

## **The Employees Education Level as a Significance Factor in Knowledge Management Implementation**

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**Abstract:** *The era of knowledge brings new challenges that are seen through rapid and advance development of science, engineering and technology, which entails changes on the market. Considering that, the organizations would have to respond to the new conditions. Developing the appropriate knowledge within the organization became the primary priority to every modern organization which imposes the necessity of knowledge management implementation. The concept comprehends the most important and relevant issues related to the adaptation of the organization, its survival and its competencies focusing on the maximizing the advantage of organizational knowledge and strengthening human capabilities.*

*In this context, the objective of the research is to examine the significance and the influence of the education level of the employees on the knowledge management implementation. The research was conducted on the telecommunication market in the Republic of Macedonia, in 10 companies, to a sample of 100 respondents – employees in these companies.*

*The results show the awareness of the employees for the need of the knowledge management concept and constant improvement of the professional knowledge. Also, the education level of the employees has influence of their attitude about main issues of knowledge management implementation.*

**Keywords:** era of knowledge, knowledge management, education level of employees

### **Introduction**

Through the time, economy has been transformed and has passed through different phases. The environment conditions of the organizations have also changed, following the economy transformation. Every phase has own characteristic and imposes specific conditions which organizations have to anticipate and adapt. In the industrial history, generally four phases have been identified in the world economy: the era of manufacture production; the era of mass production; the era of information; the era of knowledge. (Slavkovic, 2006).

The era of knowledge brings new changes that are seen in the rapid and advance development of science, engineering and technology, which in turn entails changes in society, as well as on the market, creating new “rules of the game” to which organizations would have to respond. These changes are especially visible in the last ten years, and the following can be distinguished in brief: knowledge becomes a crucial issue for the success of the organization; the time for decision making is significantly shortened; relations among employees are becoming very complex; the information and communication technologies are increasingly being incorporated into the interactions among people, as well as into business transactions. (Slavkovic, 2006).

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Considering this, it becomes clear why organizations need a new management paradigm of work that will correspond to the current conditions: markets are increasingly competitive, and the rate of innovations is increasingly growing; the time for gaining experience and knowledge is reduced; early retirement and increased mobility of the work force; the larger part of the companies' work is based on information; products and the services are complex, most often enriched with informational components; the need for continuous learning is becoming an inevitable reality. The dynamic environment and the struggle for survival in it, made organizations turn towards continuous, fast acquisition and maintenance of today's most powerful resource – knowledge.

### **The role of the knowledge management in the era of knowledge**

Knowledge management is an interdisciplinary business model which has the knowledge of the organization in its focus. This concept is the embodiment of the processes within the organization that strives towards combining and interaction of data and information, which increases the capacities of the information technologies and human capital.

The concept of knowledge management appeared in the 80s of the twentieth century. Knowledge management is maximizing the advantage of organizational knowledge, identifying information, wisdom, and strengthening human and digital capabilities. Knowledge management is the creation, storage and transfer of knowledge in the organization. (Argote, McEvily and Reagans, 2003). Knowledge management is the practice of selective knowledge application acquired through past experiences, present and future decisions with the purpose of improving organizational effectiveness. (Jennex, 2005).

Knowledge management is a process that should continually take place within an organization. The objective of this process is to manage the knowledge in the organization, but also to create conditions for its creation, distribution, and use. Special attention should be given to the creation of knowledge in the organization, which requires the previous provision of adequate conditions and ambience.

The process of knowledge management consists of six phases: creation of knowledge; learning; distribution of knowledge; transfer of knowledge; use of knowledge; storage of knowledge. (Malhotra, 1997).

In order to implement the knowledge management in the organization, it is necessary to make certain conditions. Various authors have studied the relevant factors that influence the development and implementation of the knowledge management in the organization. According to Davenport and Prusak, relevant factors of the knowledge management implementation are: knowledge oriented organizational culture, technological and organizational infrastructure, support from top management, relationship with economic values, necessary process orientation, a clear vision and understanding of the language, the meaning of innovation, the required level of knowledge and channels for knowledge transfer. (Davenport and Prusak, 2000).

Despite the mentioned conditions that should be fulfilled to implement the knowledge management concept, it is important to point that the awareness of all the employees in the organization about the significance of this concept is also a fundamental issue of its implementation. In order to create the knowledge orientated organization, management should undertake appropriate activities to initiate continuous creation, exploration and preservation of the organizational knowledge. On the other side, the employees should also be aware of the benefits of the knowledge management concept not only for their organization, but also for themselves as individual. By enhancing their professional knowledge, they are developing

themselves. It should not be missed that every employee in the organization primary is an individual personality with different opinions, attitudes, experiences, knowledge etc. This research focuses on the education level of the employees, considerate it as one of the significance factor in knowledge management implementation.

Developing the necessary knowledge within the organization, requires a combination of the knowledge and the abilities of all the participants in the management process – people, technologies and processes. Knowledge management as a process through which an organization generates the value of its property based on knowledge, is an imperative in modern business. During the transition from industrial economy to knowledge economy (the era of knowledge), the effective use of knowledge becomes one of the decisive factors in the competitive battle among companies.

### **The objective of the research**

The appropriate implementation of the concept needs certain conditions in technical context, but also in context of mental perception of the employees. The awareness of both – the managers and the employees about the significance of the knowledge management concept in the era of knowledge, is main issue in effective knowledge management implementation. In this context, the objective of the research is to examine the correlation between the education level of the employees and the knowledge management implementation. Considering the education level as one of the factors of knowledge management implementation, it was examining how different education level influence on the opinions and attitudes of the employees about the significance and the implementation of the knowledge management concept.

### **Methodology**

#### *Participant*

The research was conducted in 10 companies on the telecommunication market in the Republic of Macedonia, to a sample of 100 respondents – employees in these companies.

#### *Materials and instruments*

The questionnaire that was given to respondents was formed with multiple choice questions, using the Likert scale. The respondents had to choose one from five offered alternatives which expressed their level of agreement or disagreement for a series of statements.

The analysis of the results was made using  $\chi^2$  test in purpose to examine the correlation between the education level of the respondents and their attitudes. Also, Spearman's coefficient is been used to illustrate whether the influence of the education level of the respondents on their answers is directly or inversely proportional. Only statistical significance obtained results are considerate in the analysis. The collected data was proceeding in SPSS program.

#### *Procedure*

The employees in the organizations on the telecommunication market were asked to respond the questionnaire in purpose of getting the needed information for the thesis. They answered the questionnaire. The collected results were systematized, processed and discussed.

#### *Constraints*

Proposed answers in the structured questionnaire are given to respondents. Most often they are subjectively determined.

### **Hypothesis**

The study intends to test the following hypotheses:

**H01:** There isn't a correlation between the education level of the employees and their attitude about the activities undertaken by the management to enhance the organizational knowledge and skills.

**H02:** There isn't a correlation between the education level of the employees and their attitude about need of constantly upgrading and improving the professional knowledge and skills.

**H03:** There isn't a correlation between the education level of employees and their attitude about managers rewording them appropriately if they successfully complete a task.

**H04:** There isn't a correlation between the education level of employees and their attitude about the positive relations of the managers and the employees, as a motivational factor in successfully overcoming problems.

**H05:** There isn't a correlation between the education level and the attitude of the employees about the contribution they can give to the organization with their knowledge.

### **Results and discussion**

In their efforts to accept the paradigms of the developed and successful companies, Macedonian enterprises should not disregard the fact that the era of knowledge sets the organizational knowledge as an imperative factor of modern business. The processes of EU integration created a global competition. This means a constant adaptation according to external factors and development of internal capabilities of the organizations considering the knowledge management as a strategy of persists on the market and gain a competitive advantage.

The majority of respondents who participated in the survey, are between 26 and 36 years old, immediately followed by respondents who are between 36 and 45 years old with 25%. 7% of the respondents who answered the questionnaire are aged to 25 years, and only 3% of the respondents are between 46 and 55 years old, which indicates a relatively young population working in the organizations that are the subject of this research.

Regarding the qualification of the employees, the majority of the respondents are highly educated – 63%, and the percentage of those who have completed their master studies as well, is also high – 30% of the respondents. Only 7% of the respondents have completed their secondary school education.

**H01:** There isn't a correlation between the education level of the employees and their attitude about the activities undertaken by the management to enhance the organizational knowledge and skills.

<b>Table 1.1. Chi-Square Tests</b>				
		<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square		29,483 <sup>a</sup>	6	,000
Likelihood Ratio		38,169	6	,000
Linear-by-Linear Association		2,100	1	,147
N of Valid Cases		100		
a. 6 cells (50,0%) have expected count less than 5. The minimum expected count is, 30.				
Symmetric Measures				
		<b>Value</b>	<b>Approx. Sig.</b>	
Nominal by Nominal	Contingency Coefficient	,477	,000	
of Valid Cases		100		

Source: primary data

<b>Table 1.2. Spearman Correlation</b>					
		<b>Value</b>	<b>Asymp. Std. Error<sup>a</sup></b>	<b>Approx. T<sup>b</sup></b>	<b>Approx. Sig.</b>
Interval by Interval	Pearson's R	,146	,100	1,457	,148 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	,216	,094	2,192	,031 <sup>c</sup>
N of Valid Cases		100			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Source: primary data

The obtained results show that the hypothesis H01 is rejecting and it is concluding that there is significance direct proportional correlation between the education of the employees and their attitude about the activities undertaken by the management to enhance the organizational knowledge and skills. The employees with higher education level recognize the activities undertaken by the management in order to enhance the organizational knowledge and skills.

**H02:** There isn't a correlation between the education level of the employees and their attitude about need of constantly upgrading and improving the professional knowledge and skills.

<b>Table 2.1. Chi-Square Tests</b>				
		<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square		22,439 <sup>a</sup>	6	,001
Likelihood Ratio		25,199	6	,000
Linear-by-Linear Association		3,148	1	,076
N of Valid Cases		100		
a. 7 cells (58,3%) have expected count less than 5. The minimum expected count is ,36.				
Symmetric Measures				
		<b>Value</b>	<b>Approx. Sig.</b>	
Nominal by Nominal	Contingency Coefficient	,428	,001	
N of Valid Cases		100		

Source: primary data

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<b>Table 2.2. Spearman Correlation</b>					
		<b>Value</b>	<b>Asymp. Std. Error<sup>a</sup></b>	<b>Approx. T<sup>b</sup></b>	<b>Approx. Sig.</b>
Interval by Interval	Pearson's R	-,178)	,090	-1,794)	,076 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	-,206)	,096	-2,081)	,040 <sup>c</sup>
N of Valid Cases		100			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

**Source: primary data**

The obtained results show that the hypothesis H02 is rejecting and it is concluding that there is significance inverse correlation between the education level of employees and their attitude about need of constantly upgrading and improving the professional knowledge and skills. This means that lower educated employees identify the need of constantly upgrading and improving the professional knowledge and skills.

**H03:** There isn't a correlation between the education level of employees and their attitude about managers rewording them appropriately if they successfully complete a task

<b>Table 3.1. Chi-Square Tests</b>				
		<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square		19,873 <sup>a</sup>	8	,011
Likelihood Ratio		22,704	8	,004
Linear-by-Linear Association		6,616	1	,010
N of Valid Cases		100		
a. 8 cells (53,3%) have expected count less than 5. The minimum expected count is, 30.				
Symmetric Measures				
			<b>Value</b>	<b>Approx. Sig.</b>
Nominal by Nominal	Contingency Coefficient		,407	,011
N of Valid Cases			100	

**Source: primary data**

<b>Table 3.2. Spearman Correlation</b>					
		<b>Value</b>	<b>Asymp. Std. Error<sup>a</sup></b>	<b>Approx. T<sup>b</sup></b>	<b>Approx. Sig.</b>
Interval by Interval	Pearson's R	,259	,076	2,649	,009 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	,272	,084	2,795	,006 <sup>c</sup>
N of Valid Cases		100			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

**Source: primary data**

Regarding the results the hypothesis H03 is rejecting and it is concluding that there is significance direct proportional correlation between the education level of employees and their attitude about managers rewording them appropriately if they successfully complete a task. In

this context the higher educated employees think that they are appropriately awarded if they successfully complete a task.

**H04:** There isn't a correlation between the education level of employees and their attitude about the positive relations of managers and employees as a motivational factor in successfully overcoming problems.

Table 4.1. Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13,317 <sup>a</sup>	4	,010
Likelihood Ratio	18,307	4	,001
Linear-by-Linear Association	6,114	1	,013
N of Valid Cases	100		
a. 4 cells (44,4%) have expected count less than 5. The minimum expected count is, 60.			
Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	,343	,010
N of Valid Cases		100	

Source: primary data

Table 4.2. Spearman Correlation					
		Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Interval by Interval	Pearson's R	,249	,052	2,540	,013 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	,268	,079	2,750	,007 <sup>c</sup>
N of Valid Cases		100			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Source: primary data

The results show that H04 hypothesis is rejecting and it is concluding that there is significance direct proportional correlation between the education level of employees and their attitude about the positive relations of managers and employees as a motivational factor in successfully overcoming problems. The higher educated employees recognize the positive relations between managers and employees as a motivational factor in successfully overcoming problems.

**H05:** There isn't a correlation between the education level and the attitude of the employees about the contribution they can give to the organization with their knowledge.

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<b>Table 5.1. Chi-Square Tests</b>				
		<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square		28,353 <sup>a</sup>	6	,000
Likelihood Ratio		32,925	6	,000
Linear-by-Linear Association		10,142	1	,001
N of Valid Cases		100		
a. 6 cells (50,0%) have expected count less than 5. The minimum expected count is, 30.				
<b>Symmetric Measures</b>				
		<b>Value</b>	<b>Approx. Sig.</b>	
Nominal by Nominal	Contingency Coefficient	,470	,000	
N of Valid Cases		100		

**Source: primary data**

<b>Table 5.2. Spearman Correlation</b>						
		<b>Value</b>	<b>Asymp. Std. Error<sup>a</sup></b>	<b>Approx. T<sup>b</sup></b>	<b>Approx. Sig.</b>	
Interval by Interval	Pearson's R	-,320)	,082	-3,345)	,001 <sup>c</sup>	
Ordinal by Ordinal	Spearman Correlation	-,392)	,082	-4,213)	,000 <sup>c</sup>	
N of Valid Cases		100				
a. Not assuming the null hypothesis.						
b. Using the asymptotic standard error assuming the null hypothesis.						
c. Based on normal approximation.						

**Source: primary data**

The obtained results illustrate that hypothesis H05 is rejecting and it is concluding that there is significance inverse correlation between the education level and the attitude of the employees about the contribution they can give to the organization with their knowledge. Considering this, it's interesting that the lower educated employees think they can give contribution to the organization with their knowledge.

### **Conclusion and Suggestions**

Considering the changing and unpredictable modern business and the struggle for conquering competitive advantage, companies are intensely focusing on the knowledge they possess. Developing the necessary knowledge within the organization, requires a focused combination of the knowledge and the abilities of all the participants in the management process – people, technologies and processes.

In this respect, knowledge management is considered to be a strategy which can meet the new conditions in the era of knowledge and can make the organization more competitive. The implementation and the effectiveness of this concept depend on several factors such as organizational culture, human resource management, information technology etc. Hereby, to successfully implement the knowledge management not only that appropriate the prerequisites have to be fulfilled, but also all the employees, including managers in the organization have to be aware of the importance of this concept. The attitudes and opinions of the employees are considerate as important issue of the knowledge management implementation. In this context it was illustrated that different education level influence on the attitudes of the employees on the knowledge management implementation.

The results show that generally the employees with higher education level recognize the significance and the need of the knowledge management concept. Namely, the employees with higher level of education identify the activities undertaken by the managers in order to enhance the organizational knowledge and skills. Moreover, higher educated employees recognize the appropriate awarding system of the organization as a motivational factor to successfully completing everyday tasks. The positive relations between the managers and the employees are also seen as a motivational factor by the higher educated employees. These indicators should be a guideline to the managers in knowledge management implementation. The results show that focus should be given to creation of the appropriate awarding system in the organization and on building goodwill and cooperative relationship among the all the employees (including managers) in the process of knowledge management implementation.

On the other side, the employees with lower education level are aware of the need of constantly upgrading and improving their professional knowledge and skills. Regarding the results, it's interesting that the lower educated employees have the opinion that they can give contribution to the organization with their knowledge.

This results show clearly the awareness of the employees for constant improvement of the knowledge. It confirms the influence of the increased competitiveness in the era of knowledge and the need of knowledge management as a strategy for gaining competitive advantage.

Encouraging is the acknowledgements that the lower educated employees are aware of the need of constantly upgrading and improving the professional knowledge and skills. This gives the opportunities to managers to work strategically on improving their knowledge and skills by organizing the appropriate trainings, seminars, workshops, lecturing and other forms of non-formal education.

Having in mind the obtained results, managers should focus on enhancing and upgrading the knowledge of the employees. They should be aware that employees are individuals with different level of education which indicate their different needs. Considering this, managers should have individual approach to each employee in purpose to explore the maximum of the human capital in the organization.

### **Authors' Note**

This manuscript is the authors' original work, has not been published and is not under consideration for publication elsewhere.

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