keep in mind what is the crucial link in the abilities of an organization as a whole – this primarily includes information, skills and abilities of individuals in the company, not just of the higher-level management, but indeed of all its employees.

Characteristics of a knowledge worker:

- They have the knowledge which is important for an organization, frequently they are the only person possessing it within the organization,
- They can put the knowledge to practical use,
- Their knowledge may be partially subconscious, the worker may not be aware of it or may not put much importance on it,

- Other workers and company owners only have a limited access to the specific knowledge, they cannot acquire it for some reason (it may be time-consuming and financially demanding, or entirely impossible, because they lack the knowledge or skill required for creating the relevant knowledge) or they cannot or are not allowed to use it (it is tied to a specific certificate, e.g. a degree certificate or a certificate of apprenticeship),
- Knowledge workers are often white-collar workers.

In a simplified fashion we can characterize a knowledge worker as

- an individual with a specific piece knowledge or a complex of knowledge,
- the knowledge is important for the company,
- a given worker and / or company may or may not be aware of it,
- it may be difficult for other workers to gain or use this knowledge.

V. DISCUSSION – THE MAIN BENEFITS OF THE KNOWLEDGE MANAGEMENT

Considering the question of cost, particularly that of an information system, there are some indisputable benefits that a well implemented knowledge management will bring to an organization:

The knowledge management improves supplier networks by contributing to enhancing of the effectiveness of supplier chains and logistics integration, and to strengthening of supplier – customer relations.

The knowledge management increases innovative capacity of the company, the company makes a better use of workers as well as knowledge, learns new skills, it is better poised to develop new products and services, the quality continuously improves.

A well implemented and effectively used knowledge management enables a quicker response to a change in requirements for a product and its quality.

The knowledge management improves customer orientation – a company is better poised to keep and attract customers

In relation to the applied style of knowledge management the company response and abilities are growing, i.e. increase of flexibility and speed of decision-making, incorrect decisions are eliminated, geographical barriers are easier to deal with, it is possible to share a much greater amount of tacit knowledge.

The knowledge management increases the intrinsic quality, operating effectiveness, working morale and process innovativeness improve.

It is obvious that introduction of the knowledge management is not an end in itself. There are always some benefits expected. These may be divided into **two basic groups**. Primarily they include the **results directly relating to the knowledge management**, in respect of implementation of knowledge processes, use of specific technologies etc. In this respect, we can list the benefits of knowledge management

implementation as defined by author V. Bureš (2007):

- improvement of knowledge sharing and cooperation between the organization's employees,
- further implementation of best practices in the company,
- improvement of learning and integration of new workers,
- prevention of loss of know-how,
- improvement of quality of projects and innovation,
- bettering of relations with external environment (e.g. with customers, competitors etc.) and efforts to prepare for their development,
- readiness to respond to unexpected events and ability to handle emergency situations etc.

The other group includes **benefits directly relating to basic business goals** of an organization. Here the knowledge management contributes to achieving standard goals related to normal company operations. Finally, the knowledge management goals are identical to the goals of any other business concept:

- an organization performance increase,
- profit increase,
- maximization of sales,
- cost reduction,
- introducing new ways of work,
- creating new opportunities in the market etc.

An organization using the knowledge management is characterized by e.g. the following elements:

- **Continuous change** – very fluid business environment demands increasingly flexible organizations, ready to quickly respond to market conditions and able to develop new products and services within a short period of time. The key role in this process of continuous adaptation of the company is played by people, as an essential agent of the needed changes.
- **Support to self-improvement** – in a learning organization, education is no longer considered a separate function, but the whole organization is gradually becoming a system where individuals learn from activities of the organization and the organization as a whole learns from active cooperation of individuals.
- **Team work** – teams are set up for troubleshooting, driven by abilities of individuals. When setting up the teams, diversified abilities and interdisciplinary skills are appreciated. Diverse skills and abilities make it possible for the teams to match the complexity of environment. The different individual abilities and skills of team members support innovative capacity of teams.
- **A new role of managers** – their role tends to shift from that of an organizer toward a teacher (mediator). In this role they help their staff as coaches, guides to organization functioning, help them identify causes of problems and understand individual behaviour.

Knowledge management introduction requires a determined approach of the top management and support by employees. A number of recommendations are surely available.

Creation of knowledge using SECI process

Knowledge creation is a continuous process through which the existing boundaries are pushed back, e.g. by uncovering a new connection, a new outlook on the world, and new knowledge is gained in this way. Knowledge is created through mutual interaction between individuals or between individuals and their environment. In order to understand how an organization dynamically creates knowledge, a model of creating knowledge has been designed.

SECI process: four models of knowledge conversion

An organization creates knowledge by mutual influencing of the explicit and tacit kinds of knowledge. This process of transmission between two kinds of knowledge is called knowledge conversion. According to authors I. Monika, H. Takeuchi, (1995), through the process of conversion, both the tacit and the explicit knowledge expands in quality as well as quantity.

We distinguish four modes of knowledge conversion:

- **Socialization**: this is conversion of knowledge from tacit to tacit form. Individuals can gain new tacit knowledge in contact with other people, even without language use. A key example of this benefit is a case of an apprentice who learned with his supervisor through observation, simulation and practice.
- **Externalisation**: conversion of knowledge from tacit to explicit. It involves creation of conceptual knowledge using hypotheses, models, metaphors or analogies.
- **Combination**: Conversion of the form of knowledge from explicit to explicit. Systemic knowledge is created. This change may take place by means of meetings, documents, conversation etc.
- **Internalisation**: The form of knowledge is shifted from explicit to tacit. The operating knowledge is being created through experience.

V. CONCLUSION

A company which decided to manage its knowledge and use the management of knowledge to improve its performance, should ensure the following:

1. establish its knowledge strategy
2. determine which group its organizational structure belongs to
3. set the goals for the management of knowledge and their measurement

4. identify the phase of the management of knowledge implementation the company has reached
5. fill the key positions and allocate responsibilities and powers relating to the management of knowledge
6. assess the knowledge market within the organization and remove the main areas of ineffectiveness
7. create an environment suitable for the management of knowledge
8. provide appropriate means and tools for using explicit knowledge and its management
9. provide appropriate means and tools for using tacit knowledge and its management.

The sequence of the above steps does not necessarily have to be followed. Still the organization should always start by defining its knowledge strategy and identifying the organizational structure category where its structure belongs. These basic steps will significantly affect the way of management of knowledge in an organization. It is important to set the procedure of creating knowledge.

The knowledge management is striving to improve the company effectiveness through the use of collective knowledge and experience, and employment of the knowledge system. Its goal is to enable the company to realize its key processes with maximum efficiency.

With an appropriate organizational structure and modern information technologies, the knowledge can be used to solve problems regardless of place and time. A prerequisite for the meaningful use of knowledge management on the way to achieve the company success is the possibility of knowledge exchange between its members and permanent extending of the knowledge basis.

The development of knowledge management does not only benefit companies. It is equally important for *schools, especially universities*. If a school is to fulfil its function, apart from spreading knowledge it should also concentrate on the management of knowledge which brings with it the ability to offer

the right knowledge – to the right people – at the right time

with the aim of satisfying the current need of knowledge. The management of knowledge includes analysis of the situation with regard to the attention given to knowledge utilization, creation of plan and completion of a set of activities focusing on the best possible use of knowledge. At the present time, companies are typically *overwhelmed* by information, but there is not enough knowledge.

The above analysis shows that the following steps are necessary:

Purposeful and methodical support of the environment encouraging the management of knowledge, timely definition of a feasible goal, implementation and meeting targets, coordination of knowledge management activities and intellectual capital, selection of an optimum alternative of responsibility for the development of management of knowledge in the

company, appropriate motivation of all company employees to support the development of management of knowledge and to use the wealth of knowledge, respect and support given through specific activities of the management at all its levels throughout the company, sensitive promotion of the modern goals pursued by the knowledge management while fully respecting the existing management objectives.

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