

## The Measurement of Impacts and Effects of Knowledge Management in an Enterprise<sup>1</sup>

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### **Abstract**

*The question of competitive advantage comes forward in today's globalized markets. The managers are looking for the means of sustainable competitive advantage by implementing methods of managing knowledge in company. Several modern tools and approaches use knowledge as core of the company orientation as it has the potential for creating innovations in the innovative culture. This article is dedicated to identify and describe these methods, which can help the company to measure the impacts and effects of knowledge management. These include above all Balance Scorecard, Corporate Performance Management, Kaizen, Re-engineering, Knowledge Based Benchmarking and Goal Based Management. The authors illustrate the process leading to knowledge management effects measurement as well consisting of four basic steps: analysis of the environment, defining the responsibility for knowledge management, preparation, creation and implementation of knowledge strategy and finally monitoring of effects of knowledge management strategy deployment. Implementing this evaluation should promote the effort of the company to determine the extent of positive and negative changes which were influenced by applying knowledge management principles in the company.*

### **Key words**

*Effects monitoring, impact determination, knowledge management, knowledge management strategy, managerial methods*

**JEL Classification:** M15, M10

### **Introduction**

In today's world of the globalization and hyper-competition, the question of the competitiveness becomes more and more minded by the company's managers. In the context of the changes in the economic environment, it comes also to the changes in the understanding, approaches as well as in the practical realization of the management. What is more, these changes are expressed in recent decades also in the

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<sup>1</sup> The article was created as the output of the design of the project Scientific Grant Agency (SGA) n. 1/0047/11 *Concept of the European marketing and segmentation of the common market focusing on the selection and implementation of the marketing strategies to increase the competitiveness of the Slovak companies on the EU markets* and SGA n. 1/0418/11 *Sustainable marketing and sustainable consumption*.

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changes of values and approaches and last but not least, also in the creation of some modern methods which tries to measure the effects of the realization of the knowledge management. On the other hand, we try to find some adequate methods which contribute to its development. Today, we can come across so called paradigms which were specified by P. Drucker (2000) in his book entitled *Management Challenges for the 21st Century* as follows:

1. In case when we speak about the management, it covers not only the company management that is characteristic for every organization.
2. The concept, that there exists only in one correct form of the organization, is wrong. Instead of this idea, it is necessary to find such form of the organizational structure which will be effective exactly in the given company.
3. So as, concept of the only one correct form of the people management is also wrong. Because the fact that people are not any longer controlled, it is necessary to lead them and at the same time, to use the advantages of each individual.
4. Whereas in the past it was accepted that the technology and final users are to some extent strictly given, today it is necessary to realize that neither the technology, nor the final usage of some product is the basis for the formulation of the strategy. The base should be created mostly by the values of customers and their decisions about the allocation of the disposable resources.
5. Even though the management deals with the institutions, eventually with the legal entities, its agency is not legally determined.
6. In so far as in the past the management was internally-oriented, today, its aim is to realize the results in the external environment.

In connection with the before-presented factors of the development, we can formulate the question how to work with the company knowledge, eventually which methods should realize the implementation of their effectiveness. On the other hand, we have to support their development and accumulation. The main objective of this article is to identify and analyze the latest methods that should help in the process of the effort to determine the effects of the measurement and effects of the knowledge management in the company.

## **1 Balanced Scorecard**

Balanced Scorecard presents the conception of the company management created and co-authored by the professors of the Harvard Univerzity R. Kaplan and D. Norton.

It is a tool to the effective strategic management of the company. It is recognized to be one of the best approaches to the transfer of the company vision into the concrete measurable assets. It takes into account the factors generating the long-term values. Balanced Scorecard (BSC) helps by achieving of the balance between the expectations of stakeholders and fulfillment of these expectations by the use of their interconnection with the real everyday operations in the company. This target can be achieved mostly by the increasing of the satisfaction and potential of employees and by the increasing of the quality of internal processes within the company. The BSC re-

acts to the present day requirements and it helps companies to integrate the strategy into the everyday decision-making processes of its workers. Thereby, it supports the synergy. What is more, it increases significantly the effectivity of the company also and its competitiveness ability.

The BSC deals with all the areas of the company management. It complements the financial indices, which shape the picture of the previous efficiency, about the new indices of the drivers of the future performance. To the key indicators of the efficiency belong four various perspectives of the company business: financial, customer, internal processes, trainings and development.

At the same time the BSC realizes the bilateral relations between the factors which are responsible for the final result. All required results are quantified. It means, they are described by the use of the controllable metrics. The components that help by the given development are also quantified equally. The BSC is called complex metrics because of the interconnection between all of the components with the impact on the achievement of the required results. The process of the change of the strategy to some concrete activities consists of the distribution of the strategic vision of the company to the clear targets in all four mentioned dimensions: financial, process, customer and the dimension of the training.

The financial perspective has to aim at the positioning within the company if it wants to be attractive for investors and owners. This is the main reason of the existence of the company as profit-oriented organization in the theoretical area at least.

If the company wants to achieve these financial targets, it has to provide customers with some extra value. The customer is then willing to pay it in such quantity, which is necessary for the company. Consequently, customer dimension of the BSC concentrates on the positioning of the products of the company to achieve this known value. The company has to have some excellent internal processes if it wants to achieve all the targets in the customer dimension. This is the main role of the process dimension of the BSC.

Finally, if the company wants to become excellent in the area of the processes, it has to create the necessary infrastructure and the human capital who will insure them. This is the main role of the dimension of the training and development.

If the company sets the targets for all these dimensions, it is necessary to connect these targets also with the bilateral reason-result relationship. These connections form the basis for the facts which we can specify and communicate to our subordinates as the strategy. The BSC as the strategic managerial instrument is as follows:

1. it sets the targets,
2. it is aimed to the achievement of these targets,
3. it measures the attained results.

## **2 The Corporate Performance Management**

The Corporate Performance Management (CPM) „means the systematic improvement of the company through the use of the improvement of its individual parts“ –

company itself, management levels, people etc. Above all, its main purpose is to achieve the visions of the company by the permanent improvement of the all internal processes. The most important part of the CPM is to design the plan for the improvement of the functioning of the company. Accordingly, it has to contain mainly the setting of the targets and results which has to be achieved and consequently, the further identification of the resources which should lead to its fulfillment. This method represents the classical financial evaluation of the company and at the same time, it concerns about the intangible assets and the growth of the competitiveness of the company. It stands as the very simple but also the complex system of the management of some organization that creates the prerequisite for the continuous improvement and innovation of the given organization. (Porvazník, 2007). The Corporate Performance Management involves:

1. The Map – design, measurement and evaluation of the implementation of the BSC concept
2. The Compass – simplification of the all-company information communication
3. The Knowledge base – collection of the whole-team knowledge

### **3 Kaizen**

The Japanese dispose of an interesting concept how to use the innovative impulses for the internal and external institutional progress. The improvement, rationalization, innovations – these are the basic tools which accompanies every performed business activity. In recent years, it comes to lots of changes in the business environment. They interfere with the areas of the company management and decision-making process. The technical progress, the development of information technologies (IT) and the increasing productivity of the work cause the higher competition pressure. In the companies, this cycle is accompanied by the strong focus on the customer's needs. Its target is to retain customer's favour, to optimize the internal factors influencing the long-term prosperity of the company. What is more, the main emphasis is given to the innovative ability of the company processes. The very first target of every company is the continuous improvement, orientation on the customer directed towards the improvement of the product quality, processes and services which accomplish thereby the high rationality, efficiency and purposefulness. This level of the efficiency can be achieved through the new approach „KAIZEN“. The best-known method of the continuous improvement based on the creative thinking of the employees is the concept Kaizen. Kaizen is the Japanese strategy which got into the awareness of some major and the most important companies and it domesticated in this environment with the high popularity among its employees.

The notion “Kaizen” appears from the philosophy of two words which describe the meaning of this method in the following way: Kai – change, Zen – good (improvement); Kaizen – change to the improvement. The strategy Kaizen is the most important notion of the Japanese management – the key to the Japanese economic success and competitiveness. Kaizen means the improvement interfering everybody – the top and also the middle management, as well as all the employees. Its philosophy assumes that our way of living – either at work, social or at home – deserves the continuous improvement. Therein, the basis is the mass initiative of the employees support-

ed by the effective motivation system. The complete effectivity of management of the company originates exactly from the attained work productivity which is monitored through the employee's performance. Concerning this fact, it is possible to state that the strategy Kaizen is mainly employees- and their efficiency-oriented because the employees are the holders and co-producers of the company knowledge.

Before the company decides to apply the Kaizen strategy in its own company environment, it should be familiar with these most important principles:

- company should pay attention also to the less important improvements,
- Kaizen is available for everybody, all employees can (should) participate on this process of the improvement,
- before some improvement applies, it has to be precisely analyzed concerning the present state and the possible positive or negative impacts,
- management has two main roles – creation, maintaining and improvement of the standards,
- for the company, it is necessary to realize the improvement by the use of the team work-meetings, the most important is the meeting preparation and its management as well as the suitable topic selection and to ensure the enforcement of the implementation of the accepted solution,
- strong support from the side of the top management – Kaizen is based on the activities from below of the company but it requires also the strong support from above,
- creation of the organizational conditions for the improvement,
- motivation of the employees – participation on the success – material and financial evaluation of the good solutions,
- support of improvements which can be quickly evaluated and realized and they do not require high investments.

In the Kaizen method, changes in the company are managed step by step and not suddenly. It comes to the change of the organizational structure – from the hierarchical to the network structure, from the vertical to the horizontal-flattening structure. The work environment of the employees is more or less informal and they can feel there some fellowship. Moreover, the institutional culture based on the accepted values is also formed. The employees are changed to the co-creators of the values and they are highly motivated, especially in the area of their actual work position and their possible career growth. It results in decentralization and the internal distribution of labour. Kaizen is such strategy which should prevent losses and lead to the perfect production „Just in Time“. As the losses decrease every product or service added value significantly, it is necessary to minimize them. The increased costs are afterward also related to this. As the feedback, it can influence the economic results of the company negatively and so cause the negative overview and bad position of the company in a competitive environment.

## 4 Re-engineering

The dictionary of the economics defines Re-engineering as the transformation, restructuring, streamlining – efforts to establish more effective companies which are able to compete globally. They use the restraint of the duplicate activities in the subsidiary companies, closing or changes in the unprofitable branches and offices and the dismiss of the employees there.

Re-engineering of the company and Re-engineering of the company processes, it means the process methodology of the changes in the company structure which is focused on the improvement of the company effectiveness. In contradistinction to the engineering (providing engineering services, design, constructions, assembling of the factory equipment etc.), solution within the Re-engineering means the creative searching within the complex change and what is more, the further projects of the redesign expressed in the new procedural concepts for the detailed projects of the processes. In terms of the technology, it is important that there is a certain difference between the engineering and Re-engineering. By the engineering projects or standard projects, the company usually considers the new application of the specific technology from the very beginning. However, in the process of the Re-engineering, the company performs the selection and the adaptation of the suitable technology and its application step by step. Thus, the technology is there customized, the solution of the processes is engineering-reconditioned in the process environment of the company. It can lead to the new company efficiency. The creative process of the Re-engineering and the redesign itself are complicated and they require the support of many factors. Very important is the knowledge of the previous processes. Therefore, before the company thinks about the Re-engineering of the company processes, it should take into account the possibility of the engineering. Re-engineering affecting the rationality of the standard company processes is of course at the same time also the challenge for the traditional management concepts, especially the distribution of labour. Namely, it is nothing else than the integration of the fragmented processes – in a general way, using the modern information technologies (IT) – into the logical, practical and effective sequence of activities. It results in a certain value which is for customer considered to be important and eligible. It is concentrated on the destruction and elimination of the standard business elements and their change into the new and non-affected determination of the „purpose of the game“, the simplification, acceleration and effectiveness of the process. Thereby, reengineering brings some dramatic effects in all areas of the company – it changes the organizational structure, influences also the politics of the employment, system of the remuneration, supervision of the warehouse management, IT etc. The main target of the Re-engineering effort and the concept of the “new beginning” is – by the means of the radical reorganization of the business and production processes – to achieve the high-order effectiveness, high quality, reduction of costs and some further factors of the competitiveness and prosperity (especially important competitive advantage is then time, eventually the special reduction of its consumption). Afterwards, “process” (it is the key word of the Re-engineering concept) can be, for instance, the new product development, the receiving of orders, the provision and shipping of orders, liquidation of any risk event etc. Re-engineering concept can be applied in all business areas, inclusive the chemical and pharmaceutical industry, telecommunications, areas of the electronics, energetics, but also in the retail trade, insurance

industry and banking system etc. It means that we can notice there the multi-dimensional of using the given method within the company practice.

## 5 Benchmarking on the basis of knowledge

The notion benchmarking or the comparison of the effectiveness was firstly used as the **managerial instrument** by the Xerox Corporation in 1979. Since that time, it became more and more popular. Robert C. Camp is considered to be the main representative in this area. He describes benchmarking as the "searching for the best processes in the business which can lead to the excellent results" (Camp in Porvazník, 2007). The company can compare not only its effectiveness, but also the used practices, processes or methods. Its application is of course associated with the observance of certain rules of behaviour as well as in all cases of working with the sensitive information. The purpose of the benchmarking is not to copy the acquired knowledge but to learn vice-versa. Namely, it represents the legal process of the information sharing which is based on the respect and trust of both sides (Porvazník, 2007).

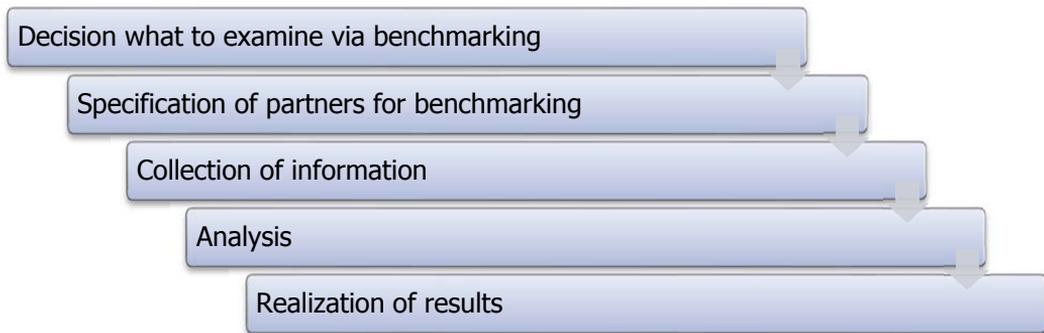
Benchmarking is an instrument of the competitive comparison, i.e. external comparison of the own-company factors with the best partners. It enables to gain the clear picture about those factors which mostly influence the prosperity of the company. Competitive comparison can be performed in three relatively independent but in principle very on-each-other dependent areas, namely:

- comparison of the production, competitive products and services which are met on the market most frequently,
- comparison of own production processes with those competitive ones,
- comparison of own and competitive management and top management.

The resource for the benchmarking is the gaining of the reliable information about the competition and the vision of the real state of own company. Accordingly, the nature of the benchmarking is the creation of information and knowledge in three main groups:

1. What does our company have better in comparison with the competition, how to use it on the market, is it not a redundant luxury?
2. What does the competition have better, what of it should we apply and how to realize it in the best way?
3. What does indicate to be non-functional, useless, unnecessary and oppressive?

Benchmarking is applied in companies in five basic phases which enable the effective preparation and implementation of this approach into the practice.

**Picture 1** Basic phases of the benchmarking

Source: self-processing.

The main contribution of this approach is the opportunity of the continuous improvement. The results of the benchmarking should be incorporated into the realization plan of the company. The plan is prepared in the final phase of the benchmarking approach and it plays an important role, especially in terms of feedback. All proposed actions which are embodied in the realization plan as the complement of the strategic plan should be implemented in the company in order to express the effectivity of these proposed actions and their realization in the re-execution of the benchmarking.

## 6 Management by objectives (MBO)

The notion MBO was firstly described by Peter Drucker. It presents the adoption of the target system whereby the accomplishment of every partial target should support the achievement of the highest targets of the organization.

The necessary condition of its realization is that the management and employees accept all targets and what is more, they are identified with them. Targets within the MBO should meet the criteria SMART, it means to be specific, measurable, achievable, realistic and time-specific. It continues with the practice-plan processing of the achievement of targets and it is followed by the creation of conditions to realize this plan also by the individuals. Next steps are the measurement and the evaluation of the achievement of the set targets, the realization of the actions of improvement, if it is necessary, and finally, the setting of new targets (Horváthová, 2011). The main principles of MBO are:

- targets are set in the presence of the subordinates,
- roles and duties resulting from the targets and strategies are gone through before their assignment and they are consequently assigned mostly in the written form,
- regular evaluation of the accomplished targets and eventually, the undertaking of the consequences when they are not fulfilled as well as the necessary correction in the given strategy and plan (Porvazník, 2007).

## Conclusion

The mentioned methods belong to the modern instruments of the effective management of the company and each of them has besides some other effects also the positive impact on the extent and intensity of the knowledge distribution in the company. The effective measurement of the intensity and effects of the knowledge management realization in the company can be appointed as the fourth phase of the implementation of the knowledge management in the company:

1. analysis of the environment
2. specification of the responsibilities in the area of the knowledge management
3. preparation, creation and implementation of the knowledge strategy
4. monitoring of the impact of the implementation of the knowledge management.

The return of investment into the area of the knowledge management is very difficult to be predictable. We can observe there, for example, the willingness of the employees to educate before and after the implementation of the suitable instrument, an increase in the level of the availability of information about the key customers after the implementation of the databases etc. In this phase, the most important fact is the comparison of the level of the defined indices with the level of the system of the indices after the implementation of the adequate instrument for the knowledge development. Within the frame of the final phase, we can observe the level of the fulfillment of the set targets and we try to answer the question whether the knowledge strategy in the organization was successful or not.

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