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APPLICATION OF KNOWLEDGE MANAGEMENT — SMALL AND MEDIUM ENTERPRISES IN FEDERATION OF BOSNIA AND HERZEGOVINA

ABSTRACT. Knowledge is indisputable resource which enables the development of new products, new ideas and strengthens human skills. People and their knowledge are unique to each enterprise and cannot be easily copied by the competitors. This provides a long-run competitive advantage. Knowledge management encompasses a range of activities in managing, designing, implementing and valorization of intellectual enterprise value. The paper analyzes the knowledge management as an essential element of business of small and medium enterprises. The aim is to analyze the application of knowledge management, implementation and evaluation in small and medium enterprises in the Federation of Bosnia and Herzegovina (FBiH). The study was conducted on a sample of 86 small and medium enterprises operating in the territory of the FBiH. The study defines the current level of knowledge management in small and medium enterprises in the FBiH, and the potential for further development by correlating it to the achievement of competitive advantage.

KEYWORDS: knowledge management, small and medium enterprises, competitive advantage, Federation of Bosnia and Herzegovina.

1. Introduction

Every company possesses knowledge and abilities which on the market can be converted into value. If managing these resources can contribute to a competitive advantage, increase of productivity and market value, then it is no longer a choice but a necessity. Knowledge is the key tool for achieving the objectives of modern enterprises which point out the importance of dealing with the mentioned issue. Today when supply significantly exceeds demand, the increase in production is focused on increasing the amount of information and knowledge in order to extend efficiency, in terms of making products of higher quality and added-value. The theoretical basis of this paper is Kanungo's definition of knowledge management (Anantatmulai Kanungo, 2006, p. 32) by which knowledge management is defined as a management tool that helps enterprises to collect, use, share and preserve knowledge within the organization with the help of business processes, information technology and culture.

Theoretical framework of the research

Knowledge is a power source of employees and the only employment guarantee (McNeish and Mann, 2010, p.25). Not only is knowledge a powerful source of competitive advantage in employment, knowledge is also an important element for further success in the career. It is therefore very important to work on maintaining a competitive level of knowledge in a wide range of areas. Knowledge is becoming one of key resources that need to be planned properly, managed and maintained at the desired level.

Qualitative knowledge management hidden in enterprises is crucial for a successful business. Giju et al. (2010, p.28) define knowledge as everything that individuals know and what exists in products, processes and systems of organization, but can gain value only if it is used by individuals. According to the mentioned authors, knowledge arises when an individual begins to use what he or she knows in order to solve a specific problem or task (Giju et al., 2010, p.28). Seidl 2007 according to Leche, 2009, p.69) states that «organizations are intelligent only if they are able to turn their ignorance into

knowledge». The task of knowledge management is to enable organizations to use:

- true knowledge
- in the right place
- at the right time
- in order to achieve their goals in business activities

The following table explains the characteristics of knowledge defined by the authors Kluge, Stein and Light (2001 according to Harlow, 2004, p.7).

Table 1

CHARACTERISTICS OF KNOWLEDGE

Subjectivity	Interpretation of knowledge is subject of personal understanding and depends on the context in which it is used.
Transferability	Knowledge can be taken out of one context and successfully used in another.
Integrity	Knowledge often exists in a form which is very hard to be rephrased or deleted.
Self empowerment	Knowledge does not lose value by sharing but rather it elevates and bulids up its value.
Transiency	Knowledge becomes outdated with time.
Spontaneity	Knowledge develops unpredictably and often cannot be controlled.

Source: Kluge, Stein and Light (2001 according to Harlow, 2004, p. 7)

According to Stipanović (2009, p. 220) knowledge is a complex concept which can be divided into:

— *Explicit knowledge* — material knowledge in form of plans, designs, patents, licenses, databases, manuals, rules, corporate standards, computer programs. It is characterized by: accessibility and ease of acceptance and reproduction, it is expressed in words and numbers, it is transferred through communication.

— *Tacit knowledge* — subjective, personal immaterial knowledge of workers as a result of experience and cognition — knowledge, vision, ability to act, to solve problems, of leadership, culture, experience. Characteristics are being: revealed through usage, implemented in organizational routines, processes, products and services.

— *Individual knowledge* — personal knowledge of individuals, managers, workers.

— *Knowledge enterprise* — totality of knowledge, intellectual capital.

Knowledge management is a management tool that helps companies to develop and share knowledge within an organization with the help of business processes, information technology, culture, etc. (Anantatmula and Kanungo, 2006, p. 32). The process of knowledge management cannot be an one-time act that would serve to improve the current situation within the company, moreover it should be carried out constantly and continuously in order to create results. Results often show a long time after establishing knowledge management. Kayworth and Leidner (2004, p. 245) state that people often think that knowledge possessed by a company is not intended for them, and that they are not allowed to use it for their own development. It is therefore essential for a company to have an environment which encourages development, sharing and use of knowledge so that each individual knows that it is necessary to create, share and use knowledge in order to create new knowledge, which promotes personal development, but also the development of an enterprises.

Small and medium-sized enterprises are increasingly facing a shortening of the life cycle of products and the need for a constant market supply with new products in order to stay competitive. The small and medium-sized enterprises provide the ability to apply modern solutions and experiences of developed countries upon which they built their economic strength and competitiveness. The basic advantages of small and medium-sized enterprises, in comparison to large enterprises, are barriers reduced by the hierarchy, greater flexibility in decision making process, faster feedback on the needs of consumers and markets and easier establishing of partnerships with companies, which seem appropriate for achieving synergies among the business results (Paunović and Prebežac, 2010, p. 60).

In the report of the Agency for Statistics of Bosnia and Herzegovina for the year 2013 the classification of enterprises in different classes based on their size using the criteria «number of employees» shows that the largest share in the total number of classified companies, even 73.8 %, are micro-sized enterprises (1-9 employees). The percentage of small companies in the total number is 18,8 % (10-49 employees), the percentage of medium-sized companies is 6.1 % (50–249 employees), while the percentage of large enterprises in the total number is only 0.9 % (250 and more employees).

2. Methodology and coverage of the survey

Knowledge is intangible, dynamic and difficult to measure. Systematic research of knowledge management practice so far has not been carried out

in the Federation of Bosnia and Herzegovina. The aim of this paper is to determine the situation in terms of knowledge management in small and medium-sized enterprises operating in the Federation. In the paper different scientific research methods have been applied:

✓ *Method of compiling* — collecting results of already published scientific research papers

✓ *Method of analysis* — analysis of complex thought and its splitting into simpler components

✓ *Method of synthesis* — explanation of complex thoughts with the help of simpler creations of thought

✓ *Inductive-deductive method* — process of drawing general and specific individual conclusions

✓ *Abstraction method* — thought process which deliberately separates irrelevant elements and characteristics and points out the important ones

✓ *Descriptive method* — process of simple reading or description of facts, and empirical validation of their connections and relationships

✓ *Statistical method* — defining of statistical material that will be researched and collecting data and information on units of the statistical material

The empirical research was conducted on a population of medium and large manufacturing enterprises in Bosnia and Herzegovina. Within the sample it is necessary to single out small and medium-sized enterprises which meet acceptance criteria of large, small and medium-sized enterprises for the territory of the entity (Law on Accounting and Auditing in the Federation of Bosnia and Herzegovina, «Official Gazette of FB&H», No.83/09). Primary data collection on the state of knowledge management in small and medium-sized enterprises in the Federation of Bosnia and Herzegovina was conducted using a questionnaire. The questionnaire was designed to find out how and to what extent knowledge management is being applied in small and medium-sized enterprises. A 5-degree Likert scale was used to measure attitudes. The survey was conducted in 2014 on a sample of small and medium-sized enterprises, which were randomly selected by sending out a request to enterprises and individuals in enterprises to fill in the questionnaire (source: Chamber of Commerce of the Federation of Bosnia and Herzegovina). The questionnaire was sent to 86 enterprises, and 37 of them responded to the request, which makes 43,02 %.

For statistical analysis of collected data programs SPSS for Windows (17.0, SPSS Inc. Chicago, Illinois, USA) and Microsoft

Excel (Office 2007, Microsoft Corporation, Redmont, WA, USA) were used. The results are expressed as absolute and relative (%) frequencies and arithmetic middle (M) and standard deviation (SD).

Some limitations of the research are related to the fact that a fill-in questionnaire and Likert scale were used, which lead to a certain subjectivity. Subjective assessment of the respondents who filled in the questionnaire depends on their assessment, and can lead to two types of errors:

— Respondents do not understand certain questions due to lack of knowledge regarding the terminology of knowledge management,

— Respondents want to make their company look better in order to achieve better grades.

Regardless the mentioned limitations the data collected are useful for drawing conclusions on the state of knowledge management in companies in the Federation of Bonia and Herzegovina.

3. Research results

During the conduct of the research 37 questionnaires were filled in correctly. The enterprises involved in the research were segmented according to the number of employees, the amount of revenue of the company for 2013, forms of ownership and type of business activity as shown on table 2.

Table 2

ENTERPRISE SEGMENTATION ACCORDING TO ITS CHARACTERISTICS

Characteristic	Modality	F	%
Number of employees	1–9	18	48,6
	10–49	15	40,5
	50–249	4	10,8
Revenue in 2013	Less than 400.000 KM	17	45,9
	400.000 — 4.000.000 KM	14	37,8
	4.000.000 — 40.000.000 KM	6	16,2
Form of ownership	Private ownership of 1 100 %	13	35,1
	Private ownership of more individuals	22	59,5
	State ownership	2	5,4
Type of business activity	Production	8	21,6
	Service	29	78,4

The results show that 89.2 % of the companies involved in this research have up to 50 employees. Most companies, 83,7 % to be exact, have reached a revenue in 2013 less than 4.000.000 KM. Almost 95 % of companies are privately-owned by one individual or more. The types of business activities performed by the enterprises involved in this research is certainly an interesting aspect, which can be divided into two categories: production and service. The analysis has shown that 78.4 % of business activities of all companies are service activities.

The research results are divided into four categories depending on the activities related to collecting, storage, sharing and use of knowledge.

Knowledge collecting activities refer to ways of knowledge collecting undertaken by enterprises, whether it refers to employees, buyers, suppliers or competition. The results referring to knowledge collecting show that organisations (62,2 %) collect knowledge from their workers as well as from their suppliers, whereas the knowledge collecting from buyers and competition is on a lower level (59,5 %).

Table 3

**AVERAGE GRADES REGARDING KNOWLEDGE
COLLECTING BASED ON RESPONDS**

	Min	Max	M	SD
A1	2	5	3,838	1,118
A2	1	5	3,595	1,212
A3	2	5	3,649	1,033
A4	1	5	3,811	1,198

Activities of knowledge preservation are related to the possession of certain information technology and database in which knowledge is being stored. The results of knowledge preservation show that 67,6 % of organizations possess certain information technology which enables simple access to information and knowledge.

Activities of knowledge sharing refer to presentation of new ideas and new knowledge, consulting and knowledge sharing with colleagues and knowledge sharing within the enterprise and with business partners. The highest percentage of respondents think that employees of an enterprise are being consulted and that they share their knowledge with their colleagues (75,7 %). A relatively small percentage of respondents think that knowledge and information are being freely shared within the enterprise or with business partners.

*Table 4***AVERAGE GRADES REGARDING KNOWLEDGE PRESERVATION
BASED ON RESPONDS**

	Min	Max	M	SD
A5	2	5	3,865	1,134
A6	1	5	3,892	1,149

*Table 5***AVERAGE GRADES REGARDING KNOWLEDGE SHARING BASED
ON RESPONDS**

	Min	Max	M	SD
A7	2	5	4,054	0,880
A8	1	5	4,000	1,179
A9	2	5	3,784	0,886
A10	2	5	3,865	0,887

The table shows a high grade referring to consulting and knowledge sharing among colleagues. The results also show that presenting of new ideas and knowledge is allowed. A certain level of freedom is decreased when it comes to sharing knowledge within the enterprise and with business partners.

The activities of knowledge usage refer to continuous improvement and development of own knowledge, system of best practice transfer and identifying opportunities for increasing the revenue based on own intellectual capital. A large percentage of respondents (70,3 %) thinks that the organization has a system of best practice transfer as well as an experience transfer system among employees. Over half of respondents (62,2 %) recognize an opportunity for increase of revenue based on own intellectual capital.

*Table 6***AVERAGE GRADES REGARDING THE USE
OF KNOWLEDGE BASED ON RESPONDS**

	Min	Max	M	SD
A11	2	5	3,919	0,983
A12	2	5	3,865	1,084
A13	2	5	3,784	1,058

The table shows that the use of knowledge was recognized as a positive element considering that there were no negative answers to the asked questions.

4. Conclusion

Knowledge has no boundaries, no limitations, it is intangible and very dynamic. If it is not used at the right time in the right place then it has no value. Therefore we may say that knowledge management has become a key formula of success because it is a fundamental frame for enabling a sustainable strategic development of an enterprise in all its aspects of business.

In contemporary conditions it has become clear that only by creating and using knowledge companies can improve their products, develop new ideas and successfully compete at the market. The companies willing to successfully share knowledge need to support staff networking and their desire to evolve, share knowledge and accept new knowledge. Companies need to evoke a feeling of importance referring to creating intellectual capital which is of high importance for the employees and the company itself. The research has shown that the use of knowledge management is highest in activities of knowledge sharing, it is lower in the process knowledge collecting, and knowledge preserving. The use of knowledge management reaches its lowest point in the process of knowledge usage.

Based on all the aforementioned we can say that for the economy of the Federation of Bosnia and Herzegovina establishing of new social values based on knowledge, creativity and competencies of human resources, which will enable transformation of traditional organizations into learning organizations is of high importance.

Knowledge management improves business activities regarding capacity increase based on learning, innovation and problem solutions. It also enables organizations to know at any time what types of knowledge are available, and what types of knowledge are needed in order to be more successful.

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