

# CONCEPT OF KNOWLEDGE IN THE CONTEXT OF MODERN ENTERPRISES

Anna HORZELA<sup>1\*</sup>, Sonia AMBROCHOWICZ<sup>2</sup>

<sup>1</sup> Silesian University of Technology, Gliwice; [anna.horzela@polsl.pl](mailto:anna.horzela@polsl.pl), ORCID: 0000-0003-2345-9861

<sup>2</sup> Silesian University, Katowice; [turek.sonia@gmail.com](mailto:turek.sonia@gmail.com), ORCID: 0000-0002-3726-6609

\* Correspondence author

**Abstract:** The focus of this article is to explore the concept of knowledge with reference to the management of a modern enterprise. The main issues discussed were knowledge management and the knowledge-based economy. The very notion of knowledge was characterised and described from three perspectives: product, resource, limitation. The classification of knowledge was also presented with regard to the most important and most frequently cited approaches. Furthermore, the article illustrates the models of knowledge management which define a given approach to knowledge management in the enterprise.

**Keywords:** knowledge, management, resources.

## 1. Introduction

As early as at the end of 1950s and the beginning of 1960s of the 20th century, P. Drucker emphasised, that the traditional resources, such as capital or work lose in importance due to the following social and economic changes, resulting from the development of technology, whereas knowledge is taking on an even greater value (Trajer, Paszek, Iwan, 2012, p. 31). Currently, the development of new technologies, social and cultural changes, as well as globalisation are clearly the reasons, that the victory on the market is won by the one, who manages knowledge the most effectively. The concept of knowledge management includes not only its effective use, but also, its creation, acquisition, storage, protection and its transfer. The need to manage knowledge in virtually all areas of human activity makes the support for the knowledge management by various disciplines indispensable from a scientific point of view. Naturally, these are primarily economics and management, but also sociology and psychology, providing a basis for reflections on social determinants of such activities and chances of their success (Glińska-Neweś, 2007, p. 7).

The aim of this study is to present the issues related to knowledge management. The authors attempted to show the value and importance of knowledge at the present time. The text has been completed with characteristics of the three perspectives on knowledge perception as well as its classification and models of knowledge management.

## 2. Knowledge as a company asset

The original approach to strategic management of the enterprise assumes that the basis for making any strategic projects is provided by the appropriate asset and the potential of an enterprise. For that reason, the enterprise resources constitute grounds for its operation, whilst the company potential provides possibilities, which these resources create when using knowledge and experience under the present conditions (Nowodziński, 2013, p. 96). With regard to the above, knowledge, experience and material resources of an enterprise, when appropriately configured, result in the most advantageous development of the organisation potential when in operation (Królik, 2015, p. 156).

More attention should therefore be devoted to the characteristics of this particular and currently very significant asset of enterprises. Knowledge, according to the theory of A. Toffler has the following features, which distinguish it from other resources of an organisation (Kłak, 2010, p.40):

- domination – which indicates that knowledge is the most important asset of a company, in addition to capital, land and labour and it is of strategic significance for all companies,
- inexhaustibility – knowledge is the only asset, which does not wear out or does not reduce, and concurrently expands along with the frequency of its use and transfer,
- simultaneity – occurs only with regard to this resource and indicates that knowledge can be used at the same time by a lot of people, equally from many enterprises, and in many places,
- non-linearity – there is no clear correlation between the size of the knowledge resources and the benefits and consequences, which result from it. This means that a small amount of knowledge may contribute to a competitive advantage, and in other cases, significant resources of slightly useful knowledge do not provide company with the market dominance.

On the other hand, J. Klug, W. Stein and T. Licht enumerate the following as the main characteristics of knowledge (Kłak, 2010, p.40):

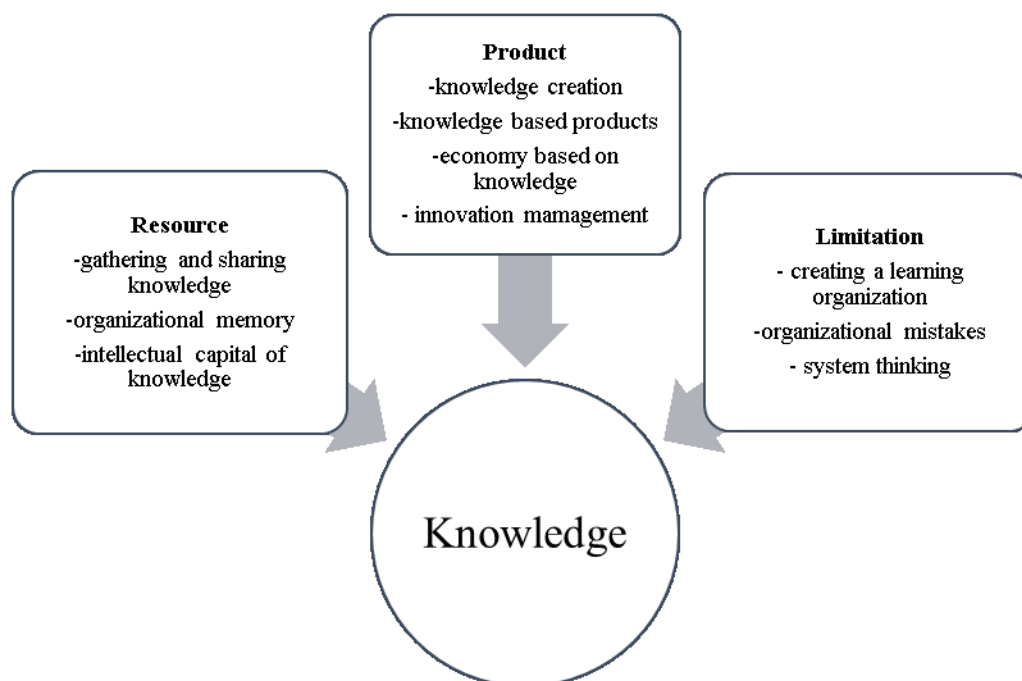
- subjectivity – perceiving knowledge is dependent on the person who is to use it as well as on the context in which it appears,
- transferability – it can be used in different places,

- embedding – knowledge is embedded in the minds of people, which makes it difficult to transfer,
- being self-powered – sharing knowledge does not contribute to the loss of its value,
- impermanence – knowledge, after a time, loses its value,
- spontaneity – development of knowledge occurs in the processes, which are not frequently controlled.

### 3. Prospects for knowledge management

The concept of knowledge plays a very important role in the modern management theory and practice. This derives in particular from the fact that frequently any considerations in this area are carried out based on the not clearly defined definitions, which significantly limits their usefulness. When defining knowledge and its use in the considerations related to various fields, the following barriers should be taken into account (Beliczyński, the Messiah, Stabryła, 2009, p. 165):

- ambiguity of the knowledge concept,
- unspecified relationships between knowledge and information,
- ambiguity of the information concept.



**Figure 1.** Perspectives on the perception of knowledge in an enterprise. Source: own work based on: (Kliniewicz, 2012, p. 72).

In general, knowledge is associated with the action of people in the intellectual (Beliczyński, the Messiah, Stabryła, 2009, s. 166), or physical sphere and is defined as an effective use of information in action. On the other hand, information is treated as structured data, which additionally require cognitive activities. Therefore, knowledge is regarded as a codification of the information significance.

Knowledge management itself is recognised in three perspectives, namely, knowledge is perceived as: a product, a resource and a limitation (Kliniewicz, 2012, p. 72).

Knowledge as a **product** is created by employees to be subsequently sold as products and services of a given enterprise. The practice of management has proved that knowledge may become a source of competitive advantage, as well as the way to stand out on the market. Products and knowledge-based services, inter alia, include (Kliniewicz, 2012, p. 73):

- technical equipment, which requires the creation of specialised and engineering knowledge,
- computer programs, written using algorithms and programming methods,
- newspapers, the creation and release of which is not possible without the editorial and journalistic skills,
- TV commercials, created as a result of many studies related to the effectiveness of advertising messages and customer preferences,
- fashionable clothes, sewn according to the design created due to the knowledge of current trends,
- mixture of spices, being the result of knowledge concerning the taste combinations and supply points,
- washing powder, the creation of which used, inter alia, the knowledge of chemical reactions.

Perception of knowledge as a **resource** makes a slightly different approach to knowledge management, which is popular among Polish and foreign companies. Processes regarding knowledge management aim at collecting, sharing and using the knowledge within an enterprise. Managers, who represent this particular approach to knowledge, are therefore interested in an effective use of the already owned resource rather than in the creation or stimulation of innovativeness. Researchers Gilbert Probst, Steffen Raub and Kai Romhardt proposed a model of six fundamental processes of knowledge management, which at the same time comprises the objective determinants of such initiatives. The mentioned processes include (Kliniewicz, 2012, p. 72):

- identification of knowledge – is associated with determining the sources and content of knowledge in a company,
- acquisition of knowledge – involves meeting the information needs, as well as filling the competence gaps by referring to the resources located within the enterprise environment,

- development of knowledge – indicates expanding the already existing knowledge resources,
- sharing of knowledge – access to knowledge, necessary to conduct tasks, should be guaranteed to the organisation participants,
- use of knowledge – refers to the abilities of employees to use the knowledge in their daily work and to use the emerging business opportunities by the company,
- protection of knowledge - is to protect an enterprise against the loss of this resource.

The third approach means that knowledge is understood as a **limitation**, which affects the operation of an enterprise and induces both the employees and the entire organisation to learn continuously by drawing conclusions from past experience. The previously presented approaches focused on the knowledge creation, sharing and storage. However, in this case the emphasis is mainly placed on the interpretation, analysis and use of knowledge in practice, as well as on modifications of one's actions. The approach, which treats knowledge only as limitations, demands the creation of learning organisations: using one's own experiences, analysing the complexity of decisions, using knowledge concerning managerial successes and failures as well as working on the continuous improvement of an organisation (Klincewicz, 2012, p. 80-81).

#### 4. Classification of knowledge

Knowledge, difficult to be clearly defined, is classified in many different kinds of ways. The division made by M. Polanyi, into the **formal/explicit** knowledge, which is easy to transfer and **hidden/implicit** knowledge, difficult to pass, belongs to the most frequently cited ones. Formal knowledge is characterised by it being transferred using the documentation, e.g., reports or data using words, numbers, symbols, characters. This type of knowledge, by its nature, is frequently compared with the information, since it is easy to spread among employees. On the other hand, the main problem related to the tacit knowledge, the existence of which is widely known, consists in specifying what this knowledge is. This is what makes it difficult to be transferred and stored. Tacit knowledge is associated with people, their experience and intuition. On account of its intangible nature and the fact it represents approximately 80% of all the knowledge in the company, it was necessary to create a system of managing this kind of knowledge and recognising it in two dimensions. That is to say, the technical dimension involves non-formalised skills difficult to be detected, whilst the cognitive dimension consists of mental models, patterns, perceptions and beliefs which are taken for granted (Beyer, 2011, p. 14).

Another significant division of knowledge is the classification disseminated by B. Lundvall and B. Johnson, which distinguishes four types of knowledge (Trajer, Paszek, Iwan, 2012, p. 32):

- Know-what – the kind of knowledge, relative to being familiar with particular facts, which is identified with information and data possession.
- Know why – indicates the knowledge relating to the understanding of the principles adopted in the reporting system, e.g., in an organisation, nature, society.
- Know how – is the type of knowledge, related to the ability to; it is collected as the experiences developed by an enterprise; the public access to this knowledge as well as its transfer is very difficult.
- Know-who – indicates the combination of information and social relations, as to who knows what; it allows the use of the knowledge of experts.

The knowledge resources within an organisation are also subjected to the division suggested by T. Stewart, who distinguishes (Trajer, Paszek, Iwan, 2012, p. 32):

- Knowledge in the minds of employees – including experience, skills or the manner the duties of employees are performed, which contributes to the income generation.
- The stored knowledge – saved in documents, software, video materials and other measures, which facilitate fast access.
- The protected knowledge – protected by patents, trademarks, property rights and trade secrets.

It must be stated that there exist many classifications and divisions of knowledge used for the needs of companies, the aim of which is to support the management of this strategic resource. The divisions are made inter alia, by the criterion of diversity, generality, certainty or the degree of approximation to a given field. The most commonly used division appears to be the one into the tacit and explicit knowledge, which is globally applicable (Kłak, 2010, p. 40).

## 5. Models of management

The literature concerning this subject additionally lists three basic models of knowledge management, including: the Japanese model as well as the resource and the process models (Janasz, 2013, p. 46).

**The Japanese model**, by far the forward-looking one, is based on the "spiral of knowledge" concept, including the tacit and formal knowledge division. I. Takeuchi and H. Nonaka define four conversion methods of the integrated knowledge (Janasz, 2013, p. 46):

- From tacit to implicit knowledge (socialisation) – means sharing the experience. Tacit knowledge is created in the form of mental models and technical skills. It is gained directly from other people without the need to use the language. The experience itself becomes a way to acquire the tacit knowledge, e.g., students achieve mastery by observing and imitating their teachers.
- From the tacit to the available knowledge (externalisation) – indicates a complex process of knowledge, consisting in reflecting the tacit knowledge in accordance with the available concepts. These kinds of processes involve sharing the tacit knowledge through formulating hypotheses, theorems, models, comparisons or analogies. The determination of vision itself is achieved by means of the language. The verbal form (the written one) provides the transfer of tacit knowledge into the explicit one. It may happen that this determination proves to be insufficient or inappropriate, but still, irrespective of the all listed methods of knowledge conversion, it is the externalisation, which serves as the basis for its formulation because it provides new ideas using the tacit knowledge.
- From explicit to the explicit knowledge (combination) – is a kind of conversion expressed in the process of sorting and including of the concept to the adopted system of knowledge, which consists in making the elements corresponding to the tacit knowledge "fit" together. Knowledge is shared through meetings, documentation, computer networks and conversations.
- From explicit to the tacit knowledge (internalisation) – indicates the conversion of knowledge, which constitutes the process similar to the "learning by acting" one. This may suggest that knowledge becomes a useful resource, which in its implicit form, penetrates into a human being. This is achieved through the experience, mental models that are being developed, as well as through the acquisition of technical skills. Knowledge is accumulated, interpreted and then subsequently used by people. The internalisation sphere is of particular significance because it provides operational knowledge in the field of production management. Consequently, the two aforementioned types of knowledge are juxtaposed, which results in the process data of its conversion in repeated cycles.

**The resource approach** assigns the greatest role to the "sources of knowledge" model, which is said to have been propagated by D. Leonard-Barton. This model assumes the existence of the following sources of knowledge (Janasz, 2013, p. 47):

- The key skills, including technical and physical systems, the knowledge and employee skills management systems, as well as a set of norms and values.
- Joint solution to the existing problems.
- Implementation, integration of new tools and technologies.
- Experiments.
- Import of knowledge.

These elements refer both to the inside as well as to the surroundings of an enterprise. They are related both to the present and to the future. The main mechanism, which integrates all the aforementioned elements as one, is constituted by the key skills of employees. The resource model has significantly caused the increase in awareness related to the essence of knowledge as a strategic resource, which is currently turning into as a source of competitive advantage.

On the other hand, **the process model** indicated the direction, which makes use of the experience and solutions applied in large consulting firms. This approach has been propagated by T. Davenport and L. Prusak. In this concept, the knowledge management is spread over the following sub-processes: location of knowledge, its acquisition, development, sharing, dissemination, development, exploitation and accumulation. Application of the process model to the management of an enterprise is expressed through the perception of a particular entity as a complete process, which identifies all sequences of the performed activities. The process approach involves a dynamic process, which is to be completed within the planned periods of time. It integrates time, quality and timeliness of individual actions aimed at shaping the value for customers, which in turn results in achieving flexibility, creating an important competitive advantage. The process model theoretically assumes the manner, in which enterprises generate and use knowledge, concurrently applying the set of operational functions i.e., knowledge expansion, codification, transfer (Janasz, 2013, p. 48).

## 6. Summary

The environment of an enterprise undergoing constant changes as well as the desire to increase market competitiveness contribute to the introduction of the knowledge-based management. The success of enterprises increasingly depends on the effective knowledge management, in particular, its acquisition, generation and its application in an organisation. Currently, both intellectual capital and knowledge are the most important paradigms of the knowledge-based organisations and are regarded as the strategic asset of an enterprise. On the other hand, the level of importance of intangible assets, in particular the information, skills and competences, is constantly increasing in enterprises (Brzezinski, 2009, p. 9). Therefore, especially, under the current conditions of the 21st century market economy, it must be stressed that the awareness of the essence of knowledge, its accurate interpretation and familiarity with the complexity of the matter is of such great importance.



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