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**THE ABSORPTIVE CAPACITY OF KNOWLEDGE AND NEW TECHNOLOGIES IN COMPANIES FROM KOSOVO**

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**Abstract:** To compete successfully in today's economy, companies have to treat the knowledge as their core asset. Moreover, the companies should value the role of knowledge workers as crucial factor for company's development and success. The purpose of this paper is to examine the process of absorption of new technologies and knowledge within a company. This study shows how Kosovar companies are open due to new knowledge and technological news. What do they know about knowledge workers? What are the strategies for practical application of the knowledge on these companies? To answer to these questions, first the companies were distributed into three distinct profiles. Then the three different profile companies were evaluated with regard to their openness to internet and import-export transactions. The three profiles of companies taken to this study were: ICT companies, financial companies and production companies.

Consistent with the extant research, the evidences from the survey finds that the openness of Kosovar companies due to new technological changes and knowledge are in positive correlation with their openness to internet and the import-export fluctuation of products and services with international companies. This happens for two reasons. The first one is because of the demand from international companies with whom Kosovar companies are in business relationship. And the second one is, because of their initiative to increase the competitiveness of the company. The study utilizes a survey data set collected from 60 different companies, and statistically analyzes their absorptive capacity of knowledge and new technologies. The comparison of the three profiles shows that the companies with high both openness to internet and import-export transactions are likely to outperform the companies with low import-export transactions and low openness to internet on empirical analysis and measurement. As conclusion, the study finds that the companies with high import-export transactions but low openness to internet have shown a lack of absorption and practical application of new knowledge and technology. It is recommended that the companies with highly skilled employees should perform an exploratory strategy delegated to every single employee in order to innovate itself and to increase the absorptive capacity of knowledge, such processes should exist in these companies naturally even without managerial control.

On the other hand, companies with low skilled employees should involve experts as consultants in innovation in order to increase the absorption capacity of knowledge and new technologies.

**Keywords:** knowledge, knowledge workers, absorptive capacity, innovation.

**1. INTRODUCTION**

Today, we are living in the era of globalization which is identified with a rough transition period, with faster flow of information, communications, products and services which increases the complexity of doing business. Therefore the need for adaptation of the companies in this environment is essential. As a result, living with these constant changes brings the need for increasing the absorptive capacity of knowledge and technological changes as a way of surviving in this dynamic era. These changes appear as a result of political and social change dynamics. With the coming of the internet workflow began to be modified resulting with the transformations of the structure of companies and simultaneously personalized products and services led to successive alternations in lifestyle. To compete successfully in today's economy, companies have to treat the knowledge as their core asset. Moreover, the companies should value the role of knowledge workers as crucial factor for company's development. But what does it mean to be a knowledge worker? The term "knowledge worker" was first coined by Drucker (1996); he noted that the knowledge workers would be the most valuable assets of a 21<sup>st</sup> century company because of their high level of productivity and creativity. Further, knowledge work can be differentiated from other forms of work by its emphasis on "non-routine" problem solving that requires a combination of convergent and divergent thinking (Reinhardt, Schmidt, Sloep, Drachsler, 2011). The purpose of this paper is to examine the process of absorption of new technologies and knowledge within a company. This study shows how Kosovar companies are open due to new knowledge and technological news. What do they know about knowledge workers? What are the strategies of practical application of the knowledge on these companies? Therefore, the aim of this study is to present a relatively authentic model of managerial approach which will serve especially to Kosovar companies in their effort to manage efficiently with the changes in the era of globalization and information explosion.

## 2. LITERATURE REVIEW

In this part, the focus would be to present initially some of the results of scientific research realized by other authors in studies related to the absorptive capacity of knowledge by companies and the importance of knowledge in the companies' success. In previous researches, the concept of absorptive capacity of knowledge has been proven to be highly useful for a better understanding of knowledge transfer within organizations (Cohen and Levinthal, 1990; Dyer and Singh, 1998; Lane and Lubatkin, 1998; Zahra and George, 2002), and consequently for the competitive advantage of firms (Lane et al, 2006).

Cohen and Levinthal (1990) define the absorptive capacity of knowledge as the ability to recognize the value of external knowledge situated in other firms (source), to assimilate it, and to apply it to commercial ends. Indeed, the main intention of this paper is to find the best models of commercialization of the knowledge applicable for Kosovar companies and wider, rather than focusing only on defining what absorptive capacity of knowledge is. Zahra and George (2002) suggest viewing absorptive capacity as capabilities. They define absorptive capacity as being made up of four organizational capabilities: acquisition, assimilation (incorporation), transformation and exploitation. It has also been recognized that absorptive capacity is a multi-level construct, which has been studied at the country, inter-organizational and organizational levels of analysis (for reviews see Zahra and George, 2002; Lane et al, 2006). If the absorptive capacity of knowledge in companies is seen with the lens of process perspective, the focus should be on the individual level i.e. on the employee's level. However, the individual level, i.e. "the role of individuals in developing, deploying, and maintaining absorptive capacity" (Lane et al, 2006: 853), has been largely overlooked in previous research. This is a serious limitation, since Cohen and Levinthal (1990) in their original conceptualization argue that an organization's absorptive capacity depends on the absorptive capacities of its individual members. As the majority of papers in this field, the idea of bypassing employees from absorptive capacity model is accepted to be incorrect and creates shortcomings in the understanding of the concept, for several reasons. The main reason is that individuals are primary actors in knowledge creation, and key repositories of knowledge in organizations, as agreed by several "knowledge-based view of the firm" scholars (Grant, 1996; Felin and Hesterly, 2007), and also recognized in the original conceptualization of the term (Cohen and Levinthal, 1990). In the end, the level of codification (Kogut and Zander, 1992), that means, the level to which the knowledge is fully documented or expressed, and the extent to which the knowledge to be absorbed is independent or is made by a set of interrelated components (Teece, 1986); the higher the tastiness and interrelated components of knowledge the higher the complexity would be. This paper addresses this research gap by investigating how openness to internet and import-export transaction can be related to absorptive capacity of knowledge within a company. The paper investigates this question on the micro-level in order to gain a rich understanding of the processes enabling companies to absorb knowledge from outside, i.e., to understand their absorptive capacity.

The role of knowledge in achieving organizational performances is essential both in the development of small businesses and of whole economy [1]. In terms of intangible resources of the organization, knowledge and knowledge management are among the most important.

## 3. RESEARCH METHODOLOGY, EMPIRICAL ANALYSIS

The research made on this paper has been divided into two main parts: the exploratory research and the research based on questionnaires. For data processing, it has been used the SPSS v.23.

First, the companies were distributed into three distinct profiles (Table 1). The three profiles of companies taken to this study were: ICT companies, financial companies and production companies. The data shown on Table 1 has been deducted from the survey of the companies which were respondents to the questionnaire research as we can see afterwards.

*Table 1. The differentiation of companies into three profiles*

	ICT companies	Financial companies	Production companies
<b>Import-export transactions</b>	High	Moderated	High
<b>Openness to internet</b>	High	High	Low
<b>Absorption method of knowledge</b>	Single worker responsibility and willingness	Defined pattern/ human resources dep.	Not related
<b>Employees' average level of skills</b>	High	High	Moderated
<b>Knowledge of companies about knowledge workers</b>	High	High	Moderated

**Exploratory research-** In order to find which are the factors of increasing the absorptive capacity of knowledge and new technologies it has been developed a brainstorming session with 9 managers, 3 from each profile companies shown ahead. The participants have determined the most important factors of the increasing of knowledge absorption capacity in their companies. These factors have been represented in the Ishikawa diagram in Figure 1, divided into 6 categories: Employees, Methods, Equipment/Internet, Business environment, Academic cooperation and Money. Participants also have ranked these factors using Likert scale, according 1 point to them with low impact to the studied issue, 3 points to them with medium impact, and 9 points to them with high impact (Table 2). They have selected 5 factors with high impact: managers’ training, partnership with universities, the openness to internet, digitalization and the import-export transactions.

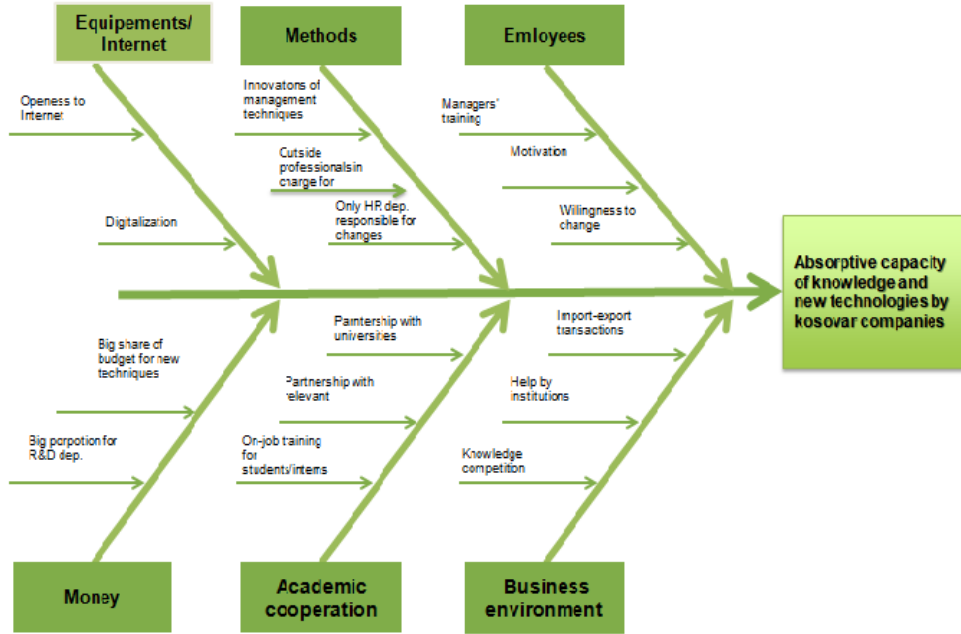


Figure 1. Ishikawa diagram absorptive capacity of knowledge in Kosovar companies

Factor	Category	Code	Impact
Managers’ training	Employees	E1	9
Motivation	Employees	E2	3
Willingness to change	Employees	E3	3
Import-export transaction	Business environment	Be1	9
Help by institutions	Business environment	Be2	3
Knowledge competition	Business environment	Be3	1
Individual approach for changes	Methods	Me1	3
HR dep. In charge for changes	Methods	Me2	1
Outside professional in charge for changes	Methods	Me3	1

<b>Partnership with universities</b>	Academic cooperation	Ac1	9
<b>Partnership with related institutions</b>	Academic cooperation	Ac2	3
<b>On-job trainings for students/interns</b>	Academic cooperation	Ac3	3
<b>Openness to internet</b>	Equipment/Internet	Ei1	9
<b>Digitalization</b>	Equipment/Internet	Ei2	9
<b>Big share of budget for new techniques</b>	Money	Mo1	3
<b>Big proportion for R&amp;D dep.</b>	Money	Mo2	1

*Table 2. Factors for increasing the AC of knowledge and new technologies by Kosovar companies*

After having a clear view about the impact of factors that affect the absorptive capacity of knowledge and new technologies in Kosovar companies, a research based on questionnaires have been conducted.

**Research based on questionnaires-** The research for the needs of this study has been conducted in October 2018. In total, 60 companies from Kosovo have been selected to fill a questionnaire and explained the details and the purpose of survey and its benefits, in order to motivate them to participate. To the respondents it has been presented a list of the factors that influence the most the absorptive capacity of knowledge and new technologies (according to Table 2) and they have been asked to mention which of these factors have more impact to absorptive capacity in their own companies. Filled-in questionnaires have been returned and the results are presented in the Table 3.

Factors of absorptive capacity of knowledge and new technologies	Frequency	Score	Percentage	Cumulative percentage
Managers' training	14	126	9.26%	9.26%
Motivation	10	30	2.21%	11.47%
Willingness to change	4	12	0.88%	12.35%
Import-export transaction	51	459	33.75%	46.10%
Help by institutions	7	21	1.54%	47.64%
Knowledge competition	8	8	0.59%	48.23%
Individual approach for changes	3	9	0.66%	48.89%
HR dep. In charge for changes	19	57	4.19%	53.08%
Outside professional in charge for changes	7	7	0.51%	53.59%
Partnership with universities	3	27	1.99%	55.58%

Partnership with related institutions	11	33	2.43%	58.01%
On-job trainings for students/interns	21	63	4.63%	62.64%
Openness to internet	50	450	33.09%	95.73%
Digitalization	4	36	2.65%	98.38%
Big share of budget for new techniques	1	3	0.22%	98.60%
Big proportion for R&D dep.	19	19	1.40%	100.00%
			100.00%	

*Table 3. Scores obtained by the factors of absorptive capacity of knowledge and new technologies in Kosovar companies*

It has to be mentioned that the score given to a factor (third column in Table 3) was obtained by multiplying the frequency of its selection by the respondents (second column in Table 3) with the impact it has on the analyzed issue (last column in Table 2). The comparison of the actual status of openness to internet and import-export transactions of companies (shown on Table 1) with the results of the survey (on Table 3) shows that the companies with high both openness to internet and import-export transactions are likely to outperform the companies with low import-export transactions and low openness to internet on empirical analysis and measurement. In addition, the study finds that the companies with high import-export transactions but low openness to internet have shown a lack of absorption and practical application of new knowledge. Consistent with the extant research, the evidences from the survey of this study finds that the openness of Kosovar companies due to new technological changes and new knowledge are in positive correlation with their openness to internet and the import-export fluctuation of products and services with international companies. This happens for two reasons. The first one is because of the demand from international companies with whom Kosovar companies are in business relationship. And the second one is, because of their initiative to increase the competitiveness of the company. As shown in Table 1 the knowledge of the three profile companies about their knowledge workers changes. The ICT and Financial companies has shown a high knowledge about their knowledge workers, the production companies have shown a medium knowledge about this issue.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

In general, it seems that a consensus that the openness to internet and the import export transaction are the most influential determinant of the absorptive capacity of knowledge and new technologies in the companies from Kosovo in general exists. The relations between these two factors and business growth are constantly changing and developing. For this purpose, it is recommended that the companies need to adopt such organizational form which will enhance the openness to internet and absorb the innovations brought from other companies by import-export fluctuations of product and services. Furthermore, the evidences from the survey have found that the high import-export transaction are not enough to increase the absorptive capacity of a company, to improve that, it has to be correlated with the openness to internet. The recommendation is that the organizational structure of companies should support the openness to internet which has been identified as a knowledge activator for the generation of innovation and knowledge. In the end, it is recommended that the companies with highly skilled employees should perform an exploratory strategy delegated to every single employee in order to innovate itself and to increase the absorptive capacity of knowledge, such processes should exist in these companies naturally even without managerial control. On the other hand, companies with low skilled employees should involve experts as consultants in innovation in order to increase the absorption capacity of knowledge and new technologies. The companies should embrace this study and include it in their own strategies; because it seems that companies that already have high application of the factors found on the study seems to outperform the others that are low in this measurement. However, further studies are needed in this area to determine more closely the relationship and effects between these two determinants and the absorptive capacity of knowledge and new technologies of companies.

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