



# International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531  
(Print & Online)

<http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>



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## The Significance of the Knowledge management and Relevant Factors of its Implementation in the Organizations of the Telecommunication Market in the Republic of Macedonia

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### Abstract

Considering the current situation of the open markets, it becomes clear why organizations need a new management paradigm of work that corresponds to the current conditions. Markets are increasingly competitive and environment is rapidly changing. The knowledge management is considered as a strategy to gain competitive advantage of the open market. This concept comprehends the most important and relevant issues related to the adaptation of the organization, its survival and its competencies.

The knowledge management implementation in an organization depends on several factors such as organizational culture, human resource management and information technology. Therefore, the objective of the thesis was to research the significance of the knowledge management and the influence of the relevant factors of its implementation.

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The research was conducted on the telecommunication market in the Republic of Macedonia which is characterized as an open and dynamic market. The research was carried out in 10 companies, to a sample of 100 respondents – employees in these companies.

The results show the importance of the knowledge management implementation on the open market and the awareness of the managers and employees of the need of provision appropriate conditions and climate in an organization.

**Keywords:** open market; knowledge management; relevant factors; implementation; telecommunication market

## **1. Introduction**

The era of knowledge brings new changes that are seen in the rapid advance and 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 is a crucial issue for the success of the organization. Competitive advantage is built through managing and connecting employees that possess specific knowledge and skills.

The time for decision making is significantly shortened. The dynamic environment and the changes occurring in it do not leave space to the organization for long consideration. Timely, quick reactions that will follow current changes are needed.

Relations among employees are becoming very complex. The new conditions of work emphasize the importance of independence, communication skills, and the ability to build and maintain good relations with the employees in the organization. Virtual organizations are a common occurrence, which reduces the need for physical contact of the employees.

The information and communication technologies are increasingly being incorporated into the interactions among people, as well as into business transactions. People have become dependent on technology to such an extent that literacy is no longer reading and writing, but work on computers [1].

Considering the current situation of the open markets, 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; the products and the services are complex, most often enriched with informational components; the need for continuous learning is becoming an inevitable reality. In an environment that is rapidly and unexpectedly changing, and in which a company seeks for a way to create and maintain competitive advantage, the knowledge that the company owns becomes a main issue in the struggle for competitive advantage.

## **2. The significance of knowledge management as a strategy to acquire a competitive advantage**

The aim of every organization is to achieve sustainable competitive advantage because, through the increased income, it enables growth and development of the organization.

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 [2]. Knowledge management is the practice of selective knowledge application acquired through past experiences, present and future decisions with the purpose of improving organizational effectiveness [3].

Knowledge management comprehends the most important and the most critical issues related to the adaptation of the organization, its survival and its competencies in conflict with the rapidly changing environment. Knowledge management is the embodiment of the processes within the organization that strive towards combining and interaction of data and information, which increase the capacities of the information technologies and human capital.

In the era of knowledge, the organization creates its competitive advantage on the basis of exploitation of organizational knowledge. Under such conditions, knowledge management should provide: innovation through encouraging the expression of the ideas of employees; improvement of services provided to consumers; increase of income through improving the distribution of products and services (increasing sales); reduction of employee fluctuation through recognizing the value of knowledge and accordingly rewarding the activities related to the application of knowledge in everyday work; improvement of the processes and procedures of work and reduction of the costs of work.

Knowledge management leads to advancement of the communication processes in the organization and improves the cooperation among employees. A healthy communication and an atmosphere that encourages cooperation within the organization contribute towards increasing the trust and the mutual respect among employees, as well as improving the skills, processes and functions of the organization.

The concept of knowledge management can also improve the efficiency and productivity of the organization. Although the application of the concept itself is costly, the benefit for the organization is greater. Knowledge management may lead to advancement of the organization's efficiency through reduction of production costs, reduction of production time, reduction of decision-making time, etc.

The knowledge management encourages both the creativity and the innovation in the organization. The approach to organizational knowledge may encourage generating of new creative solutions to specific problems.

Knowledge management is a process that should continually take place within an organization. The objective of this process is to manage the organizational knowledge, 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.

### **3. The relevant factors of the knowledge management implementation**

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 [4].

According to Skyrme relevant factors that influence the success of the knowledge management are: a clear connection between the concept and the business strategy of the organization, knowledge of knowledge (true understanding of the advantages that knowledge brings to the organization), leadership, developed infrastructure of knowledge and an appropriate level of knowledge measurement (measuring the contribution of the knowledge management concept) [5].

According to Ginsberg, sharing, storage, search, retrieval, visualization and control of the knowledge are key factors and challenges that should be handled by the managers for the successful knowledge management implementation [6].

The thesis will examine the organizational culture, human resource management and information technology as relevant factors of knowledge management implementation.

### **4. The aim of research**

Considering the current conditions of the increased competition, the aim of this survey was to determine the significance of the knowledge management on the telecommunication market in the Republic of Macedonia as a strategy to gain a competitive advantage.

Second, this research examined the crucial factors of knowledge management implementation in the organizations on the telecommunication market in the Republic of Macedonia.

### **5. Methodology**

#### ***5.1. 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.

#### ***5.2. 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.

### **5.3. 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.

### **5.4. Constraints/Limitations**

The limitations of the research have to be considerate. In this context, some of the characteristic of Likert scale which could affect the results of the survey have to be discussed. The main limitations and disadvantages of the Likert scale survey are:

Proposed answers are given to respondents. Most often they are subjectively determined. It is hard to believe that through valuation of the statements, the complexity of attitudes could be examined precisely.

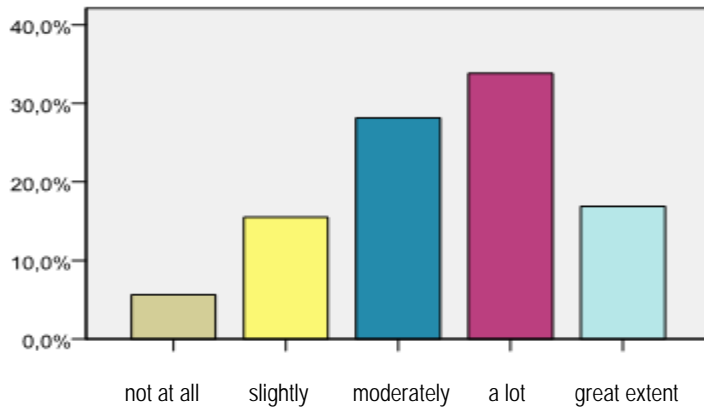
Marked agreement with the proposed statements may reflect different suggestions, group influence, opinions, moods, beliefs etc. Likert scale has no metric characteristics for differentiation and control of these conceptual differences.

## **6. Results and discussion**

The majority of respondents 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.

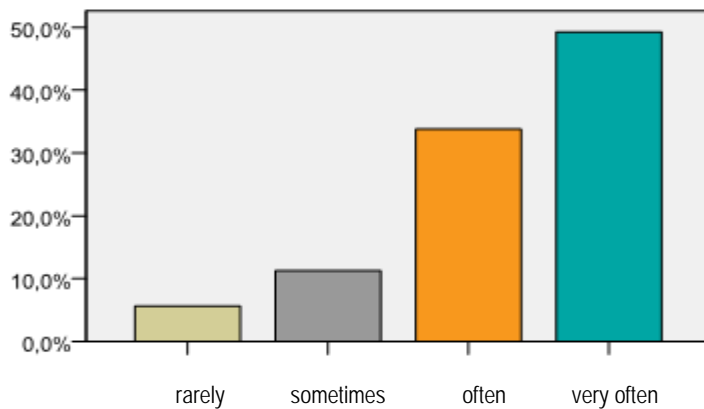
Regarding the qualification of the employees, the majority of the respondents are highly educated – 63%, and the percentage of those who have completed their master studies as well, is also high – 30% of the respondents. Only 7% of the respondents have completed their secondary school education.

The survey results indicate that the opening of the telecommunication market have intensified the competition in the Republic of Macedonia. The majority of respondents or 51% answered that the open market has greatly intensified the competition, while 27% of the respondents answered “moderately”. Only 7% of the respondents believe that the competition on the market is not intensified at all. This indicates the fact that the majority employees are aware of the changes taking place on the market.



**Figure 1:** The impact of the increased competition on the telecommunication market in the Republic of Macedonia. Source: Own research

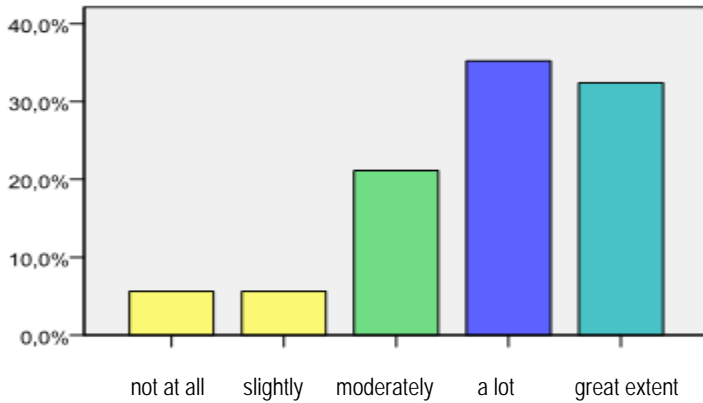
Regarding the attitude of the employees and their need to constantly upgrade and improve their knowledge, as a result of the intensified competition on the telecommunication market, 49% of the respondents answered that “very often” they feel the need to improve the knowledge in their area of work and 34% of the respondents answered “often”. 12% answered “sometimes”, and only 5% of the respondents answered “rarely”. The results show that the majority of the employees are aware of the need to constantly improve and upgrade their personal knowledge, which positively adds to the activities undertaken by managers in this direction.



**Figure 2:** The intensified competition on the telecommunication market and the attitude of the employees. Source: Own research

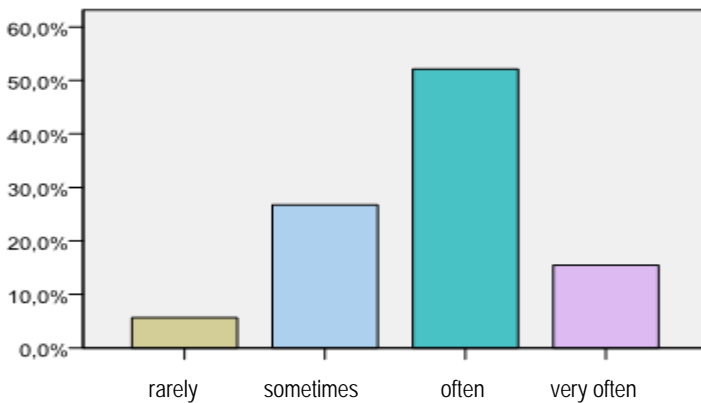
Regarding the knowledge management as a strategy for acquiring competitive advantage on the telecommunications market in the Republic of Macedonia, two-thirds of the respondents answered that an appropriate knowledge management concept is especially important for acquiring competitive advantage. 22% of the respondents believe that the knowledge management concept has moderate influence, while 6% of the respondents answered that the influence is insignificant. The results indicate the importance of knowledge management in order to acquire competitive advantage on the telecommunication market in The Republic of

Macedonia.



**Figure 3:** Knowledge management as a strategy for acquiring competitive advantage on the telecommunication market in the Republic of Macedonia. Source: Own research

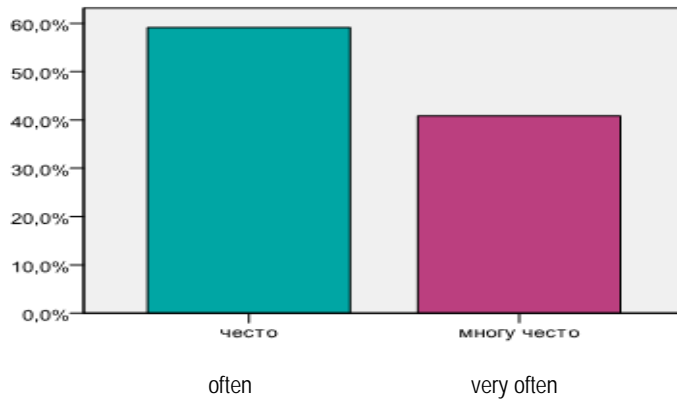
The implementation of the knowledge management depends on the activities undertaken by human resources managers in the organizations. In this respect, it was researched whether the human resources management undertakes activities in the direction of improvement of the knowledge and professional skills of the employees regarding the dynamic changes on the telecommunication market. The results show that 52% of the respondents believe that the human resources management in their organization “often” undertakes activities for improvement of their knowledge and professional skills, and 15% of the respondents answered “very often”. Only 5% of the respondents answered that the managers “rarely” undertake activities aimed at improvement of the knowledge and the skills of the employees. The majority of the respondents confirmed that the human resources management undertakes activities for the improvement of their knowledge.



**Figure 4:** Human resources management and the implementation of the knowledge management. Source: Own research

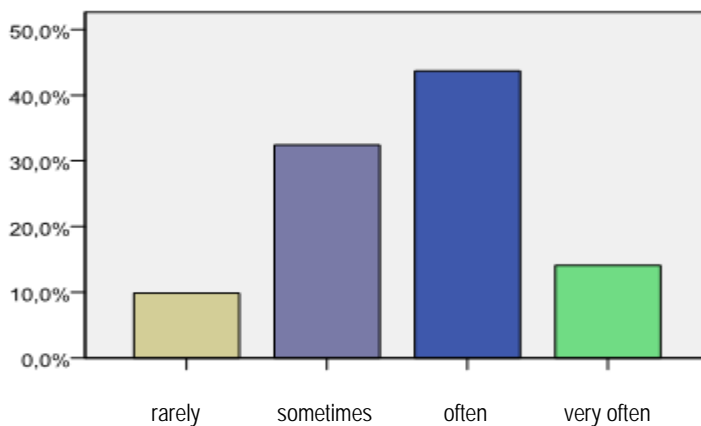
The employees have been asked if they think that their knowledge and professional skills are appropriate for realization of the tasks. The results show that more than a half of the respondents – 58%, believe that they have

an appropriate knowledge and professional skills which are necessary for realization of the tasks. 42% of the respondents answered that they don't have appropriate knowledge and professional skills. This indicates the need for development and improvement of the professional knowledge and skills in the organizations.



**Figure 5:** An appropriate knowledge and professional skills necessary for realization of the tasks. Source: Own research

Regarding the attitude of the employees and their need to constantly upgrade and improve their knowledge, as a result of the intensified competition on the telecommunication market, 49% of the respondents answered that “very often” they feel the need to improve the knowledge in their area of work and 34% of the respondents answered “often”. 12% answered “sometimes”, and only 5% of the respondents answered “rarely”. The results show that the majority of the employees are aware of the need to constantly improve and upgrade their personal knowledge, which positively adds to the activities undertaken by managers in this direction.

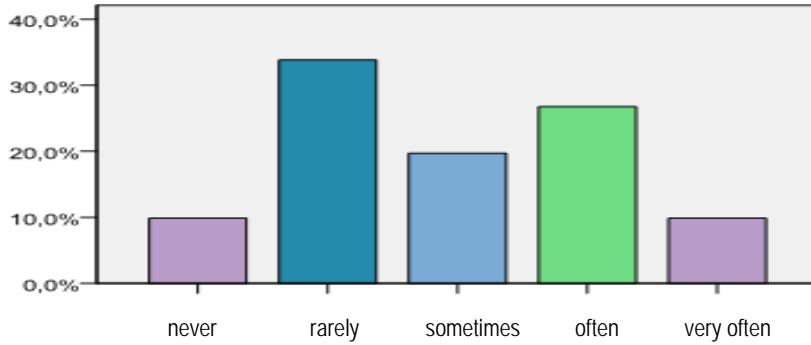


**Figure 6:** Trainings in purpose of the organizational knowledge improvement. Source: Own research

Due to the conditions imposed by the open market, the interest of the employees to attend training outside the domain of their profession was examined. 26% of the respondents answered that they “often” attend such training and 10% answered “very often”. 20% of the respondents answered “sometimes”, 34% of the respondents answered that they “rarely” attend training outside the domain of their profession and 10% of the

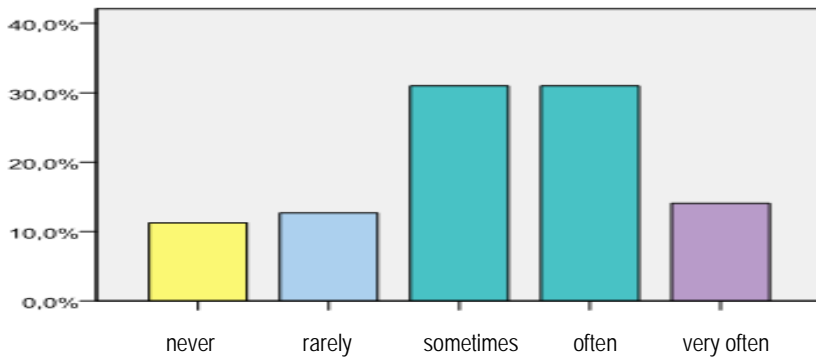


respondents answered “never”. This indicates that the employees don’t recognize the need for personal improvement of skills and knowledge outside the domain of their profession.



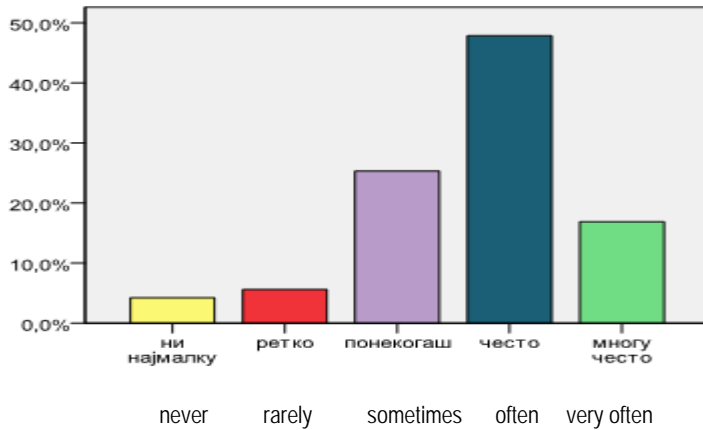
**Figure 7:** The interest of the employees to attend training outside the domain of their profession. Source: Own research

Regarding the activities undertaken by managers related to the organization of adequate employee training, 15% of the respondents answered that the managers organize training “very often” and 30% answered “often”. 30% answered that managers organize training “sometimes”. This indicates the initiative of the management towards development and improvement of the knowledge and the skills of the employees by appointing them to attend training.



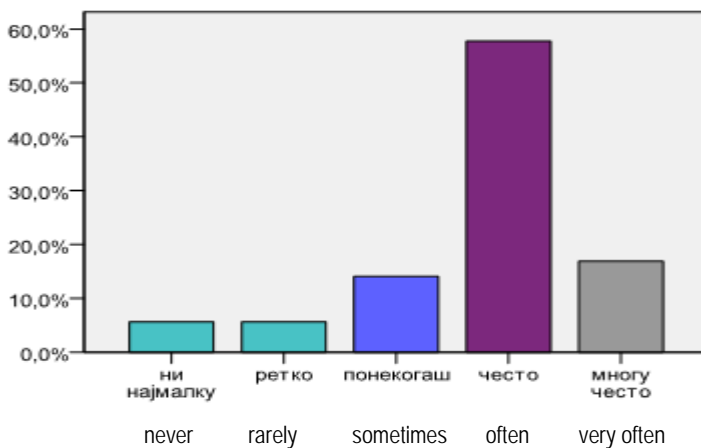
**Figure 8:** The activities undertaken by managers related to the organization of appropriate trainings. Source: Own research

Considering the organizational culture as a factor of the knowledge management implementation, it’s been researched if the organizational culture motivates the employees to upgrade their professional knowledge. Results show that more than a half of respondents – 48% answered “often” and 18% answered “very often”, said that organizational culture motivates them to upgrade their professional knowledge. 25% of respondents answered “sometimes”, 5% answered “rarely” and only 4% of the respondents answered “never”. The results show that most of the employees think that the organizational culture has an influence on motivation to upgrade their professional knowledge.



**Figure 9:** The organizational culture as a motivation factor for employees to upgrade their professional knowledge. Source: Own research

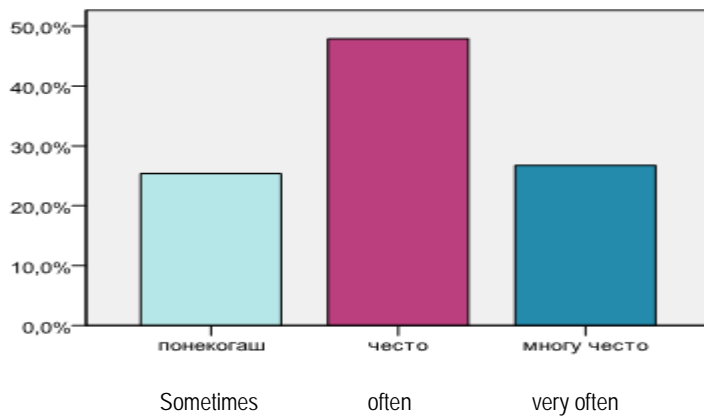
Having in mind the organizational culture, it’s been researched whether the organizational culture has influence on the employees to share their knowledge with their colleagues in the organization. According that, even 57% of the respondents answered that the organization culture “often” has influence on them to share their knowledge in the organization and 18% answered “very often”. 15% of the respondents answered “sometimes” and 5% answered “rarely” and “never”.



**Figure 10:** The influence of the organizational culture on the employees to share their knowledge in the organization. Source: Own research

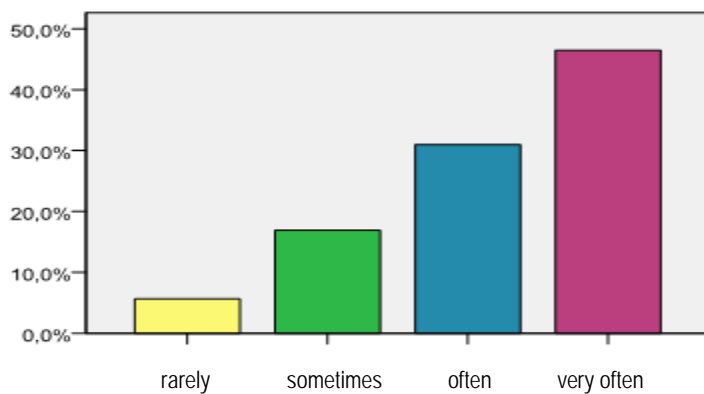
The information technology is considered as one of the crucial factors of the knowledge management implementation. According to that, the most of the respondents – 48% answered that the information technology “often” helps them to improve their knowledge and 27% answered that the information technology “very often” helps in improvement of the professional knowledge. 25% of the respondents answered “sometimes”. It’s interesting that none of the respondents answered “rarely” or “never” which indicates that the respondents (employees) are aware of the importance of the information technology in the implementation and the

effectiveness of the knowledge management concept.



**Figure 11:** The importance of the information technology in the improvement of the professional knowledge. Source: Own research

Regarding the attitude of the employees about their contribution to acquiring competitive advantage in the organizations where they work, the majority of the respondents – even 78%, answered that with their knowledge they can contribute to acquiring competitive advantage. 17% answered “sometimes”, and only 5% answered that they can “rarely” contribute to acquiring competitive advantage with their knowledge. These results indicate the awareness of the employees of the importance of their knowledge and the contribution they can make for acquiring competitive advantage in the organizations where they are employed.



**Figure 12:** The attitude of the employees about their contribution to acquiring competitive advantage in the organizations. Source: Own research

The significance of the knowledge management and the relevant factors of the knowledge management implementation were examined in the research on the telecommunication market in the Republic of Macedonia. First of all, we have to considerate the knowledge economy and the opening of the markets which made impact on every market including the telecommunication market in the Republic of Macedonia and made it more competitive. That is why the knowledge management concept is needed as a strategy of creating and

maintaining the competitive advantage.

The results show that the respondents (employees in the organizations on the telecommunication market in the Republic of Macedonia) are aware of the importance of the knowledge management concept in the current conditions on the market. That is why managers (human resources managers) undertake activities in order to enhance the professional knowledge of the employees by organizing professional trainings.

To implement the knowledge management concept, it's important that the organization has adequate organizational culture. Also the organizational culture influences on the employees to share their knowledge in the organization.

The results from the survey show that the information technology is considerate as one of the relevant factors in implementation and effectiveness of the knowledge management concept. The employees responded that information technology helps them in improvement of the professional knowledge and influence on their effectiveness.

## **7. Conclusion**

Considering the changing and unpredictable modern business in the era of knowledge, 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 on the open market and can make the organization more competitive. The implementation of this concept depends on relevant factors such as organizational culture, human resource management and information technology.

The technological changes and the complex environment are extremely important in the telecommunication market. Also the legislation has opened the market and stimulates the competition. Regarding the dynamic changes on the telecommunication market the knowledge management is recognized as a strategy for acquiring competitive advantage. Considering the relevant factors of the knowledge management implementation, the results show that the use of this concept depends on the activities undertaken by human resources managers in the organizations. Managers have to take activities in order to improve the organizational knowledge and professional skills of the employees.

The employees in these companies are aware of the need to constantly improve an upgrade their knowledge. The results show that the employees are interested in improving their knowledge in the domain of their profession, but they don't recognize the need to upgrade knowledge outside the domain of their profession. Having in mind that, managers should motivate the employees to improve their knowledge and skills outside of their professional specializations.

Also, the knowledge management implementation and effectiveness depend on the organizational culture of the

organization. In this respect, organization has to have knowledge orientated organizational culture which will motivate the employees to improve and upgrade their professional knowledge and also to share it with others in the organization.

The results of the research confirm the importance of the information technology as a crucial factor of knowledge management implementation and effectiveness. The respondents said that the information technology helps them to improve, share and retain the professional knowledge.

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