KNOWLEDGE MANAGEMENT

Study Support

Růžena Petříková
Zdenka Hofbruckerová

Ostrava 2016
Title: Knowledge Management

Code:

Author: prof. Ing. Růžena Petříková, Ph.D., Ing. Zdenka Hofbruckerová, Ph.D.


Number of pages: 46

Academic materials for the Economics and Management of Industrial Systems study programme at the Faculty of Metallurgy and Materials Engineering.

Proofreading has not been performed.

Execution: VŠB - Technical University of Ostrava
CONTENTS

INTRODUCTION INTO THE TOPIC ................................................................. 1

1 CHANGES OF THE MANAGERIAL ENVIRONMENT ....................... 2
   1.1 Synergy in corporate culture management.................................................... 2
   1.2 Transition from product competition to knowledge competition ..................... 3
   1.3 Knowledge capabilities of current managers.................................................. 4

2 KNOWLEDGE MANAGEMENT IN CORPORATE MANAGEMENT .... 7
   2.1 ISO standards......................................................................................... 7
   2.2 EFQM excellence model....................................................................... 10
   2.3 Process management and its application in knowledge management.............. 13

3 KNOWLEDGE AND KNOWLEDGE MANAGEMENT .................. 20
   3.1 Intellectual capital, knowledge, knowledge society.................................... 20
   3.2 Data – information - knowledge...................................................................... 22
   3.3 Types and specific properties of knowledge.................................................. 24
   3.4 Knowledge management, definition, historical development.......................... 26

4 THE BASIC APPROACHES TO KNOWLEDGE MANAGEMENT ...... 28

5 FACTORS OF SUCCESS IN THE AREA OF KNOWLEDGE
   MANAGEMENT ............................................................................................... 30
   5.1 Analysis of the need to develop the knowledge of employees......................... 30
   5.2 Knowledge carrier – Knowledge worker ...................................................... 32

6 KNOWLEDGE AS ASSETS (METHODS AND MODELS OF
   KNOWLEDGE ASSESSMENT) .................................................................. 34
   6.1 Breakdown of knowledge in relation to the market......................................... 34
   6.2 Methods of knowledge assessment............................................................. 37
   6.3 Hierarchy and basic categories of knowledge capital..................................... 38

7 EFFECTIVE KNOWLEDGE MANAGEMENT – PREREQUISITES OF A
   SUCCESSFUL IMPLEMENTATION ......................................................... 40
   7.1 Knowledge management processes............................................................ 40
   7.2 Innovation as synthesis of knowledge into new products, processes and services ... 43

CONCLUSION ...................................................................................................... 45
STUDY INSTRUCTIONS

You have received educational materials for combined studies for module Knowledge Management of winter semester of master’s degree in Quality Management.

PREREQUISITIES

…………………………………………

COURSE OBJECTIVE AND LEARNING OUTPUTS

Give students broader theoretical and practical knowledge in the field of knowledge, knowledge management, knowledge as assets and effective knowledge management.

AFTER STUDYING THE STUDY SUPPORT STUDENTS WILL BE ABLE TO:

Knowledge outputs:
• Students will be able to characterize the basic steps of the process of knowledge creation and define the basic principles and practices of knowledge management.
• Students will be able to define the meaning and use of knowledge as assets.
• Students will be able to describe the basic principles of effective knowledge management.

Learning outputs:
• Students will be able to use their knowledge for the use and application of the basic principles of knowledge management.
• Students will be able to decide on the suitability of steps in realization of knowledge management.
• Students will be able to apply their theoretical knowledge in the field of knowledge management in their future practice.

METHOD OF COMMUNICATION WITH THE EDUCATOR:

This matter is presented to students within the frame of their lectures and practical exercises, where they practically learn the topic discussed during the theoretical lectures. But selected topics suppose self-learning and elaboration of the written seminar works discussed with the lecturer during the consultations and via internet.

CONSULTATION WILL TAKE PLACE WITH A COURSE GUARANTEE OR LECTURER:

• Individual consultations appointmented by email or telephone.


Přednášející: prof. Ing. Růžena Petříková, CSc., Ing. Zdenka Hofbruckerová, Ph.D.

Contacts: ruzena.petrikova@vsb.cz, zdenka.hofbruckerova@vsb.cz
INTRODUCTION INTO THE TOPIC

At present, the key condition that has been necessary for the success in business is not only nationally but very often internationally comparable level of knowledge and skills of people - employees, including an optimal level of their social responsibility, as well as ethical and moral qualities, accompanying each potential significant change in the corporate climate.

Nowadays, there are many examples where organizations, usually very successfully, implement various elements of knowledge management into their processes, although it is necessary to realize very clearly that a more fundamental contribution in this area can be achieved only on the basis of the synergy effect when various activities in the area of knowledge management support each other and strengthen each other.

It is not an exception any more that many excellent companies, including the Czech ones, demonstrate their success just thanks to a suitable integration of the sharing of knowledge, smart practices and other supporting methods, techniques, and technologies.

The basis for a long-term competitiveness of the company is constant learning, developing knowledge and skills as well as a permanent cultivation of creativity, emotional intelligence, ethics, morality, honesty in business, and finally a motivation to develop the potential and performance of each person. Due to the permanent changes, which we have recently been going through, we must be capable of rapid innovations, flexibility, and continuous use of the available opportunities; otherwise we are going to "lag behind".

The global economy, the Internet, the telecommunications and the rapid technological and knowledge transfers also facilitate a visible shift from the traditional hegemony of the producer to the permanent domination of the customers and consumers.
1 CHANGES OF THE MANAGERIAL ENVIRONMENT

Time to study
4 hours

Goal
Introduction in the conditions of changes in the managerial environment as a precondition for successful company management and entrepreneurship in the field of knowledge management.

Lecture

1.1 SYNERGY IN CORPORATE CULTURE MANAGEMENT

The success and productivity of companies is closely related to the nature of the relationships within the organization. The reason of the emergence of companies which employ more than one person is a belief that they will experience the synergy effect - a belief that when people join together and work together, the result will be better than the sum of their individual efforts. Besides, remember the basic philosophy of a learning organization that is built precisely on this principle of teamwork.

Whenever two factors work jointly together, the result is not always a simple sum. The result is a sum which is corrected by including the effect of the relationship between the two factors. If the factors support each other, the result exceeds the simple sum and a synergy is born. If they limit each other, or even eliminate each other, the result does not even reach the simple sum of the factors. We can therefore state that:

\[ r_{12} = k_{12} (f_1 + f_2), \]

where \( r_{12} \) is the result of a joint action of the factors \( f_1 \) and \( f_2 \) and \( k_{12} \) is a correction coefficient, which depends on the nature of the relationship between the factors \( f_1 \) and \( f_2 \), and it is defined, for example, in such a way to acquire the values ranging from 0 to infinity. In this case, the values of \( k_{12} \) lower than 1 indicate a conflict relationship of both factors, and \( k_{12} \) values higher than 1 indicate their synergy relationship.

If the environment is a company and the factors include people, this result can be described as corporate culture. Corporate culture is therefore a summary of the relationships among the important factors affecting the life of the company. Its core is represented by the relationships among the people and the relationships between people and ideas (visions and values) that define
the company. The formal and informal patterns of the behaviour of company employees make up its external manifestation.

If a corporate culture is to be called synergetic (with a coefficient higher than 1), certain conditions have to be met. The factors should act in the greatest possible harmony. This can be achieved particularly if certain factors are given higher weight - preferably informally. It is possible to distinguish two distinct types of synergistic corporate cultures, companies controlled by people and companies controlled by ideas.

The basic decision-making criteria in a company controlled by people are the opinions of the senior employees. If someone is not sure what to do, he is expected to ask his boss. Senior employees on average have a good overview of what is happening in the company, but also tend to be overwhelmed by the operational problems.

The basic decision-making criterion in a company controlled by ideas is a vision, goals, tasks and values – simply put the ideas because of which the company lives. In case of uncertainty, the people first ask which of the possible procedures will lead to the fulfilment of the corporate ideas. They are primarily loyal to these ideas, loyalty to senior employees is derived from this primary loyalty, because the (good) senior employees represent the system of company ideas in the eyes of the employees, and this system is personified in them.

Corporate culture management (as a set of significant formal and informal relationships and patterns of behaviour within the organization) is an important precondition for its vitality and progression, and corporate culture is a unique element of the corporate identity. It is created during a long-term process, but may be relatively quickly eroded or completely devastated if the interferences with the corporate culture are insensitive.

1.2 TRANSITION FROM PRODUCT COMPETITION TO KNOWLEDGE COMPETITION

It has already been stated at the beginning that the constantly increasing dynamics of the technological development in the field of significant global impacts heavily influences the whole development of the society. Competition is constantly increasing in all areas of life of the society. The requirement concerning the speed of evaluation of the situation, the speed of acquisition of human resources, the speed of effective communication, the ability to motivate and, finally, the necessary higher quality of the team activities are becoming virtually commonplace requirements for the survival of our organizations. A successful development of a company requires the mobilization of all the existing knowledge and skills and a quick and high-quality action based on them.

The transition from a product competition to a knowledge competition, however, is not an easy process, and it is associated with significant changes in the management environment (see the attached scheme - Fig. 1).
<table>
<thead>
<tr>
<th>From</th>
<th>Transition</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive behaviour</td>
<td>→</td>
<td>Strategic approaches</td>
</tr>
<tr>
<td>Stress on products</td>
<td>→</td>
<td>Stress on design and development of products and processes</td>
</tr>
<tr>
<td>Ad hoc measurement of process performance</td>
<td>→</td>
<td>Systematic measurement of management system performance</td>
</tr>
<tr>
<td>Intuitive decision-making</td>
<td>→</td>
<td>Decision-making based on facts and contexts</td>
</tr>
<tr>
<td>Closed markets</td>
<td>→</td>
<td>Open markets (including labour markets)</td>
</tr>
<tr>
<td>Closed markets</td>
<td>→</td>
<td>Ability to provide complex and excellent approach to all interested parties</td>
</tr>
<tr>
<td>Product competition</td>
<td>→</td>
<td>Knowledge competition</td>
</tr>
</tbody>
</table>

**Fig. 1: From product competition to knowledge competition [1]**

The success of these changes requires "good management" and constant analyses of the need to develop the employees' knowledge.

A man - employee is the creator and the source of all other qualities, not their by-product, whether he wants to or not. Nothing but his personal qualities, knowledge, and skills trigger a chain reaction of further improvement processes of the development of the organization. A high level of personal qualities contributes to a high level of the individual teams; teams with a high level of this quality then logically produce goods and services of outstanding quality. Quality in all these areas leads to the culture of quality, which affects not only the culture of the entire company, but it also satisfies customers and the surrounding environment. A satisfied customer means better financial result, better reputation (positive references), efficiency, prosperity, and, last but not least, the very important competitiveness of the organization.

### 1.3 KNOWLEDGE CAPABILITIES OF CURRENT MANAGERS

Let's at east look at some of the priority requirements for this personal quality or the knowledge capabilities of current managers.

- **Complex company integration** as a method of system documentation, proof of compliance within the existing individual management systems directly provides the possibility of integration of these systems into one coherent integrated system. The subject of management of our managers will no longer be the short-term and socially limited objectives taking into account only the quantification of the satisfaction of the unilateral needs, often leading to a degradation of the concept of quality from the global (civilization) point of view, but it will be about the company as a whole, with a balanced and harmonized course and development of all company processes, systems, and functions.

- **Management of changes** will be a significant feature and a permanent part of the activities of our managers for a long time. It is not easy to decide when to perform a radical form of
transformation of the company or when to apply some of the forms from the wide range of gradual or partial changes. The toughest challenge is to master the human factor in the process of these changes – i.e. explaining the need for changes, motivating people, gaining approval and support, facilitating the transition to the new conditions, including the use of knowledge, experience and initiative of each member of the team during the implementation of these changes.

- Decision-making based on facts is now associated with managing and using all the available modern management techniques, built on the information and communication technologies that have the ability to facilitate, refine, and accelerate the management and control processes.

- The role of business ethics as part of the corporate culture will grow significantly. It is gradually formed and defined on the basis of what the entrepreneurs and other persons involved in everyday economic life deem generally beneficial and realistically possible. The common symptoms of an unsatisfactory state include mutual non-payment of debts, disregard for the liabilities and contracts, deliberate concealing of defects, delivering low-quality products and services, causing deliberate damage and disadvantage to business partners and other inappropriate behaviour issues.

- Purposeful boost of personal quality and performance must undoubtedly lead to a critical view of our own performance and the quality of all company processes (management, main, subsidiary) and their results, including the quality of the top management itself. The basis for the development of managerial skills and competencies is therefore represented by the ability to manage your own personal development, i.e. self-management (personal quality - personal maturity of each manager). An early detection of problems, shortcomings, unused opportunities or needs to change the way of working and dealing with customers is therefore primarily the responsibility of manager’s self-analysis and self-criticism.

- The management and development of human resources is more and more frequently getting into the centre of attention of the management of our companies. This means that, based on the knowledge of reality, the future of the Czech economy, which does not burst with natural or financial resources or a large internal market but relies especially on the quality of human potential, requires us to urgently develop and implement a human resources development policy based on the concept of the so-called "learning organization", and recently even the so-called "knowledge organization".

For the above-mentioned reasons, the management of human resources should always be efficient and effective, so that the potential and performance (i.e. the resources and human labour) are used and developed in mutual harmony.
Summary of terms

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Corporate culture
- Synergy – synergetic
- Company driven by people and company driven by ideas
- Product competition and knowledge competition
- Personal quality

Questions

1. Name the types of synergistic corporate cultures, including their characteristics.
2. Conditions of the transition from product to knowledge competition. What are the priority requirements of knowledge skills of current managers?

References

2 KNOWLEDGE MANAGEMENT IN CORPORATE MANAGEMENT

Time to study
60 min.

Goal
Understand the importance of people - employees, their knowledge and skills, as a key factor in the development of the systems of corporate management and business (with the accent on documents in the field of management).

Lecture

2.1 ISO STANDARDS

The International Organization for Standardization (ISO) is the world's most respected institution that is engaged in designing and issuing standards which are subsequently adopted in the national standardization systems. However, there are also other institutions engaged in issuing generally respected standards, such as the IEC (International Electrotechnical Commission), BS (British Standard), etc.

In 1987, the ISO organization for the first time published a series of standards that defined the requirements and recommendations in the field of management systems, specifically for quality systems. These pioneering standards became known as the ISO 9000 standards and are complemented by additional series of standards dealing with the environmental management systems, the management of occupational safety and health, the information security management, the social responsibility of organizations, etc.

All these "system" standards are characterized by several common characteristics, such as:
- they are generic, i.e. applicable to any sector of the economy and to all organizations regardless of their field of activity, size, etc.,
- they are not binding, but only recommendatory, until the moment the supplier commits to their application within the scope of a contractual relationship, when it becomes a binding regulation for the supplier,
- the so-called criteria standards, such as ISO 9001, ISO 14001, OHSAS 18001, etc. are a globally recognized platform for independent conformity assessment, the so-called management system certification,
- in addition to the criteria standards, however, each series of the ISO standards includes directives which are standards that do not dictate but only recommend what the organizations could adopt to develop their management systems.

The basic starting point of ISO 9004 standard, which was chosen as the most complex guide for organizations trying to achieve long-term success, trying to build and develop management systems, is the knowledge that a long-term success of organizations is the result of their ability to meet the demands of external customers and other interested parties. To do so, it is necessary to have an effective management system supporting the learning processes and the application of improvements and innovations.

Compared with the latest version of ISO 9001: 2015 standard, ISO 9004: 2009 has a much wider scope; especially by taking into account the needs and expectations of all the possible interested parties and by focusing its recommendations on increasing the efficiency of the whole organization.

The inner circle in the figure establishes the structure of the essential requirements of the ISO 9001 standard, which the organization has to meet if it wants to receive the quality management system certificate. These requirements are related to the responsibilities of the top management, the management of resources, the product realization and measurements, and the analyses and improvements. The outer circle includes a set of recommendations that should be respected by those organizations that not only covet the certificate, but especially internally and systematically develop their management systems as a prerequisite for their long-term success and high performance. These recommendations are structured in six basic areas:

- management focused on achieving lasting success,
- strategy and policy,
- management of resources,
- management of processes,
- monitoring, measurement, analyses and reviews,
- improvement, innovations and learning.

These are also the names of the pivotal chapters of the ISO 9004 standard, and they contain many recommendations based on the generalization of the world’s best practice.
Chapter 4, for example, states that the environment in which today's organizations find themselves is very uncertain and constantly changing, and achieving a continuous success in these conditions means that their top management should, among other things:

- plan their activities from the point of view of the long-term prospect,
- continuously monitor and analyze the environment in which the organization operates,
- identify their interested parties and determine how to meet their requirements,
- consider the development of mutually beneficial relationships with the suppliers, partners and other interested parties,
- identify the short and long-term risks and adopt a strategy to eliminate them,
- estimate the future needs, including the needs for competences (i.e. professional competence) of their employees,
- apply the processes necessary to the achieve their overall strategies,
- periodically assess the compliance of reality with the current plans and procedures, and take appropriate corrective and preventive measures based on the assessment,
- make sure that people have enough opportunities to learn for the sake of their individual development and for the benefit of the entire organization,
- apply the processes of innovation and continuous improvement.

In the sixth chapter, the standard emphasizes that people are the most valuable asset of all organizations and it is therefore necessary for the management system to allow continuous development of people, learning, knowledge transfer, and teamwork. Article 6.3.2 is entirely dedicated to the need to develop the competences of people in terms of their professional expertise, required in the performance of the long-term and short-term objectives of the organization.

Another strong link to knowledge management is evident in the text of Art. 6.7, where the Article 6.7.2 is called knowledge. It suggests that organizations interested in extending the knowledge of their employees should consider the use of suitable internal and external resources and it presents several possible sources for the acquisition, maintenance, and protection of knowledge, such as:
- learning from the mistakes and successes,
- conservation and protection of knowledge and experience within the organization,
- gathering knowledge from other interested parties (customers, suppliers, partners, etc.),
- ensuring a systematic and effective communication and information content and
- management of data and records.

Although Chapter 8 has no direct link to knowledge management, respectively the processes of learning, it puts emphasis on benchmarking, internal auditing, self-assessment and data analysis, which are all methods that require adequate knowledge on the one hand, but on the other hand, they serve as a very effective form of learning.

In Chapter 9, there is a whole Article 9.4 that deals with the problem of learning of people, more or less within the meaning and the concept of learning organizations. Among other things, it recommends organizations to apply the forms of learning based on the collection and evaluation of data from both the internal environment of the organization and from the outside of the organization, to integrate the individual behaviour patterns into an overall strategy of the organization, to link the learning of individuals and groups, to maintain and develop a system of mutual sharing of information and knowledge, and to support and appreciate the creativity of employees, etc.

2.2 EFQM EXCELLENCE MODEL

Besides the standardized models of management systems of organizations, there are also models that do not have the character of standards, but they are highly respected as a base for sustainable development of organizations. These models are most often referred to as the "Business Excellence Models", and they almost always apply the approach known as the Total Quality Management (TQM). The best known of them in Europe is EFQM Excellence Model, developed and
Excellence is understood as excellent work of an organization in managing and achieving results. The framework of this model in its latest version from 2012 is presented in the following figure - Fig. 3

The EFQM Excellence Model consists of nine basic criteria, and these are further divided into a total of 32 sub-criteria. The first five criteria are known as the "Tools and means", because they provide guidance on how to achieve above-average results. The results achieved here are then evaluated using the four remaining criteria. The logic and the interconnections of this model are easy to understand: a condition for achieving long-term excellent key performance results in the organization means achieving above-average results in customer satisfaction and the loyalty of external customers, and its own employees, as well as in the area of the perception of the organization by its surroundings, e.g. the citizens of the region etc. These partial results are, however, affected by the implementation of appropriately designed and managed processes that can take advantage of adequate resources, including motivated and professionally competent employees. All this must be supported by the implementation of a clear corporate policy and strategy and a real leadership role of the managers at all levels of the management system. The feedback in this model is represented by innovations and learning, where an analysis of the achieved results can be used to determine the directions for further learning and improving the attitude in
case of the activities that are typical for all the criteria of the tools and means. The EFQM Excellence Model can be applied in practice in three basic ways:

1. primarily, it serves as an inspiration for those organizations that look for a way how to further develop their management systems, and they accept the EFQM Excellence Model as the best, although the most demanding guidance,
2. it is used as a basis for the evaluation of those organizations in the manufacturing and public sectors that are candidates for the so-called EFQM Excellence Award or its national equivalents,
3. for the purposes of the so-called self-assessment, i.e. a systematic and all-including process identifying the strengths and opportunities for improvement.

One of the principles of excellence is the principle called "continuous learning, innovation and improvement". It emphasizes the vital role of learning of people to achieve permanent innovation and improvement. In several places of the description of the individual criteria, we can come across the following recommendations:

a) the top management of organizations shall support and sponsor the processes of learning (Criterion 1a),
b) the top management shall develop the learning processes in the organization (Criterion 1b),
c) the top management shall appreciate the efforts of individuals and teams in the learning process (Criterion 1d),
d) the top management shall measure and review the effectiveness of knowledge sharing within the organization (Criterion 1e),
e) the top management shall analyze the outcomes of the learning process (Criterion 2b),
f) the organization shall identify, develop and maintain the knowledge and professional competence of its employees (it is described in an entire sub-criterion 3b),
g) the managers shall appreciate team effort and team learning (Criterion 3d),
h) the organizations shall share their knowledge with their partners (Criterion 4a),
i) the information and knowledge shall be systematically managed (the entire sub-criterion 4e is dedicated to this issue),
j) organizations shall fully exploit their creative potential and knowledge of their employees to design products that are competitive in the long term (Criterion 5c).

It should also be mentioned in this context that each organization can evaluate the state of maturity of its management system against the criteria of the EFQM Excellence Model using a special assessment framework, known as RADAR, where the corporate reality is viewed from four different perspectives. One of them is the perspective of the assessment and review, in which the activities of learning and improvement (including learning from their own mistakes) are seen as crucial.
2.3 PROCESS MANAGEMENT AND ITS APPLICATION IN KNOWLEDGE MANAGEMENT

It has been trendy in recent years to talk and write about the so-called process management, process approach, etc. Process management is based on one of the key principles of modern management, usually called the "process approach". The essence of this principle is based on completely logical statements saying that organizations work more efficiently and the results are achieved with higher efficiency if the inter-linked activities are understood and managed as processes. The term process should be understood as an arranged sequence of interconnected activities which change the material or information inputs into material and information outputs, while consuming resources under controlled conditions. The process approach is generally characterized as a systematic identification, management and, particularly, the mutual interaction of the processes used within the organization to achieve the strategic goals.

Process-oriented management can be defined using 10 basic characteristics:

1. The processes in the organization are clearly defined and described in control documents (e.g. in the process cards, etc.).

2. Each process has its customers, who receive certain added value. These customers can also include the so-called internal ones, which mean the employees who use the outputs of the work of their predecessors (other processes).

3. Every process must have its owner, i.e. a function in the organizational structure, who has precisely defined responsibilities and powers related to the process.

4. Each process has its established basic performance indicators and each of these performance indicators shall have its target values determined (derived from the organization's objectives).

5. The satisfaction of internal and external customers (i.e. customers of the process outputs) is considered to be the key process performance indicator.

6. The processes that do not deliver any value to internal and external customers must be permanently eliminated in order to reduce losses.

7. The levels of performances of the individual processes are systematically compared with the best practices through benchmarking.

8. The knowledge of the people involved in the processes are constantly developed and evaluated.

9. The responsibilities and powers are suitably spread by the owner of the process among all employees involved in the process, depending on the level of their proven knowledge.

10. The individual processes (which form the management system, or at least its natural part – e.g. the knowledge management itself) are constantly improved in order to facilitate continuous performance improvement throughout the organization.
Process-oriented management, preferring process quality over the quality of the outputs alone, is an approach focusing on the possible causes of customer dissatisfaction with the outcomes, hidden in the individual activities of the processes. It is well known that: **investments in prevention are always considered to be the most effective!**

The question is what the individual organizations should do for a successful application of process management. This is a topic for a separate monograph and there is no space for all the details in this publication. However, we will at least outline what should not be forgotten.

The first set of activities is associated with the **identification of the processes** that are necessary to fulfil the strategic objectives of the organization. The initial framework of this identification is schematically illustrated in Fig. 4:

![Diagram of process identification](image)

**Fig. 4: Frame for identification of processes in management systems [1]**

The scheme in Fig. 4 clearly shows that the base for the determination of the structure of the processes must be represented by the identified requirements of all the interested parties, which is the key information input used to define corporate strategies, policies and plans, and the planning also includes setting the objectives and the critical success factors (CSF).

These strategic frameworks are used by the top management to select the structure of the processes in the organization (their number depends on their suitability for the organization and their purpose - the mission of the organization), whose designing, management and continuous improvement meet the strategic objectives, which ultimately fully satisfy the individual interested parties.
The selected tasks of the implementation of process-oriented management include the **determination of the logical sequence of the identified processes in the organization**. It leads to a real situation which is illustrated in Fig. 6. The organization must reach a state where the outputs from one process will make up the logical inputs into other processes (at least to one of the follow-up processes); thereby guaranteeing that none of the processes creates unnecessary outputs that do not have any internal or external customers. The result of this step is the so-called **process map**, which is a graphical and clear illustration of the process sequence in the management system. An example of a process map within the application of knowledge management will be presented later, as well as selected practical examples.

**Fig. 5: Scheme of logical consequences of processes in management systems [1]**

We already know that the determination of the so-called process owners (guarantors) make up one of the characteristic sketches of process-oriented management. Who is the process owner: a concrete person (functional place according to the organizational structure), whose clearly defined responsibilities include:

- the quality of process outputs, i.e. responsibility to determine whether the results of activities in the process meet the requirements of internal and external customers,
- an effective course of the process, i.e. that the process was carried out as quickly as possible and with minimal consumption of resources.

These responsibilities must be supplemented with adequate powers, e.g.:

- knowing the requirements of all customer segments,
- defining his/her own requirements with regards to the inputs and resources into the process,
- managing the process, including the necessary interventions (such as stopping the process) and deciding on improvements.
An exact definition of the responsibilities and powers of the process owners is the key to overcome certain stereotypes and habits associated with conventional organizational structures applied in practice - where the responsibilities and powers are structured vertically, while process management also introduces horizontal arrangement of the relations within organization. The designation and official appointment of the owners of all processes in the management system have to follow certain rules:

a) process owner shall have deep knowledge of the process to manage and he is responsible for the results of the process,

b) process owner should participate in the management of a significant part of the activities the given process consists of,

c) process owner shall be respected by the employees who actively participate in the process for his/her moral qualities,

d) process owner shall be capable of creative thinking and shall be willing to implement all the necessary changes that will positively affect the overall performance of the process,

e) process owner shall be communicative, because his frequent task is to negotiate specific terms and adjustments relating to internal suppliers, respectively internal customers of the process,

f) process owner shall be the leader of all activities related to the continual improvement process, etc., in the best sense of the word.

Process performance measurements, using the support of some beneficial indicators, are among the other important activities within the process management that cannot be ignored at this point. Process performance is its ability to achieve the planned results. This ability can be assessed using a variety of indicators, for example, within the Balanced Scorecard methodology. The results of the process performance measurements are used as an information input of fundamental importance for the owner of the process within his powers to operatively manage the processes and to continuously improve them.

One of the tasks during the implementation of process management, which is usually not very popular among the employees, is the description of the processes. The descriptions of the processes must in fact be a natural part of the document structure of the organization and must be adequately managed. Even though it is a routine activity, we can still find some shortcomings, which only confirm how poorly understood the principle of process approach is in practice. A typical example is the description of the production processes, where the actual description of the process is replaced by a technological procedure only. The descriptions of the processes must inform about all the elements that are important in terms of the process development and management, such as the inputs and outputs, a list of previous and subsequent processes, the process owner, the indicators used for process performance measurement, and appropriately (in sufficient detail) elaborated descriptions of the individual activities. The application of flow charts is very beneficial in this area.

The last notes focused on the characterization of process management will include a review of the actual state of the processes and their continuous improvement. A review of the actual state
of the processes and their performances is basically a controlling activity, which must be performed both by the process owners and by the top management of the organization by means of appropriate approaches and tools. They can include, e.g.:

- internal audits focused on the processes,
- application of feedback in process management and
- self-assessment.

The least frequently used approach to process review applied in practice is self-assessment, which has represented the most objective method so far, although it is the most demanding method of process assessment as far as the resources are concerned, but it can effectively detect the possibility of further improvement. Self-assessment is also recommended and specified in a rather detailed way in the draft of the new ISO 9004 standard. Within the efforts dealing with continuous improvement of process performance within organization, we can recommend especially those approaches that are commonly referred to as Lean Six Sigma, because they have, in the case of a patient and systematic application, a guaranteed effect not only in radical reduction of the process parameters variability, but also in reduction of unproductive expenditures associated with the processes.

How these principles of process-oriented management could be applied in knowledge management: knowledge management should be a set of interconnected processes. The identification of knowledge management processes is based on understanding the requirements of the interested parties and the subsequent definition of the strategic objectives of the organization. In this context, we can introduce a seemingly universal set of knowledge management processes, which should be maintained and developed in all organizations regardless of their size, focus or character. It will take the form of the so-called knowledge management process map, and it will be more detailed specification of the diagram in Fig. 6. The initial knowledge management process map is shown in Fig. 6.

This map defines the ten fundamental processes of knowledge management, from the creation of the strategy, policy and objectives of knowledge management, through the typical activities, called operational knowledge management here, to the assessment of the actual state of knowledge management in the organization. These ten basic processes should form a sort of common process basis in all organizations, which may be supplemented or modified in specific cases, but always with regard to their suitability for the organization.
Summary of terms

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Management systems
- Process model, process management
- Process identification
- Process maps, process owners
- Self-assessment
- Knowledge management processes

Questions

1. Name some of the normative documents, where KM is mentioned as the basic attribute of management.

3. What processes are typical for knowledge management?

4. What is self-assessment?

References


3 KNOWLEDGE AND KNOWLEDGE MANAGEMENT

Time to study

60 min.

Goal

Understand the meaning of the term of knowledge and knowledge management, to get acquainted with the historical development of KM, as well as to understand the links of data - information - knowledge line, and finally to interpret the arguments of the perception of knowledge as a competitive advantage in current business activity and corporate management.

Lecture

3.1 INTELLECTUAL CAPITAL, KNOWLEDGE, KNOWLEDGE SOCIETY

The concept of intellectual capital, as a sum of the values and abilities to develop knowledge, is in its right place especially where a man shows creativity, original creative thinking and ability to keep finding new forms of added value. Not everyone represents "intellectual capital" for the company in the true sense of the word. In recent decades, the economy has gradually changed its dependence on the natural/physical resources into dependence on knowledge and intellectual capital. Intellectual capital is divided into three basic groups: human, structural and relation/customer capital, as shown in the figure below.

<table>
<thead>
<tr>
<th>Human capital</th>
<th>Structural capital</th>
<th>Relation/customer capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential for future success, e.g.:</td>
<td>Organizational routine, such as:</td>
<td>Stabilized external relations to:</td>
</tr>
<tr>
<td>• Skills</td>
<td>• Methods</td>
<td>• Suppliers</td>
</tr>
<tr>
<td>• Competences</td>
<td>• Concepts</td>
<td>• Research institutions</td>
</tr>
<tr>
<td>• Experience</td>
<td>• Processes</td>
<td>• Investors</td>
</tr>
<tr>
<td>• Expertise</td>
<td>• Culture</td>
<td>• Society</td>
</tr>
<tr>
<td>• Involvement</td>
<td>• Infrastructure</td>
<td>• Other stakeholders</td>
</tr>
<tr>
<td>• Motivation</td>
<td>• IT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Patents/brands</td>
<td></td>
</tr>
</tbody>
</table>

Obr. 7: Intelectual capital – basic groups [1]
In some organizations, you can come across a situation where the individual parts of intellectual capital are managed separately, and the links among them are more or less absent. This problem is often caused by an organizational separation of the responsible departments, and firm boundaries between the departments prevent communication. Problems of this kind must therefore be solved on organizational levels superior to the departments responsible for the individual components of intellectual capital. The coordination of the development and utilization of intellectual capital is often included in the scope of responsibilities of a person from the level of top management, who is initially responsible for learning in the organization, later for the knowledge management, and the transition of the organization into a knowledge society can take place under his leadership as well.

Knowledge society is one of the most profound transformations in human history. Understanding, skills, and knowledge - instead of manual labour, money, and information – is becoming the primary and most important form of capital, and the knowledge processes are fundamental for the global competitiveness of the national economy, regions, companies, and individuals and finally - knowledge is becoming the basic export commodity of the most successful economies.

Knowledge is not information and information is not knowledge. Company knowledge is not information about the company. Knowledge is not just gathering information. Every company, just like every person, must realize that ignorance is characterized by an excess of information without knowledge, opinions without principles and, finally, instincts without belief, faith, ingenuity and creativity.

Every (successful) company coordinates two kinds of productions:

1. Production of goods or services, i.e. production of something different from itself
2. Production of itself, i.e. reproduction of its own (company) capabilities to produce.

Knowledge of the company is a key ability (competence) to produce, and that means to sell the products and services on the market. This knowledge must be not only created, but constantly renewed, improved and managed. Knowledge management is a necessary condition of success in the modern economy of global competition.

Knowledge (ability and skill) is the most important form of capital. All other types of capitals - money, technology, buildings, land, etc. - are subordinated to knowledge capital, follow it, and are critically dependent on it.

Knowledge in terms of a skill and ability are defined as a purposeful coordination of action. I can do something because I am able to coordinate my activities so that the result or products of my efforts are successfully accepted and evaluated in the market. In business practice, this means that the results of the coordination of our activities are successful and are correctly valued in the market.
3.2 DATA – INFORMATION - KNOWLEDGE

Globally competitive companies are predominantly those that are characterized by good prudence and foresight with regards to their development, mobilization, and allocation of their knowledge resources. It is the development in this area and care for these resources that are becoming the most important determinants of their sustainability and high performance.

In any case, it is not sufficient to have enough data and information, but the data and information must be sorted, processed in terms of their meaning and usage for the purpose of corporate management. At present, knowledge has been becoming one of the most important factors of competitive advantage of each organization. The aforementioned facts have recently influenced a number of relevant documents in the field of contemporary corporate management.

Successful companies must quickly turn their full attention to knowledge: its formation, transformation, method of saving in memory, its selection, processing, use, and evaluation of the costs spent on its effectiveness and further development.

It is no longer about a mere accumulation of information in any sense, characterized by mutual links, but it is about meeting the specific needs of the real management process and ensuring all the functions necessary for the company. The following figure clearly shows that complex knowledge (some experts on knowledge management (KM) even mention the term wisdom) can be considered as a set of optimal data, useful information and the necessary knowledge related to certain specific issue.

The interdependence among data, information and knowledge can be understood in such a way that the data, as consistently expressed symbols, represent the "production raw material" that is transformed into information. Knowledge then defines the basic framework for the intellectual (cognitive) processes of data and information interpretation.

Knowledge is an activity, act, action; information is a symbolic description of this action. The difference between information and knowledge is therefore fundamental and important. Information is an input into the knowledge process of the coordination of activities. Achieving the desired purpose through action (not only on paper) is the only evidence or manifestation of practical, usable knowledge.

A modern enterprise today needs especially knowledge, and to a lesser extent data and information, to be able to create a significant and sustainable competitive advantage, a key ability, or a market competence.

The previous figure illustrates the logical process from top to bottom, from data processing to today's knowledge management systems (KM). While data do not have an explicit context and their purpose is unclear and unreadable, information already provides a foretaste of purpose and objective.

While, in case of data, we need to figure out the context and import it externally, information offers a restricted and more specific context, etc. downwards.
Although the progress is revealed from the top down, the importance of corporate processes, decisions, and projects is strategically unfolding just the opposite way. The most important thing is to know why, followed by what, while how remains at the end.

A traditional organization often proceeds the other way round: it buys a variety of technologies, introduces numerous functions, and gathers a lot of data and information. Then it buys information systems and the acquired information, including the information flows, is fixed. When there is no way back, only at that point it begins to deal with the purpose and ask: why? Eventually, it comes to the sad fact that it lacks the knowledge and wisdom to find and to achieve the right objectives.

**Knowledge organization therefore cannot be adjusted to information:** the information is just an input into the knowledge processes, see diagram in Fig. 8:

An effective knowledge management should make sure the knowledge is not only gathered, but also used in a rational and timely manner. This includes, in particular, a permanent propagation of knowledge and a systematic and purposeful analysis of the effectiveness of all measures related to KM.

<table>
<thead>
<tr>
<th>Existing knowledge</th>
<th>with projection into visions, missions, strategies ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge creation</td>
<td>people keep finding new methods of work, the management develops know-how in the work with HR – recruitment of workers, assessment, remuneration, motivation, communication, ... education</td>
</tr>
<tr>
<td>Capturing knowledge</td>
<td>assessing the value of new knowledge, finding ways of its presentations across the organization ... motivation, communication</td>
</tr>
<tr>
<td>Knowledge allocation</td>
<td>new knowledge must be put into the right context to be used by various individuals and groups / teams ... team activities</td>
</tr>
<tr>
<td>Saving knowledge / knowledge storages</td>
<td>saving knowledge in a reasonable form, ready to be used at anytime, ... projection into corporate information systems</td>
</tr>
<tr>
<td>Knowledge administration</td>
<td>must be constantly reviewed and verified in terms of importance and accuracy / management audits</td>
</tr>
<tr>
<td>Knowledge extension</td>
<td>knowledge must be accessible in a usable form to anyone who currently needs it in the organization/continuous education, communication, motivation</td>
</tr>
</tbody>
</table>

**Obr. 8: Knowledge Management Cycle [1]**

Besides the application of these requirements in the EFQM Excellence Model, this issue is also contained in a number of ISO standards focused on the field of integrated management systems, where a number of newly introduced requirements refers precisely to the key role of human resources management, their qualification, competence, skills, knowledge, abilities and experience, which documents the high importance of KM in any system of corporate management. These standards now also contain a specific emphasis on the area of information and knowledge management, where the management of the organization shall literally: "... handle data as the fundamental resource for conversion into information and the continuous development of
knowledge in the organization, which is essential for the real decision-making process and can stimulate innovations”.

Information management requires the organization to:

- identify its information needs;
- identify and obtain internal and external sources of information;
- convert information to knowledge of use for the organization;
- use data, information and knowledge to create its strategies and objectives and to meet them;
- ensure adequate protection and confidentiality;
- evaluate the benefits derived from the use of information to improve the management of information and knowledge.

3.3 TYPES AND SPECIFIC PROPERTIES OF KNOWLEDGE

There are many types of knowledge and their division is necessary. Knowledge, as a coordination of action, is characterized by rules and action evaluation criteria and its results. These rules allow the measurement and evaluation of the quality of the actions and results, i.e. the quality of knowledge as well. The quality of knowledge is an essential measure, because knowledge is a key creator of the process quality, as well as the result.

The basic types of knowledge are:

1. **Skill**, as any knowledge, is a purposeful coordination of action. However, the rules of this coordination are internal, self-declared and self-assessing. I can write, read and manage the company, because my coordinating suits my own rules of quality assessment. A skill can also be of high quality, especially if the subject (carrier) is demanding and self-critical. To be able, to be skilled, and to be proficient in achieving personal results is not enough: social and institutional assessment is necessary as well.

2. **Knowledge** is based on compliance with the external rules of the coordination of action and the results. Society, institutions, craftsmanship, and professionalism confirm and certify real knowledge, not a mere skill. A professional knows how to obey the rules and criteria of the profession; a layman and a self-taught person do not. Skill changes into knowledge only within the context of social "authorization".

3. **Expertise / Competence**. Proficiency and expertise are the highest forms of knowledge. A professional, who can handle the coordination rules of action in such a way to acquire the ability and authority to influence and change these rules, has achieved expertise. Only at this level, the knowledge can "teach" (in the sense of change) the system of rules and criteria determining the
quality of the process and result. An expert defines, changes and determines the rules of his expertise.

Knowledge may also exist in explicit or tacit forms, which predestinate the manner of its acquisition, saving, processing, and sharing. The saving is based on different types of information systems (information systems, knowledge systems, expert systems, decision-making support systems, etc.). In the past, information systems were focused on working with explicit knowledge, nowadays, they are more and more dealing with the problem of how to integrate tacit knowledge into the information systems as well. In terms of the content, knowledge can be divided into procedural and declarative knowledge.

- Explicit knowledge (it is more of an objective, rational and technical nature, e.g. plans, procedures, software, documents, etc). Its form allows distribution without the requirement for a personal contact, it is not easy to codify and share with others).
- Tacit knowledge (hidden knowledge of an individual, sometimes referred to as unspoken, that arise during learning. It is scattered, unstructured and difficult to express in words. It tends to be highly personal and difficult to formalize, it often constitutes a reservoir of experience, views, expertise, know-how, trade secrets and non-traditional skills).
- Procedural knowledge (knowledge of certain working practices which serve as a basis of modelling of human intellectual activity).
- Declarative knowledge (based on the statements of the states, properties or mutual relationships of objects. It provides the possibility to derive more knowledge and to perform operations related to procedural knowledge).

A well-functioning knowledge market supports the free flow of knowledge throughout the company and may become a significant motivating factor bringing many benefits, such as:

- work with knowledge develops the skills of workers,
- improves the quality of thinking,
- helps to overcome barriers between departments,
- increases satisfaction of workers,
- improves informal communication,
- enables identification of efficient workers,
- reduces costs because it allows the transfer of best practices,
- prevents duplication,
- improves the quality of a product or service,
- reduces time of production and non-production cycles,
- increases the innovation capacity,
- makes the work of managers easier.
3.4 KNOWLEDGE MANAGEMENT, DEFINITION, HISTORICAL DEVELOPMENT

Knowledge management can be defined as a systematic and integrating process of the management and coordination of a wide portfolio of company activities, i.e. acquiring, creating, saving, sharing, merging, developing and using the knowledge of individuals and groups in order to achieve higher company efficiency.

We can say that it is a relatively young discipline, even though people "in their own way" have been passing the acquired experience on forever.

- "Ab antiquo", people have been passing the gained experience from person to person (in a family, from father to sons, they kept it in stories, songs, myths, fairy tales, ...)
- Antiquity was more systematic (there were the first schools, the most important one was the Milesian School - the basics of scientific research)
- The Middle Ages (everything was controlled by the church, there were the first universities, and the first books following the invention of the letterpress printing, ...)
- 16th - 17th century (the foundations of the scientific society - Descartes, Galileo, Newton, experiments, the first encyclopaedia)
- 18th century (brought the first attempts to classify knowledge)
- 19th century (the first encyclopaedia that can be seen as the knowledge base from the perspective of knowledge management)

Knowledge management - modern history:

In the early 20th century, J. Schumpeter introduced knowledge as an input into the classical economic model in order to demonstrate that the economic growth depends on technological changes.

- 1960s (A. Toffler analyzes the need to shift from "manual labour" to "headwork" in order to obtain an adaptive organization; P. Drucker first used the term "knowledge worker")
- 1970s (several scientists focus on the relationship between individual and social cognition; the first robot soccer tournament is organized in 1997 in Japan in order to test the theory of social cognition)
- 1980s (expansion of information and communication technologies throughout the world has caused a gradual transition to information economy accompanied by a decrease in costs associated with the access to information; expert systems, automated knowledge acquisition and neural networks begin to capture expert knowledge;)
- 1990s (P. Senge first used the term "learning organization" and his book "The Fifth Discipline" has become one of the most influential publications in the field of trade and business; I. Nonaka and H. Takeuchi published the book "The Knowledge Creating Company" which
significantly contributes to extending the concept of knowledge management; FORTUNE magazine published the first article devoted to knowledge management; P. Drucker and his book "Post Capitalist Society" draws attention to the emergence of "knowledge society", the OECD published a report named "The Knowledge Based Economy" and draws attention of the individual countries to the need to learn to manage economy based on knowledge, etc.).

It can be said that there have been many revolutionary changes and events taking place in the area of knowledge management since the second half of the 1990s, and their number has been increasing multiple times every year and that is why it is not possible and easy to capture their complex overview.

---

**Summary of terms**

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Intellectual capital (basic groups)
- Knowledge (definitional determination)
- Link between data - information - knowledge
- Types and specific properties of knowledge
- Knowledge market
- Knowledge management (definitional determination) and the historical development

**Questions**

1. Name the basic groups of intellectual capital, including the examples.
2. Explain the mutual relationship among data - information and knowledge.
3. Describe the basic cycle of knowledge management.
4. What types and specific knowledge properties do you know?
5. What is knowledge management?

**References**

4 THE BASIC APPROACHES TO KNOWLEDGE MANAGEMENT

Time to study
60 min.

Goal
Get acquainted with the conditions of functioning knowledge management with various approaches (and the creative process) through practical examples.

Lecture

The phenomenon of the emergence of new "information", "intangible" - but most frequently knowledge economy provides the space for many bold thoughts on how the crisis of the traditional economy reduces the value of work, working means and the financial capital. It also inevitably causes a crisis of the traditional (industrial) management, and all attempts to rescue it can do very little when the production is vastly dominated by intellectual capital.

Knowledge management deals with how to acquire knowledge, create, propagate and use it, or how to increase its productivity. When it comes to identifying the basic approaches to knowledge management, there are two generally known basic approaches – process approach and creative one. The process approach defines KM as an interpersonal communication process, the creative approach is focused on the outcome of creative activities = on knowledge. Knowledge management combines these two approaches and provides organizations with a tool for encouraging the initiative and creativity of employees, as well as the efficient and effective KM method, e.g.:
  - defining and documenting knowledge management strategies,
  - checking (audits) and modelling of the processes aimed at their improvement and support of the growth of corporate knowledge,
  - distribution of knowledge among all workers (elimination of the monopoly of the knowledge of individuals)
  - measurement and evaluation of knowledge capital of the company.

The framework conditions of successful knowledge management include:
  - corporate culture, which (as mentioned above) involves a friendly attitude to the acquisition and use of knowledge;
• continuous education of all employees, support for a wide range of educational forms (practical examples are presented below);
• competence model (formulation of the types of knowledge and skills that are necessary to execute the strategy of the company);
• accessibility of knowledge, its open sharing through the company information networks.

Summary of terms

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Conditions of the functioning of knowledge management
- Distinguish the process and creative approach
- Some practical approaches to knowledge management
- The possibility of learning through their own practice

Questions

1. What are the basic approaches to knowledge management?
2. Describe the practical examples of the selected approaches (management meetings, solution teams, and workshops).
3. What is the rotation of human resources based on?

References

5 FACTORS OF SUCCESS IN THE AREA OF KNOWLEDGE MANAGEMENT

Time to study
60 min.

Goal
Learning and understanding the fundamental factors of the success of KM is based on an analysis of the need to develop the knowledge of workers.

Lecture

5.1 ANALYSIS OF THE NEED TO DEVELOP THE KNOWLEDGE OF EMPLOYEES

The determination of the value and price of knowledge requires its explicit expression and use in commercial relations, and only this knowledge can be included in the assets of the company and can be called economic capital from the economical point of view. Knowledge capital defined in this way did not allow the company to include latent and tacit knowledge in the heads of its employees into its own capital. However, the latent knowledge of the company employees (i.e. conscious knowledge that has not been used by the workers for the knowledge actions in the company yet) and tacit knowledge (knowledge even the employees cannot name, but can use it) may represent an enormous potential for the company, which can secure the company higher revenues than the knowledge assets captured by the accounting. This knowledge base is most valuable especially in the times of changes, crisis, and turbulences. However, this knowledge is the property of the employees and the company may look for ways to encourage its employees to actively use it for the benefit of the corporate objectives. The task of this chapter is to focus on the key personnel as the fundamental bearers of knowledge – i.e. we will look for answers to questions, such as how to recognize the need for the development of the knowledge of employees and how to ensure it is used for the benefit of the company.

In general, the inputs to production (and therefore the prerequisites for a successful course of production) include the factors of production - labour, natural resources, and capital. Different types of productions undoubtedly have different demands in terms of the structure, quantity and ratios among the individual factors of production. Knowledge is not present in this list, but that does not mean that the production process can successfully take place without its participation. Using this perspective of evaluation, specific knowledge is either a part of the labour production factor (a knowledge action is carried out by a concrete worker who is the carrier of this knowledge) or the
capital production factor, especially in cases where knowledge is materialized in the applied technologies/processes.

An analysis of the current state of "inventory" with regards to the knowledge of the workers of the company is very challenging and some knowledge cannot be subjected to such "inventory", see tacit knowledge. At this point, it is perhaps worth mentioning that the knowledge in the heads of workers is the property of the workers, and part of this knowledge becomes the assets of the company only if the employee uses that knowledge to work for the company he is paid by. The knowledge "inventory" of the worker is always larger than the knowledge used for the company, which the company would like to submit to a "stock take". In principle, the question is what kind of knowledge of the workers the company wants and needs to "register". It is realistic and common that a lot of knowledge of employees will never be used by the company and it would therefore be inefficient to try to map all the knowledge of all the company employees.

The first "register" of the knowledge of a worker is created during the process of recruitment to the company, where the employee submits his resume, including the most important knowledge and skills he "offers" the company to use. This initial information about the knowledge of the worker is usually followed by more information in the personal documentation, where the company keeps track of the internal and external trainings of the worker aimed at acquiring specific knowledge currently required by the company. This form deals with the "visible" and therefore relatively easy-to-register transfer of knowledge. It is certainly very suitable for situations where the company has functioning strategic and tactical planning and is capable of splitting the tasks among the individual departments in order to accurately identify the development needs of knowledge of the individual departments and their staff.

Modern knowledge management integrates an effective and purposeful creation, transfer and use of knowledge with an active support of the development of the emotional and action potential of workers focused on solving the business challenges and achieving the corporate goals. The initialization and development of the emotional and action potential of the company employees could release the internal "inventory" of latent and tacit knowledge of the employees of the company in order to address the tasks of the company, thus extending the knowledge capital of the company. The knowledge transfer in the form of training is effective provided that the company knows what it needs to solve (problematic situation, task), how it can be solved (knowledge), who can solve it (carrier of internal or external knowledge), and who in the company will be responsible for the solution within the workload (delegation of powers and responsibilities) he will be appropriately rewarded for. If the company is unable to accurately define the assignment (problematic task) and its solution (knowledge), it is not meaningful to look for traditional forms of training provided by external trainers, because it is highly probable that the transferred knowledge will not match the requirements of the company. That is where the processes of internal mobilization of human resources, the development and promotion of creative practices and the search processes must start, albeit at the cost of an increased risk of failure and higher costs. These specific processes in knowledge management are typical for the era of high competitive pressures and struggles for the market in the times of economic crises, turbulences and quick changes of conditions.
5.2 KNOWLEDGE CARRIER – KNOWLEDGE WORKER

If we want to effectively deal with knowledge management in the company, we need to have a very specific idea about the carriers of such knowledge, because these people are not only the object, but in certain cases, also the subject of company knowledge management.

Knowledge worker is usually defined as an individual who has specific knowledge or set of knowledge and the knowledge is important for the organization. It can be difficult for the other employees of the company to gain this knowledge (this can be expensive and time-consuming, or completely impossible, because they lack the knowledge or skill necessary for creating the specific knowledge) or to use it (it is bound to a certificate, such as a university diploma or a vocational certificate). A knowledge worker is often the only one who is in possession of this specific knowledge in the organization. This knowledge can be partly subconscious; the employee might not be aware of it or might not attribute a great importance to it.

If you want to define the term knowledge worker, it is very important to take into account the purpose of this definition - if you want to watch only the key personnel of the company, who are the carriers of the knowledge capital of the company, in order to stabilize them in the company and to use individual approach to develop their knowledge potential, then we can use a narrower definition of this term. However, if you want to work systematically and differentially with all the carriers of knowledge in the company, then you have to see the knowledge worker in a broader sense of the word, and we often include not only the employees who work only intellectually, but also the employees who combine intellectual work with active physical work (professional officers, specialized professional workers, etc.). There are owners and directors of companies who started their carriers as a trainee machine operator; we also known excellent technologists who had been working with different machines for a long time before they gained the skills and experience which they developed in a masterful knowledge.

All of the above presented definitions of knowledge workers tend to focus on some kind of internal differentiation of this broad term. It seems clear that there are certain levels of knowledge (e.g. division into skill - knowledge in the true sense of the word - expertise), but we can find differences in the nature of knowledge (knowledge about customers of a purchasing manager have different character than knowledge about technologies of a head technologist), differences in the length of usability of specific knowledge (some is of one-time or short-term nature and quickly become obsolete, another has a relatively long-term validity and effect for the company). The point of view of stability versus innovation of knowledge is very important - some knowledge requires exact compliance and minimal deviations (recipe for Becherovka) and the knowledge worker is valued primarily for his loyalty and for keeping the knowledge confidential; some knowledge is, however, constantly subjected to creative development, corrections and adjustments in an effort to find new properties or savings, and wide knowledge sharing within the company helps this creative process (innovation movement, etc.). Due to the different levels and character of knowledge, the character and the internal differentiation of knowledge workers within the organization are naturally different as well.

The emotional and action potential represents an important aspect of knowledge workers in addition to the knowledge characteristics. It was partly indicated in the previous paragraph,
where some knowledge workers were required to show a high degree of loyalty and confidentiality of knowledge, while other workers, on the contrary, were required to show team solution and subordination to the interests of the collective. Some knowledge requires pedantic accuracy; another must stimulate the workers to adopt creative solutions breaking the barriers.

Summary of terms

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Latent and tacit knowledge of workers
- Knowledge carrier/knowledge worker
- Knowledge fund of worker
- Register and transfer of knowledge, knowledge transfer barriers
- Emotional and action potential

Questions

1. Why is an analysis of the knowledge development needs of workers considered to be important?
2. Defining the role and characteristics of a knowledge worker.
3. Stakeholders, identification of key stakeholders.

References


6 KNOWLEDGE AS ASSETS (METHODS AND MODELS OF KNOWLEDGE ASSESSMENT)

Time to study

60 min.

Goal

Learn and understand knowledge as intangible assets (intellectual capital) of company, including the problems associated with the ownership and assessment of specific knowledge and, finally, their breakdown in relation to the market.

Lecture

6.1 BREAKDOWN OF KNOWLEDGE IN RELATION TO THE MARKET

The primary starting point, before we start dealing with the ownership and the cost of knowledge, is an accurate definition of what we understand as knowledge. In Chapter 4, you have become familiar with the relationship of data - information - knowledge. Information is described here as an input into the knowledge process of the coordination of activities. **Knowledge is then defined as an activity, act, action;** where the basic types of knowledge are skills (craftsmanship, workmanship), knowledge (ability) and expertise. These definitions represent a specific and effective view of the "world of knowledge", but it's not the only one or an exhaustive view. In the last thirty years, experts have introduced various views and studies dealing with the problems of knowledge, and nowadays, we already have quite a large knowledge base of knowledge that can be used for specific purposes. **Most experts agree that knowledge is formed in the human brain during the processing of information.**

From an economic point of view, it is important to draw a line distinguishing between knowledge with a value or a price we can express and we cannot express. The interpretation of the processes in our brain shows the complexity of the creation of knowledge of the individual and a number of conditions (emotions, values, expectations, etc.) which are involved in the creation of knowledge, but are not knowledge. Is the new knowledge a value as early as during its creation in our brain and its saving in the memory, or is it only latent knowledge waiting for its application in practice, and only this application will confirm its value and will create conditions for a potential determination of its price?
Latent knowledge and tacit knowledge, which have not gone through the processes of externalization yet, will be left in the minds of the owners, and we will see it as an integral part of the personal elements of business, as defined by the Commercial Code. The personal elements of business are a valuable part of the human capital of companies.

The value and price of labour force in corporate processes is largely perceived as part of the labour relations and its importance is expressed by the wage.

For now, it is sufficient that we have defined knowledge in this chapter as the knowledge that have gone through an action, i.e. it is capable of externalization and definition as separate knowledge (intangible assets in a broader sense than the one defined in the Accounting Act), and we are potentially able to determine its value and price.

Specific knowledge can be declared as:

- **Possession of an individual** who confirms his rights by a knowledge action, provided that this knowledge action has not been part of the performance of his employment duties and the person has not received a salary for it.

- **Possession of the company** provided that the employee of the company has carried out his knowledge action within the scope of the performance of his employment duties and has received a salary for it.

This division finds its legal basis in the existing legislation, but only to a limited extent, in the acts governing copyright.

However, a knowledge action of an individual is not by any means enough to allow us to declare the ownership of knowledge. If a skilful worker uses specific skills when working with a computer to speed up and to streamline his work, any of his colleagues can watch him or ask him how to do it, and the knowledge is shared with the other employees without any barriers, without any explicit determination. It does not make sense to determine the proprietary title during sharing of knowledge. The ownership of specific knowledge can be determined only in case the owner himself is able to explicitly express his knowledge and he himself builds barriers preventing the free transfer of his knowledge, thus deliberately declaring his ownership.

If we define knowledge as an action, act and activity, then this knowledge acquires its value (and potentially price as well) just during the process of the knowledge action (use). Knowledge, however, does not necessarily have to go through the market and there are other mechanisms of its transfer. Let us use the division of knowledge and the forms of its transfer:

- **Free knowledge** - knowledge for the transfer of which we do not have to pay to anyone and the owner himself has released it for free use, or he at least does not actively build any barriers to its sharing.

- **Paid knowledge** - knowledge the provision (transfer) of which is tied to monetary or non-monetary performance (licenses, patents, etc.).
Protected knowledge - knowledge which the carrier deliberately and purposefully protects against any transfer to other persons (a recipe for a successful liquor etc.). This group is very small and it is based on an assumption that the knowledge is so valuable for its owner that he is willing to build even extremely costly barriers to prevent the transfer of this knowledge.

To distinguish between the paid and unpaid knowledge, it is very important to determine the value and the potential price of concrete knowledge. Each person has different value judgments with regards to the matters of the surrounding world resulting from his/her individual needs and affected by his/her emotional experience. The values are not merely the results of an evaluation, but also the motive of further decisions and the behaviour of people. The value of knowledge is then determined by a complex of emotional experience of this knowledge made by a concrete individual in a concrete knowledge situation and the fulfilment of a potential (anticipated) value in the form of a final output of a knowledge action. The value of specific knowledge can be perceived differently by each individual, it is a subjective value. A number of inventors have a feeling of a significant value of their knowledge, and with the feeling of their ownership declaration, they submit proposals on patenting their knowledge, without knowing whether their expectations will be fulfilled and the costs appreciated by the market success. In the conditions of a company, an employee (source of knowledge) may have a different idea about the value of his knowledge than his boss or colleague. The value for each of them, however, should be measured by the benefits for the company, not the benefits for the author of the knowledge, because we assume that this knowledge is an occupational work and it is owned by the company.

At this point, it would be appropriate to divide knowledge according to the fact whether the knowledge is directly incorporated into the future goods or services (construction solutions, design, etc.), or it is knowledge requiring a successful production process and the sales of these goods or services. The new division of knowledge can have the following form:

1. knowledge incorporated into a product or service include the knowledge that is explicitly measurable and expressible during the sale or use of the product or service;
2. process knowledge – the knowledge was necessary in the process of production and sale of a product or service, but it cannot be detected from the product itself. The customer cannot "copy" this knowledge directly from the product.

This division will be useful especially for the identification of the transfer barriers of this knowledge and for the considerations on sharing or selling the knowledge. The sale of goods and services will always involve the sale of knowledge incorporated in the product or service (such knowledge is an integral part of the product or service); the successful completion of the sale, however, requires the use of procedural knowledge as well (knowledge related to production technology, logistics knowledge, sales and marketing knowledge), and its share in the production and sale is also reflected in the respective share of the price of the goods.
6.2 METHODS OF KNOWLEDGE ASSESSMENT

The method of knowledge accounts takes advantage of the principle of account, monitoring the debit side and the credit side, but its mechanisms are not linked with company accounting.

The method of knowledge accounts is based on the introduction of relatively simple forms used to register the benefits of what the employees invent for the company, how much it cost (debit side) and how much it brought the company (credit side). At first glance, this method is very simple, but at second glance, we encounter some methodological problems - which knowledge to monitor in this way; how to separate the costs of specific knowledge from other costs; how to separate the revenues of specific knowledge from other revenues? In principle, the key task of this method is to "start thinking about the value of knowledge for the company". The task itself is a huge shift in the management of companies and human resources. It leads us to a new understanding of the necessary structure of employees, their competencies, the assessment of their performances in the fields of knowledge, their motivation to knowledge actions, which is reflected in the shift of the entire company towards knowledge society.

A knowledge assets map uses four types of maps in structuring corporate knowledge:

1. Map of the sources of knowledge - this map structures the basic human sources of knowledge in the basic business areas. This map answers the question "where I can find a competent person who will help me to solve a particular business problem or task".

2. Knowledge assets map - this map monitors the current knowledge "inventory" of the company and it can reveal the strengths and weaknesses of the knowledge assets of the company. The map answers the question "who can do something and what he can do, how long he has been working in this area".

3. Knowledge structure map - this map answers the question "what kind of knowledge we need for the specific activities" and it compares the knowledge with the sources of knowledge.

4. Knowledge application map - this map describes the current allocation of knowledge and the resources for specific ongoing projects. This description indicates that this is a dynamic and most frequently changing map from all the company knowledge maps.

Knowledge assets monitoring is a report taking the form of a clear table with several key indicators, and it is focused on the performance of the knowledge assets of a concrete company. This table is often attached to the annual report of the company and is therefore available both to direct stakeholders of the company and the wider public.

The table is often referred to as the knowledge capital and it is usually divided into three basic parts:

1. Our customers (external structure);
2. Our organization (internal structure);
3. **Our people (competences).**

Each of these areas describes the development by comparing the results of selected indicators for two consecutive years. The upper body of the table is focused on the growth and performance indicators, the bottom part of the table presents the indicators of stability. This is a very clear form and it gives the stakeholders a quick overview of where the individual monitored areas are heading.

### 6.3 HIERARCHY AND BASIC CATEGORIES OF KNOWLEDGE CAPITAL

The Accounting Act and the Income Tax Act use the term intangible assets - these are licenses, patents, know-how, trademarks and other intangible rights with monetary value that have the initial cost (including the costs associated with their acquisition) of at least 60 000 CZK and the time of use exceeding one year.

The length of use strictly differentiates conventional short-term knowledge from long-term knowledge and only relatively long-term knowledge has the potential to be capital.

**Knowledge capital does not mean only the assets tracked by the accounting of the company in the form of intangible assets.** Some knowledge does not have the character of the rights valued by money, yet it can be a very important source of corporate wealth, competitiveness, expansion and development of the company. Even the strict horizon of the length of knowledge use of at least one year is only relative; however knowledge capital should in principle have a long-term character.

**Knowledge capital of an individual** is a sum of his **knowledge actively used for his living** (in natural economy) and **to obtaining income** (as an employee, in business).

Knowledge capital of a firm cannot be a simple sum of the knowledge capitals of its employees. Knowledge capital of a company, which has been active for a long time, may also include knowledge that is incorporated in its processes, etc.

A number of practical experience shows that knowledge is part of the intellectual capital of the organization, which includes:

- **knowledge capital** (skills, competencies, knowledge, experience and abilities of individuals and teams within the organization useful for creating values for customers, thus creating profit);
- **structural capital** (documents of industrial legal protection, information and communication technologies and systems, ways of sharing knowledge, know-how, data and information contained in the data storage, etc.);
- **relational capital** (customer, relational), including the organization culture, relationships and the communication level among the employees, customers, suppliers and partners, the image of the organization, the relationships with schools, etc.
Intellectual capital of the organization becomes its asset only if this capital is shared and used in creating value for customers, thus making profit. And finally, the development of knowledge is based on an individual need, that nothing ever happens "at somebody's bidding".

Knowledge capital must be able to cope with turbulences, have the mechanisms of adaptability and self-reproduction in new conditions. It is the only source of companies, as we know them, capable of that – and if not, the companies gradually or quickly go under in the new conditions.

Summary of terms

It is beneficial to remember and learn the meaning of the following terms and phrases:

- Knowledge structuring
- Ownership of specific knowledge
- Division of knowledge in relation to the market
- Value and knowledge assessment
- Knowledge accounts, knowledge maps, knowledge monitoring
- Knowledge capital

Questions

1. How can specific knowledge be declared in terms of ownership?
2. How would you divide knowledge in relation to the market?
3. What methods of assessment of the work with knowledge do you know?
4. What is included in the intellectual capital of the organization?

References

7 EFFECTIVE KNOWLEDGE MANAGEMENT – PREREQUISITES OF A SUCCESSFUL IMPLEMENTATION

Time to study

60 min.

Goal

Learn and understand the corporate processes of knowledge management, knowledge creation, sorting, saving, sharing and development. These facts should serve as the basis of understanding the potential of an effective increase of the value of knowledge along the line of: education - knowledge - innovations.

Lecture

7.1 KNOWLEDGE MANAGEMENT PROCESSES

Knowledge creation

The processes of operative knowledge management will include those processes that are illustrated in the following diagram (Fig. 14). The list of processes may not be and certainly is not complete and the only one, but it is chosen with respect to the practical application in the environment of most organizations and companies.

The creation of new knowledge has currently received so much attention that its management uses the term of IRM (Information Resources Management). IRM should draw both from scientific information (referred to as libraries) and from system information (everything related to IT).

The creation of new knowledge relies on the fact that:
- we know what the customers might want, what they could pay for,
- we know what the competitors are doing or developing,
- we know who is in alliance with whom and why,
- we know where the development of the branch is heading (or we have a rough idea of that),
- we know who thrives in today's crisis and how it is possible.
Developers are responsible for creating new knowledge focused on what else we can do using our technologies, how we can make our product using various better technologies, what from, what the efficiency would be like, and what new added value it would provide.

The product preparation process prior to its execution (i.e. production or provision of a service) may not have a dedicated department in any type of company or organization. However, this does not change anything on the fact that these activities take place. In manufacturing companies, the preparation (which may bear the designation of TPV) involves technologists (they think about how to produce something using the available equipment), planners (they set the time and sequence of production), maintenance staff (they make sure the equipment is capable of production and reliable) and in some places, they also include process specialists (how to produce without losses), or other workers with other professions/functions.

The preparation to a large extent decides about the effectiveness and efficiency of the actual execution/production, how much is "wasted" on production, how they manage to produce in time, to produce cheaply and correctly the first time, when and how much they should purchase and so on.

Knowledge verification

In practice, it is not always easy to verify the benefits of newly created knowledge for the company. Creating a new product and its subsequent introduction in the market (making it available to customers) is the source of income (revenues) for the company. The argument for the success of the application of new knowledge is the actual stabilization of company revenues.

The figure shows that the saturation of the market (stagnation phase) is followed by a downturn, after which the company can introduce a new product on the market. The later the company enters the market with new knowledge, the less likely it can match the "former glory and success".

A similar description could be used for services as well, even free of charge services (such as state administration, local government, etc.). New knowledge "incorporated" into a new service improves the feeling of satisfaction of customers (which is not measurable financially, but, e.g. by a satisfaction survey). Think, for example, about the introduction of discrete zones at various authorities. The zone is not a new type of service to citizens, but it certainly at least fulfils the function of a personal protection of people, without sharing the information with the people around.

The right management decision to release something into practice depends on the assessment criteria set for the new knowledge. That is why the criteria and their setting have their practical reasons. This topic belongs to the so-called managerial decision-making.

The verification of knowledge prior to being released into practice is an important process that seemingly prolongs the introduction of new ideas into practice, but it minimizes the possible losses, or it facilitates the assessment of the significant risks of possible failure.
Knowledge classification

A lot of unique and certainly great knowledge (skills, procedures, approaches, ...) exists and ends with the individuals who invent and apply the knowledge. The problem is not that these people do not pass their knowledge on to the others. There is no clear evidence proving the benefits.

Proper classification of new knowledge and the verification of the benefits of specific new knowledge may require an appointment (assignment) of the so-called data manager of the organization. The data manager must make an effort to separate the necessary data from a vast amount of other data. The data manager, as a close associate of the knowledge carrier, deals with the preparation and processing of data for further decision-making. This will give new knowledge the required "format" of usefulness, evidence of benefit, and nobody will by any means question the release of more resources and costs for further sharing of the knowledge, or for its improvement.

Knowledge saving

The created and verified new knowledge can be saved in two ways:

- explicit (in printed version or on some kind of electronic medium) and
- tacit (it is in the heads of all company employees, partners of the company).

The managers' task is to externalize as much tacit knowledge as possible or to share it with other colleagues. This task is in the scope of work of the human resources manager, together with the entire management of the company.

The attention with regards to the work with explicit knowledge is nowadays primarily focused on IT, including the Internet, Intranet, and the corporate information systems. Saving, sorting and using information for the purpose of the application of knowledge in practice within the enterprise (Fig. 16).

The figure also clearly shows that the costs of acquisition, but also of the processing of large amounts of information may no longer provide adequate informative value, and unnecessarily incurred costs will no longer bring the company significantly higher benefit/profit.

Strategic change team

One of the demanding approaches used to generate new knowledge in the company is to create a team of specialists who will look for answers to new strategic tasks. Obtaining the necessary input information, findings, respectively studies and researches, is followed by assessing the feasibility of the strategic solution and, if accepted, the processing of an execution action plan up to the final production.

Let's re-introduce the general algorithm of strategic team work as a tool of knowledge management in practice (Fig. 17).

At first glance, establishing a team of strategic change also seems to be an easy procedure. However, it is just the other way round. Creating the right mix of experts on the first occasion is virtually impossible. Changing the team during the solution process is neither an admission of failure nor an evidence of poor managerial work.
7.2 INNOVATION AS SYNTHESIS OF KNOWLEDGE INTO NEW PRODUCTS, PROCESSES AND SERVICES

If we accept the thesis that the value of corporate knowledge is derived from the market success of the goods produced with the support of this knowledge, it is obvious that the actual knowledge of the market and its mechanisms is important for us. The market is the subject of interest of a number of scientific disciplines, such as theoretical economics (microeconomics and macroeconomics as well) and marketing, to name just a few. These sciences help us understand the changes in the behaviour of the market players and their impact on the demand for goods and the supply of goods. These changes represent a stimulus for companies and their employees to search for innovations. A change of the market conditions is "an innovation assignment" for the company, a problematic situation that needs to be addressed. Solving a specific problem in a specific situation (state of conditions) is a challenge for a knowledge action - INNOVATION.

Marketing brings us a lot of information on the life cycle of a product, technology or the entire market and allows us to foresee many changes. Thanks to this fact, we can prepare for a change of conditions in advance, which will allow us to gain a competitive advantage. The development of innovations of higher order is not a matter of a few hours or days and time tends to be the critical success factor. Innovation, of course, must represent such a solution that will maintain or improve the market position of the company and its products – not make them worse. A new solution must respond positively to: appeal, costs, convenience. The feedback and the evaluation of the success of innovation are not provided by anyone else than the customer and the market.

An innovation is a positive change in the production organism, and it is therefore necessary to carefully prepare any change and to verify it by means of pre-tests to see whether it actually brings positive results or not.

Innovations of higher orders arise especially from the methods of creative thinking related to the important question of when to invent a new solution, and when to take over the proven best practices, or when to buy already proven know-how. This question has at least two dimensions – the dimension of the capabilities and conditions of the creative solution itself and the economic dimension. Creative solutions require the company to have capable people who can, based on previous experience and by using creative techniques and methods (brain storming, the Delphi method, the method of analogy with other fields, etc.), create new solutions to a knowledge situation, or an innovation task. If we do not have the right people, it makes no sense to think about the way of "I will do it myself" and we have to choose the way of "I will copy it from the others" and perhaps slightly adjust to my own conditions, or the way of "I will buy it ready-made" in case of licensing, franchising, etc. Companies that are the market leaders or their direct challengers have no choice but to invest in their own research and development, otherwise they lose their position at the top.

Creativity means being able to look at things from a different perspective. We all have it, but we just have to change from owners to users. These words show that the prerequisites for creative thinking are encoded in our genetic code and are one of the preconditions that allow humans to adapt to almost any changes.
That is why it is not enough just to use creative solutions, but it is also necessary to have a high level of commitment in the subsequent enforcement of the changes. It also costs time, energy and money and it drains our resources.

It is good to add the second dimension to these contemplations, which is the economy of innovations. The innovations of higher orders can deliver competitive advantages, but also tend to be resource-intensive and more risky. If you do not aim at the highest levels of innovation, it can be very beneficial for you to copy their best practices (smart practices) of others. Utilizing the best practices reduces the risk of failure (someone else has already tried it) and you are more efficient, and you have lower development costs. However, you will not be the best; you can be on the heels of the best and not more.

In conclusion, we can state that the innovative know-how belongs to the crucial core of knowledge capital of successful companies. Without innovations, the company cannot be heading for the top of the market. An efficient and modern knowledge management cannot avoid the issue of knowledge support of innovations, but it has to look for the tools and processes that successfully cope with the innovations in enterprises.

<table>
<thead>
<tr>
<th>Summary of terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is beneficial to remember and learn the meaning of the following terms and phrases:</td>
</tr>
<tr>
<td>➢ Operational management processes</td>
</tr>
<tr>
<td>➢ Creation, sorting, saving and sharing knowledge</td>
</tr>
<tr>
<td>➢ Strategic change team</td>
</tr>
<tr>
<td>➢ The impact of IT on knowledge management</td>
</tr>
<tr>
<td>➢ Innovations and creativity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What processes of operational knowledge management do you know (incl. their brief characteristics)?</td>
</tr>
<tr>
<td>2. What do we express by the term - strategic change team? Explain the general algorithm of its function.</td>
</tr>
<tr>
<td>3. What are the most commonly used technologies of knowledge management?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References</th>
</tr>
</thead>
</table>
CONCLUSION

We live in the world that is more and more interconnected, and the pressure of the global economy causes an unusually fast increase in the demand for educated people, education, and knowledge in general.

Despite these facts, we are still witnessing an alarming fact that only a quarter of Czech companies consider education and knowledge as the priority part of their human resources policy and the human resources development as part of their strategy. The proof of that is the fact that education expenditures represent less than half of the same expenditures in Western European companies. No state or non-state authority bears full responsibility for the education of adults. There is not enough motivation for lifelong learning, even though it contributes to increasing employability of individuals, and to increasing competitiveness of companies. There are even no information systems facilitating an easier orientation with regards to the supply of this commodity in the market. And finally - there is no comprehensive mechanism for the assessment and development of the quality of education.

On the other hand, there is a number of "smart solutions" available nowadays that allow you to devote less time and resources to corporate management of rather alternative internal problems, and to devote more time to an efficient transformation that would increase the company revenues and that would, at the same time, help you to focus more on innovative suggestions, projects, and, finally, on added value rather than on ensuring IT operation.

As mentioned in the previous chapters, we can still often encounter a mere generation and accumulation of large volumes of data and information, which in many cases have no objective use. A great opportunity for the future is to be able to use knowledge in order to process and analyze the relevant data and information that are produced on daily bases, and to offer people and companies "smart solutions", which will mean more efficient processes, more efficient operation and management of various systems having impact on much better living conditions and standard of each of us.