KNOWLEDGE CREATION IN INSTITUTIONS OF HIGHER EDUCATION

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Abstract: The purpose of this paper is to investigate the effects of knowledge management concept in knowledge creation in institutions of higher education. Theoretical model would be based on the concept of knowledge management and organizational learning concept, from which derives the program of development of organizational knowledge. Moreover, the model involves the study of the effects of knowledge management, use of information technology, and of personnel behavior in the process of knowledge creation. The research would be based on the survey method, as well as on the interviews of leaders respectively employees of institutions of higher education in the Republic of Kosovo in order to identify the techniques used in the creation of knowledge. Concerning the research, it is applied the positivistic scientific approach, using hypothetical deductive approach. Whilst, for testing hypothesis, variables are measured using SPSS program, and patterns that emerge from this program, such as regression analysis, box plot and anova. The main factors that influence the effectiveness of knowledge management program are meant to be ICT, preoccupation on work, share of knowledge, and development of new knowledge. Finally, the outcome of the research specifies that application of the program for knowledge creation brings competitive advantages to institutions of higher education.
Keywords: Knowledge management, knowledge programme, organizational learning, knowledge creation.

1. INTRODUCTION

Organisational learning and knowledge creation processes are becoming of crucial importance if the organisations are to succeed. Governments and various international institutions are aware of the central role of universities in so-called knowledge society and call for their increasing involvement in social and economic problems. In recent days, management scholars have come to appreciate the importance of human resources as an enormous source of competitive advantage. Based on this insight, the institutions of higher education obtain decisive human resources and then establish management systems that increase the potential of these resources. Human resources are especially valuable to knowledge-based organisations because of their capability to generate, use, and share knowledge. Once knowledge assets are acquired, organizations and Human resources systems must be designed in a way that enables employees to use the knowledge and make the organisation competitive. (Jackson, Hitt, and De Nisi, 2003). Considering the complexity and rapid changes that occur in the environment of countries in transition, institutions of higher education's need to focus on knowledge creation and learning processes in order to achieve their goals successfully. We think that institutions of higher education in general learn and create knowledge differently than business enterprises because of the specific activities they undertake. To a certain degree, many authors and scientific researchers agree that the new and real knowledge is being made at institution of higher education. Nonetheless, we are faced with an interesting paradox: whilst we were told by our teachers that in the twenty-first century the real and valuable resource is knowledge – not capital, not workforce, not raw material – we actually do not know much about the main knowledge producers, which are the universities. Hence, there are just few studies conducted in this field in our country, in Kosovo, which makes this paper rather interesting.

1.1 Objective and research questions

The objective of study research is to investigate the impact of knowledge management as a possible factor, which affects the success of institutions of higher education in Kosovo. Hence, the main question of paper is:
What is the impact of elements (such are: system of education, information technology, the process of knowledge management and its framework) to the institutions of higher education in achieving objectives successfully?

1.2 The hypotheses of the paper

There are three working hypotheses which are as follows:
H1: Indicators such are: the program of management skills and knowledge, organizational culture, human resources, leadership, information technology and control are main factors, which have a significant impact on effectiveness.
H2: Indicators of educational system are the factors that have the greatest impact on the effectiveness of knowledge management program and on new knowledge creation.
H3: The knowledge management program in public universities is largely affirmed pertaining to the development of the knowledge economy.

2. THE CONCEPT OF KNOWLEDGE MANAGEMENT IN MODERN INSTITUTIONS

Changes force organisations to rethink their frames of action. Either they are willing and able to adapt to the changing business environment or they are about to fail. Not the producers determine the business life but the customers do due to their growing economic power (Stewart, 1998). Many producers of goods and services make similar offers to its customers. They struggle for the same people that are not willing to obtain a second university diploma, to buy a third car or the fourth insurance policy. In other words, there is keen competition. So the organisations have to think in how far their offer satisfies the customer's needs better than their competitors offer. And this thinking process should not only be done internally but should be shown to the customers. The customers demand additional value. Only those companies that can offer the value will succeed. Consequently there is a need for organisations to create values. This could mean that intangible values are added to tangible goods and intangible values are sold in tangible forms. Knowledge Management is responsible for the critical issues of organizational adaptation, survival and development of skills in terms of interrupted growth change. In essence it provides organizational processes that require a synergistic combination of data and information technology and information processing capabilities creative and innovative capacity of the people. (Malhatra, Y., 2000).

The purpose of knowledge management is to provide decision makers the latest knowledge before use. This means ensuring that the necessary skills are available to the right people at the right time and that it is used to improve business efficiency. "Knowledge is power" - key is the phrase that describes this time, and the third wave of workers become "knowledge workers", (the term was first introduced by Peter Drucker in 1959).

2.1 The knowledge creation process

The globalisation process and dynamic competition within today's market have led to shift attention toward knowledge issues as a major source of organisational success. Nowadays, there are a lot of definitions about knowledge. In traditional western epistemology (the theory of knowledge), "truthfulness" is the essential attribute of knowledge. It is the absolute, static and non-human view of knowledge (E. C. Martins 2010). Knowledge has the active and subjective nature represented by such terms as "commitment" and "belief" that are deeply rooted in individuals' value systems (Nonaka/Toyama/Konno, 2001).

There are two types of knowledge: explicit knowledge and tacit knowledge. Explicit knowledge can be expressed in words and numbers, and easily communicated and shared in the form of hard data, scientific formulae, codified procedures, or universal principles. Tacit knowledge is highly personal and hard to formalise, making it difficult to communicate or to share with others. Furthermore, tacit knowledge is deeply rooted in an individual's action and experience as well as in the ideals, values or emotions he or she embraces (Nonaka & Takeuchi, 1995). Knowledge is created by means of interactions between tacit and explicit knowledge, rather than from tacit or explicit knowledge alone. To create knowledge dynamically and continuously, an organisation needs a vision that synchronises the entire organisation. The knowledge vision gives a direction to the knowledge-creating process. It is top management's role to articulate the knowledge vision and communicate it throughout and outside the company (Nonaka & Takeuchi, 1995).

2.2 Organisational Learning

In academic as well as in practical world, organisational learning has become increasingly significant (Argyris & Schön, 1996). Open dynamic processes and faster changing parameters make the economic environment unpredictable and even in the manufacturing business, the pressure in a faster moving world increases. And, employees have to deal with different tasks at the same time, to be flexible and act in time. The customer demand has to be fulfilled with high quality products and reaction time from developing to delivery shrinks to a minimum. Hence, in order to cope with complexity organizations must increase their knowledge and this knowledge need to be restructured and changed continuously. Therefore, the ability to learn is of significant importance. To a large extent, learning takes place on the individual level, then occurs in the group level and then ultimately learning extents into the organisational level. Therefore, it is very important for the organisation that knowledge is stored in an information system within the organisation and that every employee has access to it. Otherwise, problems can occur when an individual leaves the company, because the organisation then will lose this knowledge.

Herein, we can see the close link between learning and knowledge. Once learning can take place new knowledge can be acquired and therefore, knowledge can be considered as the outcome of the learning process. Moreover, organisational learning is a process, which consists of acquiring, processing and storing information (H. Dumont, D. Istance and F. Benavides, 2010).

3. EMPIRICAL DATA

In this part are presented empirical data obtained at three public universities of Kosovo, which are:

 ➢ University of Pristina, UP
 ➢ University "Haxhi Zeka", UHZ
 ➢ University "Ukshin Hoti", UPZ

The sample distribution of statistical population in all universities is 720 correspondents. The sample distributions are separate on gender basis and as well as on job experience of employees.

4. ANALYSIS AND DISCUSSION OF ASSUMPTIONS

Results after exclusion of incomplete questionnaires that were completed incorrectly, includes 186 respondents. Previous to checking the research problems, there are calculated performance indicators to measure the use of ICT during their job recruitment. From the obtained data, it was measured arithmetic average of the individuals. The results show that employees in the respective institutions of higher education, on average, they are moderately satisfied with the job. The use of ICT shows a preoccupation with working stress and share of knowledge to the whole institution, which are all characterized by a weak release of normative knowledge.

Table 1 – Average and standard deviation of the use of ICT systems, and of the explicit and tacit knowledge

	M	SD
Using ICT system at work	2,98	,476
Explicit knowledge to work	3,44	,537
The distribution of knowledge	3,31	,866
Use of modern technology	3,46	,666
Measuring knowledge management	2,72	,898

In order to address the first research question of the study and to determine differences in knowledge management and knowledge share of the institutions we used the method that split the status of entities. This separates the status of respondents among the junior researcher and senior researcher. The above mentioned differences were examined using the arithmetic means of t-test. Prior to implement the t-test, we have checked the normal distribution using the Kolmog-Smirnov test. The distribution does not deviate significantly from normal. (Zzad = 0.975, Zzaok = 0.737, Zafod = 1,041, Zinstod = 1.498, Znormod = 0.774; p <0.05). The below table, shows the results of t-test and measure of using ICT, preoccupation with work and the three dimensions of the share of knowledge to the researched universities.

Table 2 - Results of the change of using the ICT by type of researchers

Variables	M		SD		t
	Junior researchers	Senior researchers	Junior researchers	Senior researchers	
Using ICT sys. at work	2,91	3,03	,438	,499	-1,68
Explicit know. at work	3,21	3,59	,491	,512	-5,09**
Distribution of know.	2,83	3,63	,676	,832	-6,88**
Use of modern tech.	3,32	3,55	,661	,660	-2,25*
Measuring KM	2,29	3,00	,714	,904	-5,59**

Source: Database of the paper

The results show that between the young researchers (n = 72) and senior researchers (n = 108), there are huge statistical differences regarding the use of explicit and tacit knowledge in all three institutions. Concerning the second research question of the study, which deals with the difference among various demographic factors, it could be stated that the young researchers are using much more ICT in correlation with the senior researchers. Moreover, the results show that the performance by senior is much higher compare to the institutional goals.

To be able to answer the respective question, it was calculated the coefficient of correlation between these variables about each criterion separately, and then the regression analysis for determining relative contribution of each of these determinants concerning prediction of employment and potential intent to leave the institution. The calculated results are (Zr.u. = 1.79, p <0:01, Zn.no = 2:59, p <0:01).

The following tables explain the coefficients of correlation among variables such are preoccupation with work, the use of ICT and share of knowledge in all three institutions by sample of respondents. Since we have established results, we may emphasize that there is a big difference between younger and senior researchers.

Table 3 - The correlation the predictor and criterion working effect on entire sample

	Use of ICT	Preoccupation with work	Share of knowledge (effective component)	Share of knowledge (instrumental component)	Share of knowledge (normative component)	Performance
Using ICT sys. at work	-	,141	,423**	-,042	,428**	,188*
Explicit knowledge		-	,509**	,301**	,408**	,332**
Tacit knowledge			-	,468**	,782**	,188*
Use of modern techn.				-	,439**	-,028
Work performance					-	,160*

Source: Database of the paper

While on the entire sample is taken significant association of all five attitudes toward work with a measure of operating performance, the correlation separately for the two sub-samples of respondents are changing. In a small sample, only preoccupation with work showed a significant relation with academic performance. Whilst, using the performance at work showed no significant correlation with performance measures. Correlations in the entire sample are visible and are due to the forecast and criteria connection with third variable. In order to get more detailed information about the predictive validity of the use of ICT system, preoccupation with work and share of knowledge to the institution in connection with the performance of KM, we conducted a regression analysis on the entire sample. Complete regression analysis, which includes all the variables mentioned earlier as definitive, showed that the target group explained 22% of variance in the criterion.

Table 4. Preview the complete regression analysis for the criterion variable impact on entire working sample

Variables	ß
Using ICT	,131
Explicit knowledge	,283**
Knowledge delivery	-,145
Tacit knowledge	-,083
The program KM	,059
Use of modern technology	-,166
The status of new worker	,432**
Gender	-,140*
	F= 7,09**
	R= 0,50
	R^2= 0,25
	cR^2=0,22

Source: Database of the paper

If we elaborate a regression analysis separately from the two sub-samples (see table 13), we obtain non similar results. Based on both samples, there is evident that intention to leave the institution is caused by lack of satisfaction in working place and because of the length of service in the institution. Furthermore, the parameter Rsquare = 0.50 show the tremendous needs to change the program of knowledge management in all three researched institutions. Besides, it can be concluded preoccupation at work, ICT use, share of knowledge are the main variables that impact the knowledge management program. Generally, where the level of applied variables is low, the service of knowledge sharing, and knowledge creation is low.

IMPACT OF ELEMENTS IN EDUCATIONAL SYSTEM AND KM PROGRAM

In this part are regarded the matters included in hypothesis two and three, which are related to the impact of elements of educational system in Knowledge Management program and on knowledge creation. The assessments of employees present significant variables and yield a basis for their testing variables. For testing and analyzing, herein are used descriptive statistics data.

Table 5. Descriptive statistics of research variables

V1		v2	
Mean	3,838095238	Mean	3,571429
Standard Error	0,235276971	Standard Error	0,310828
Median	3,70952381	Median	3,7
Mode	#N/A	Mode	#N/A
Standard Deviation	0,470553943	Standard Deviation	0,621655
Sample Variance	0,221421013	Sample Variance	0,386455
Kurtosis	0,927566486	Kurtosis	2,192979
Skewness	1,232436024	Skewness	-1,16229
Range	1,047619048	Range	1,47619
Minimum	3,442857143	Minimum	2,704762
Maximum	4,49047619	Maximum	4,180952
Sum	15,35238095	Sum	14,28571
Count	4	Count	4
Confidence Level (95,0%)	0,748756328	Confidence Level(95,0%)	0,989192

Source: Database of the paper

Based on the above table we can conclude that the presence of professional development affecting the workers knowledge is very large, because KV1 and KV2 = 0.92 = 2.19 where STV Stv1 = 0.47 and = 0.62. Whilst, confidential or significant level is 0.86, whereas based on this level the statistical acceptability is 95%.

Table 6. Regression analysis of variables and model Anova

SUMMARY OUTPUT

Regression Statistics								
Multiple R	0,076949527							
R Square	0,00592123							
Adjusted R Square	-0,491118156							
Standard Error	0,574599767							
Observations	4							

ANOVA

	Df	SS	MS	F	Significance F			
Regression	1	0,003933	0,003933	0,011913	0,92305			
Residual	2	0,66033	0,330165					
Total	3	0,664263						
	Coefficients	Stand. Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	3,630,073,913	192,742	1,883,385	0,200342	-466,295	1,192,309	-466,295	1,192,309
3,880,952,381	0,058245971	0,533649	0,109147	0,92305	-223,786	235,435	-223,786	235,435

RESIDUAL OUTPUT · PROBABILITY OUTPUT

Observation	*Predicted 3,94761904761905*	*Residuals*	*Stand. Resid.*	*Percentile*

1	3,848,080,262	0,018586	0,039616	12,5	3,442,857
2	3,787,615,397	-0,23523	-0,5014	37,5	3,552,381
3	3,873,597,544	-0,43074	-0,91811	62,5	3,866,667
4	384,308,775	0,647388	1,379,892	87,5	4,490,476

Source: Database of the paper

The impact of the use of ICT system, preoccupation with work and share of knowledge inside the institutions, turnover and absenteeism of workers has often been the subject of research. Hence, the figures illustrate regression analyses throughout anova model including variables related with development of new knowledge creation and knowledge management program. The tested variables tend to be very significant factors when it comes to apply of knowledge creation in workplace, which is clearly indicated by significance factor of the model.

CONCLUSION

Based on presented results of the study it can be drawn the following ending. Concerning the HA, program of management skills and knowledge, organizational culture, human resources, leadership, information technology and control are not main factors which have a significant impact on effectiveness. This is due to obtained results and its analyses that brought attention to different factors affecting the knowledge creation and knowledge management. The effectiveness lies more on preoccupation of work, share of knowledge in different ways as well as employee's performance. Nonetheless, the results indicate that these factors are applied at very low level at public universities based on perception of respondents.

Pertaining to HB, elements such are: ICT knowledge, explicit knowledge, tacit knowledge, organizational learning, has considerable impact on the effectiveness of knowledge management program and on the new knowledge creation. The support on this topic comes from results that show the influence of implementation of trainings on the job, share of knowledge and therefore, development of their knowledge base.

Finally, the knowledge management program in public universities is not affirmed pertaining to the development of the knowledge economy, which does not verify hypothesis three, since the both researchers, junior and senior, think that there is much to be improved in this direction.

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