DOI: 10.18843/ijcms/v8i1/03
DOI URL: http://dx.doi.org/10.18843/ijcms/v8i1/03

MANAGEMENT OF KNOWLEDGE IN ORGANIZATIONS WITH DIFFERENT ACTIVITIES

Assoc. Dr. Victor Mitrevski,

BAS - Institute of Management,
Bitola, Macedonia.

Assoc. Dr. Alexandar Aceski,

University "St. Cyril and Methodius"
FPESH– Skopje, Macedonia.

ABSTRACT

The main goal of any modern and contemporary organization is the knowledge they possess. Whether it is collective or individual, the main goal is to make it useful and accessible for all the employees. Commitment to that knowledge has to be the most powerful weapon in response to any changes and threats caused by the strong gust of modern technologies and unfair competition. The management of knowledge in an extremely unpredictable, uncertain and fast prestige on organizational development has to be the imperative that will make them different and better in the contemporary modern business. Our study is just a part of a wider research, carried out on the territory of the Republic Macedonia by BAS - Institute of Management. The aim of the research is directed at discovering new scientific knowledge that can find proper practical application in the management of knowledge, which will also give a contribution for improving the results and achievements in the organizations.

Keywords: *Knowledge, Individual, Management, Collective, Sharing.*

Introduction:

The skill and ability for managing and creating new capital, as well as its practice in modern organizations, represents a decisive and crucial element in the achievements and gaining competitive edge over others. The expansion of technology, increased the economic development, which forced organizations to adapt to the rapid and fundamental changes in response to market needs. New claims put mobility in the overall knowledge that possesses an organization. It must know what resources it has, how to further agitate and create knowledge, how to preserve, how to share and how they should be implemented. Knowledge, which today is a key resource that provides a competitive sequence of an organization, requires adequate management. Knowledge management involves converting individual knowledge of employees into collective, organizational knowledge, which would be available at the right times in the right way for all members and all levels of the organization.[1] The process of knowledge management is oriented to make the knowledge in the organization become accessible to everyone and to become focused on the results of the learning process, as opposed to an organization that supports and develops the learning process. Process aimed at the adoption of information and their interpretation, ie, to the process of learning. The connection of concepts, organizational learning, learning organization and knowledge management clearly indicates the mutual conditionality and dependence. Modern organization in the twenty-first century, at a time of globalization and rapid technological and economic development can only be the one organization that learns quickly, remembers and responds based on the received information and the acquired knowledge.

The subject of our research is the knowledge management in the production and service organizations on the territory of the Republic of Macedonia. While the aim is to determine whether there are differences in implementation of knowledge management between organizations of different sectors and their importance in the further development.

Research Methodology:

The research outlined in this paper relies on two important components that their scientific justification was sought in the discovery of new scientific knowledge. Theoretical and practical knowledge

[1] Djordjevic – Boljanovic, J. (2009). Knowledge management. Belgrade: Data status. Pg. 9

should help improve performance in organizations, and emphasize the importance and connection processes of organizational learning and knowledge management taking place in organizations. The survey includes the following components:

- The connection of the knowledge management with other concepts of learning.
- The methods and procedures of implementation of the process of knowledge management in organizations of different industries.

Knowledge management invaluable capital for the organization:

The concept of organizational learning occurs at the beginning of the second half of the XX century in order to explain certain phenomena that occurred under the influence of new global trends in organizations. In the literature organizational learning, among other things is associated with the need for an explanation of the new complex phenomena such as leadership, organizational culture, teamwork, etc., which basically should support organizational learning. Many authors see organizational learning as a generator of change, driving force that makes the connection between enthusiasm and organizational capabilities for innovation in organizations. Organizational learning can be seen as to a process of continuous change which may lead to a significant improvement of services and products, which occur as a result of the experience and new knowledge in the organization.

The authors Crossan, Lane & White have presented the organizational learning in three levels, where the learning process passes or takes place in four phases.[2]

- Level of learning: the individual level; team level and organizational level.
- Learning process ("4I"): intuition; interpretation; integration and institutionalization.

Author Hubert tried to develop this model with four interrelated elements: the adoption of knowledge acquisition; information distribution process; the process of information interpretation and the process organizational memory. [3] The concept of organizational learning actually promotes continuous learning which is based on the basis of experiential learning and learning from others, as response to the needs of competitive challenges and the requirements of the consumers.

The beginning of the management of learning dates back to the last years of the last century, in response to the needs for changes in the modern organization. The author Peter Senge, promotes the concept, learning organization. According to the author, the valuing of the organization begins from the actual situation (which is) to its future. Senge in his book (The fifth discipline), describes the development of modern organization very vividly, making the frame and defining the concept of a learning organization. The author describes five new disciplines that promote the concept of five technology competence: systemic thinking; personal improvement; mental models; shared vision and team learning. [4] He defines the systematic thinking as an integrative power in the creation of learning, building one piece with other disciplines in the concept of a learning organization. The very concept follows puling the practice of certain, primarily the Shell Company, in which learning is described as the only acceptable and sustainable competitive advantage. The creation and development of the organization should be seen as learning. The organizational development should primarily be based on interdisciplinary approaches, information technology and human resources, as the main intellectual capital of the organization.

On the other hand knowledge management, that has no clear definition, represents an integrated functional unit that has connection between people (human resources), processes and information technology. Basically a process in which there is a correlation in the three interdependent components where the human factor is the most important component in organizational focus. It is based on knowledge, culture and conduct in conjunction with technology and the processes that take place. The process of knowledge management evolves through several phases in mutual interaction: Creation of knowledge; Capture of knowledge; Storing of knowledge; Sharing of knowledge and other Application of knowledge. In its working focus, organizational learning basically originates from several areas: economy, business, psychology, and management of information systems.

Investing in the knowledge of employees, ie investment in their own intellectual capital is the largest and most profitable investment today and can help the organization raise and make it competitive. Today, every modern organization is less oriented toward natural resources, increasingly relies on other intellectual capacities, taking into account the fact that the competitive advantage of every modern organization lies in knowledge they possess. Today, it is not enough to know how to create and disseminate knowledge; the organization's ability to manage and implement the knowledge is the increasingly determining factor in the achievements and the creation of sustainable competitive advantage. Modern organization in the era of knowledge is one that learns, remembers and acts on the basis of information and knowledge available in the best possible way.[5] These

[2] Crossan, M., M., Lane, H. & White, R. (1999). *An organizational learning framework*. From intuition to institution, Academy of management Review 24 (3), 522-537.

[3] Huber, G., P. (1991). „Organization Learning: The contributing processes and the literatures“, *Organization Science*, 2 str. 88-115.

[4] Senge, P. (2007). The Fifth Discipline: inserted and practice of the learning organization. Novi Sad: Graph style. Str. 385-391.

[5] Masic, B. Djordjevic - Boljanovic, J. (2015). Leadership and management skills in function of creating competitive advantage.

attitudes and thoughts are entirely supported by authors such as Davenport and Prusak, when they talk about ways of achieving competitive advantage.

The connection of the concept of knowledge management with other concepts of learning:

Connecting the learning processes with knowledge management opens new dilemma in the development and competitiveness of modern organizations, "in what way and how this concept can improve the results of the organization." The key to this concept is not what and how much the individual learns, or how knowledge is transmitted to others, but what are the effects in addressing the goals of the organization of that knowledge.

At least for now, the common position on the link between these three concepts *(management of knowledge, organizational learning and learning organization)* is not fully defined in the literature. Organizational learning can vary, starting from the fact that the biggest feature of organizational learning is adapting the organization to the environment, or the organization's ability to feel the need to change and adjust. Bearing in mind that the basis of the organization that learns results from organizational learning, we can assume that there is reciprocity and correlation between these two concepts. The purpose of the knowledge management is to create the values of the organization, ie the creation, capture, storage, trensfer and implementation of knowledge, emphasizing the need for individual knowledge available for everyone in the organizations. Knowledge management can be viewed as a process that is focused on the learning outcomes. Considering the foregoing, it can be concluded that between these three concepts complement one another.

Sample of Respondents:

The survey covered organizations that are in the service and production activity on the territory of the Republic Macedonia. Total 269 survey respondents covered, the first sample (service activity) was composed of 75 participants and the second sample (manufacturing activity) 194 respondents. Samples were formed at random, and in the working positions of respondents were involved: employees, operational managers and top managers.

Research tools and Methods:

A questionnaire was used in order to provide relevant indicators and data, by which statements were given 14 indicators participating in the definition of knowledge management in organizations. During the preparation of the survey questions lot of attention was dedicated to the applicability. The set of the survey questions in given in addition.

- VAR01 - Employees generally see problems or issues as a learning opportunity.
- VAR02 - Teams are encouraged to learn from each other and to share their knowledge.
- VAR03 - I have the opportunity to get involved in creating new solutions for challenges in my organization.

In the organization we acquire new knowledge and experiences:

- VAR04 – With formal training
- VAR05 – By observing the work and behavior of their superiors.
- VAR06 – By observing the work and behavior of colleagues.
- VAR07 – By sharing / acquisition of experiences from colleagues.
- VAR08 – By tracking the experiences and work of the competition.

In practice the organization utilizes the acquired experiences and new knowledge through:

- *VAR09* - Participation in working groups and teams for organizational improvements.
- *VAR10* – After each training, practical application is required

The organization stores and shares acquired knowledge:

- VAR11 - By sharing my experience with other colleagues.
- VAR12 - The disposal of my experiences in digital form at the base of knowledge and data in the organization.
- VAR13 - Copies of materials from trainings which are deposited in the organizational library.
- VAR14 - Upon return from any participation in training and other development we share new knowledge with colleagues.

The assessment of the statements of the respondents was conducted using four degrees numerical scale. The measures of central tendency calculated arithmetic mean (Mean), and the measures of dispersion calculated: Range, minimum (Minimum) and maximum (Maximum) score, variance (Variance) and standard deviation (Std. Deviation). For determining the differences between each indicator individually from service organizations to manufacturing organizations a t-test was used. The processing of the used data required the usage of programs such as Microsoft Office Excel and SPSS.

Results and Discussion:

According to the results in Table 1, from the incorporating values obtained from the assessment of

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the given statements, it may be concluded that that most of the obtained results are around the mean. Individual small deviations from the normal distribution were observed in three indicators (service organizations: VAR03, Std. Deviation = 1,115; VAR12, Std. Deviation = 1,078 and VAR13, Std. Deviation = 1,212; manufacturing organizations: VAR03, Std. Deviation = 1,016; VAR12, Std. Deviation = 1,177 and VAR13, Std. Deviation = 1,154).

The values that indicate the degree of inclination of the curve (Skewness), with most indicators reached values of normal distribution. Negative asymmetry was observed in two indicators (VAR11 and VAR14), of which the highest values achieved in the eleventh indicator (VAR11 - By sharing my experience with other colleagues, Skewness = - 1,367) in the sample respondents from manufacturing organizations. It the second indicator that defines the curvature of the curve (Kurtosis), in most of the indicators, a normal distribution was noted. Platykurtics was noted in seven indicators. Four in service organizations (VAR03, VAR11, VAR12 and VAR13) and three in manufacturing organizations (VAR03, VAR12 and VAR13). The highest values of service organizations were noted in the third (VAR03 - I have the opportunity to get involved in creating new solutions to challenges in my organization, Kurtosis = - 1,438) and thirteenth indicator (VAR13 - Copies of training materials which we deposited in the organizational library, Kurtosis = - 1,438). In manufacturing organizations, the highest values were noted in the twelfth indicator (VAR12 - The disposal of my experiences in digital form at the base of knowledge and data across the organization, Kurtosis = - 1,486). Leptocurtics was noted in two indicators. One indicator in both samples. In service organizations, leptocurtics in the seventh indicator (VAR07 - By sharing / acquisition of experiences from colleagues) reached a value of 1.102, while the production organizations in the eleventh indicator (VAR11 - By sharing my experience with other colleagues) with values of 1.475.

From the analyzed results of mean values (arithmetic mean), we can conclude that the present knowledge management in sufficiently. Also, the obtained higher values in most indicators (eleven) of production organizations imposes the assumption that certain steps of knowledge management find more practical application.

From the analyzed data (Table no. 2), we can conclude that using the t - test for independent samples determined differences between mean values (arithmetic) to each indicator (variable) individually from service to manufacturing organizations, it was concluded that there are differences in four indicators (VAR04, t = - 2,357, Sig. = 0,019; VAR06, t = - 2,871, Sig. = 0,005; VAR07, t = - 2,521, Sig. = 0,013 and VAR11, t = - 2,775, Sig. = 0,006) .

According to the results, the respondents from the service organizations do not agree with the respondents from manufacturing organizations. Basically they differ in the statements of three indicators that define gaining experience and new knowledge (with formal training; by observing the work and behavior of colleagues and sharing / getting experiences from colleagues) and one indicator of storing and sharing knowledge (by sharing my experience with other colleagues). Also, significant differences In the other statements on the applied system were not observed, which means it can be concluded that the respondents from service organizations and the respondents from manufacturing organizations have similar or identical views and opinions.

Conclusions:

The significance of this research can be seen from two aspects: the theoretical framework which is given only in the beginning and is based on previous studies, reviewed theoretical knowledge and research from which can be concluded that the knowledge management, or specifically the creation (Creation); winning (Capture); preservation (Storing); division (Sharing) and application of knowledge (Application) participate in improving the process and makes sustainable competitive organizations. Practically our research confirms the foregoing and, in particular indicates that knowledge management is present sufficiently in organizations that were the subject of research, ie, part of the service and manufacturing organizations in the Republic Macedonia.

In order for organizations to experience the benefits of knowledge management, they need to fully commit to knowledge as to major competitive edge over others, with a clear idea and vision that knowledge needs to be utilized in the best way, to maintain the culture of learning and commit to further training of employees.

Among others, from the research can be distinguished several individual conclusions:

- According to the analysis, the process of knowledge management has a greater practical application in the production organizations, primarily in the process of acquiring new knowledge, experiences, storing and sharing their newly acquired knowledge.
- Overall, though more pronounced in manufacturing organizations, significant differences compared with established service organizations are only part of the indicators that define the acquisition of new knowledge and experiences in storing and sharing acquired knowledge.

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Table 1: Descriptive indicators of service and manufacturing organizations

Report															
VAR00015		VAR01	VAR02	VAR03	VAR04	VAR05	VAR06	VAR07	VAR08	VAR09	VAR10	VAR11	VAR12	VAR13	VAR14
Service organizations	N	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	Minimum	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00
	Maximum	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00
	Range	3,00	3,00	3,00	3,00	3,00	2,00	3,00	3,00	3,00	3,00	2,00	3,00	3,00	3,00
	Mean	2,89	3,09	2,52	2,63	3,04	3,13	3,17	3,01	2,47	3,17	3,36	2,00	2,13	3,23
	Variance	0,502	0,680	1,334	0,615	0,417	0,387	0,388	0,527	0,550	0,497	0,261	1,162	1,468	0,556
	Std. Dev.	0,709	0,825	1,155	0,785	0,646	0,622	0,623	0,726	0,741	0,705	0,510	1,078	1,212	0,746
	Skewness	-0,313	-0,474	-0,050	0,256	-0,346	-0,095	-0,478	-0,456	0,424	-0,496	0,280	0,598	0,440	-0,799
	Kurtosis	0,133	-0,608	-1,438	-0,581	0,559	-0,411	1,102	0,234	-0,162	0,023	-1,206	-1,021	-1,438	0,560
Manufacturing organizations	N	194	194	194	194	194	194	194	194	194	194	194	194	194	194
	Minimum	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
	Maximum	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00
	Range	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00
	Mean	2,76	3,30	2,66	2,87	3,13	3,39	3,40	2,96	2,39	3,23	3,51	2,42	2,28	3,29
	Variance	0,786	0,638	1,032	0,569	0,738	0,508	0,520	0,926	0,757	0,725	0,490	1,384	1,331	0,882
	Std. Dev.	0,886	0,798	1,016	0,754	0,859	0,713	0,721	0,962	0,870	0,852	0,700	1,177	1,154	0,939
	Skewness	-0,226	-0,666	-0,127	-0,148	-0,708	-0,895	-0,847	-0,562	0,258	-0,809	-1,367	0,084	0,215	-1,226
	Kurtosis	-0,693	-0,920	-1,110	-0,474	-0,258	0,155	-0,291	-0,681	-0,567	-0,235	1,475	-1,486	-1,428	0,506

Table 2: Differences in assessments between service and manufacturing organizations

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
VAR01	Equal variances assumed	11,731	,001	1,186	267	,237	,136	,114	-,089	,361
	Equal variances not assumed			1,308	167,165	,193	,136	,104	-,069	,340
VAR02	Equal variances assumed	1,093	,297	-1,924	267	,055	-,211	,110	-,427	,005

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
	Equal variances not assumed			-1,896	130,753	,060	-,211	,111	-,431	,009
VAR03	Equal variances assumed	4,758	,030	-1,009	267	,314	-,145	,144	-,428	,138
	Equal variances not assumed			-,954	120,751	,342	-,145	,152	-,446	,156
VAR04	Equal variances assumed	2,640	,105	-2,357	267	**,019**	-,244	,104	-,449	-,040
	Equal variances not assumed			-2,316	129,961	,022	-,244	,106	-,453	-,036
VAR05	Equal variances assumed	16,124	,000	-,858	267	,392	-,094	,110	-,310	,122
	Equal variances not assumed			-,971	177,948	,333	-,094	,097	-,285	,097
VAR06	Equal variances assumed	11,199	,001	-2,704	267	,007	-,253	,094	-,438	-,069
	Equal variances not assumed			-2,871	152,945	**,005**	-,253	,088	-,428	-,079
VAR07	Equal variances assumed	13,556	,000	-2,364	267	,019	-,224	,095	-,410	-,037
	Equal variances not assumed			-2,521	154,598	**,013**	-,224	,089	-,399	-,048
VAR08	Equal variances assumed	12,272	,001	,402	267	,688	,049	,123	-,192	,291
	Equal variances not assumed			,455	177,353	,650	,049	,109	-,165	,264
VAR09	Equal variances assumed	2,576	,110	,704	267	,482	,080	,114	-,144	,304
	Equal variances not assumed			,756	156,705	,451	,080	,106	-,129	,289
VAR10	Equal variances assumed	7,375	,007	-,483	267	,629	-,053	,111	-,271	,164
	Equal variances not assumed			-,525	161,452	,600	-,053	,102	-,254	,148
VAR11	Equal variances assumed	8,194	,005	-1,694	267	,092	-,150	,089	-,325	,024
	Equal variances not assumed			-1,941	183,439	,054	-,150	,077	-,303	,002
VAR12	Equal variances assumed	4,936	,027	-2,670	267	,008	-,418	,156	-,725	-,110
	Equal variances not assumed			-2,775	145,979	**,006**	-,418	,150	-,715	-,120
VAR13	Equal variances assumed	,640	,424	-,911	267	,363	-,145	,159	-,458	,168
	Equal variances not assumed			-,892	128,897	,374	-,145	,163	-,467	,177
VAR14	Equal variances assumed	6,309	,013	-,555	267	,579	-,067	,121	-,305	,171
	Equal variances not assumed			-,614	168,331	,540	-,067	,109	-,283	,149

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