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VALIDATION OF SCALE FOR KNOWLEDGE MANAGEMENT IN EDUCATIONAL SYSTEM OF MAZANDARAN ROVINCE

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ABSTRACT
The aim of this study is the validation of scale for knowledge management in educational system of Mazandaran province. The research has exploratory method. The statistical population consists of all 1788 official staff in departments of education in Mazandaran province and its city cities during2012 and 2013. The sampling is done according to the relative simple random method and the sample size is obtained equal to 314 samples based on Kerjcie and Morgan Table. Data is collected through Sharon Lawson knowledge management questionnaire; its validity has the content validity type, and the reliability of questionnaires is measured equal to 94% through Cronbach's alpha method. The results of factor analysis indicate that the knowledge management consists of the factors, namely, the knowledge absorption, application and dissemination, creation, storage, and organization, and among these factors the knowledge absorption plays the maximum role and the knowledge dissemination the minimum role in creating the knowledge management.

Keywords: *Knowledge Management, Knowledge Absorption, Validation*

INTRODUCTION
The need for knowledge has been enhancing in today's complex and dynamic business environment. This knowledge is rapidly changing and disseminating outside the organizations. The information technology and the Internet have also made new challenges to knowledge creation, maintenance and management.
During the past few years, numerous discussions have been raised on the importance of knowledge management throughout the world. The professors and researchers in different field such as sociology, economics and management agree that a development is occurred. The knowledge management and associated strategic concepts are among the main and essential components for organizations and are promoted to survive and maintain the competitive power. The emergence and spread of information and knowledge management owe the conducted studies on the management of organizations on the one hand, and are resulted from the leading organizations' tendencies towards establishing the mentioned systems and their efforts to refine and adapt these systems in practical ways with conditions and requirements of internal and external environment of organization on the other hand (Afzalian, 2013).
Gandhi: "The knowledge management is the efforts to transform the employees' knowledge (human capital) to the joint asset of organization (structural intellectual capital) (Gandhi, 2004).
The knowledge management is a joint purpose and process which takes steps as a target or result in sharing the information in the organization (Clarke and Rollo, 2013). According to Davenport and Prusak's view, the knowledge management seeks the following objectives:
1- Developing the specific strategies to achieve the Ad hoc exchanges: The knowledge exchange can be achieved through participation in knowledge and establishing the student-teacher relationship, 2- Accelerating the knowledge transfer,3- Converting the knowledge management into a part of employees through doing the full time by leaning staff and this can be changed to pervasive phenomenon, 4- Creating a sort of wonderful organizational culture, so the knowledge freely and easily governs the organization, 5- Knowledge management implements the new and interesting affairs, 6- Knowledge management organizes the certain forms of knowledge and improves the particular activities, 7- Knowledge management dominates the application of project, and change and technology management (Kheirandish, 2009).

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In fact, the effective knowledge management leads to an reduction in errors and reworks, enhanced problem solving and decision making, reduced the costs, higher devolution to members, more effective relationships and better service to customers, and compensates the human resources managers' concerns about the individual retirement and the lack of professionals as well as reducing the rate of fraud and corruption (Afzalian, 2013).

The knowledge management tools have properly played their roles in supporting the knowledge management system and these roles include knowledge acquirement, generation, collection and application.

The way the managers implement the knowledge management is what differentiates the organizations in the third millennium from the past.

He (2013) investigated in his study the time and reason for concealing the knowledge by employees? Data of 190 knowledge employees is collected through a web-based survey in China. The hierarchy regression models and bootstrap method are applied for testing the hypotheses. The results indicate that the there is a knowledge concealing-based psychological motivation in employees. Furthermore, the results indicate that the organizations should utilize the methods, by which the employees are able to better understand themselves and their organizations and make their knowledge available for organization, in order to enhance the employees' mental motivation for dissemination of knowledge.

Hon and Wang (2009) conducted a research entitled as the "Challenges to knowledge management systems" in the field of challenges to organizational knowledge processing. The results of test indicate that a knowledge management system, which supports the aim of knowledge creation, should be designed for problem solving because such this system can implement the sudden and frequent processes; in contrast for convergent knowledge processing, a management system is effective with preselected and acceptable objectives and the ability to analyze the capabilities accurately.

In a research entitled as the "Experimental studies on knowledge manage ment and innovative performance, Xu and Li (2009) indicate that the knowledge sharing and creation have a significant relationship with innovation performance.

Afzalian (2013) investigated the status of knowledge management in education system of Iran. The research has descriptive-survey method and the statistical population of study covers all education system experts in Iran. Based on targeting sampling system, the sample size is equal to 120 and the questionnaire is a tool for data collection with reliability of 90%. The research data analysis is done at both inferential and descriptive statistical levels and through the Student's t and Friedman tests. The results of research indicate that among the factors affecting the knowledge management, the knowledge storage, knowledge application and information technology are at the desired levels, but the factors such as knowledge creation, knowledge sharing, organizational culture and human resources are at the unsatisfactory level, and also the results indicate that the knowledge management state is not appropriate in education system of Iran.

(Zanjani, 2010) has introduced a model for knowledge sharing in projects based on their features through the exploratory integrated method. In this model, eight predicting variables (project features) and five criterion variables (dimensions of knowledge sharing) are identified and totally 22 relationships are discovered among these dimensions. Then, the general inability of designed model is investigated in the form of formulated hypothesis test in qualitative section. Finally, 19 out of 22 relationships are locally identified; some of them are as follows: the relationship between knowledge sharing and project nature, dispersion of project bases, formality of project, conservative management of project, outsourcing of plan projects, membership of plan, as well as the relationship between the knowledge sharing strategy and plan membership.

With the attitude towards the importance of knowledge management in this study, the researchers have focused on the educational organizations especially in Mazandaran City because the experimental and scientific evidence indicates that the knowledge management shows is not desirable in this organization, which can be considered as a knowledge-based organization, but it can be considered as a missing loop. Due to the lack of scale for knowledge management in this organization, it has no enough discipline and

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efficiency and the educational system will easily loses the employees' knowledge if they leave the organization (retirement, medical isolation, etc.). Therefore, the aim of this research is the validation of scale for measuring the knowledge management in education system of Mazandaran province.

MATERIALS AND METHODS

The aim of this study is applied in terms of type and exploratory according to the method.

Statistical population, sample and sampling method

The statistical population of this study includes all 1788 formal employees at departments of education in Mazandaran city during 2012 to 2013. The sampling method has random simple type according to the population at departments of education in Mazandaran city. The sample size of statistical population (1788 samples) is determined according to Kerjcie and Morgan's sample size table.

Research Tools

The research tool is based on the theoretical principles of standard questionnaire in this study and is designed for staff response at departments of education and includes the Sharon Lawson knowledge management questionnaire including 24 questionswith6 subsidiary scale sas follows: knowledge-creation in questions 1 to 4, knowledge absorption in questions 5 to 8, knowledge organization in questions 9 to 12, knowledge storage in questions 13 to 16, knowledge dissemination in question 17 to 20, and knowledge application in questions 21 to 24, despite the fact that the applied questionnaires in this study are used by numerous researchers (Azadmanesh, 2012; Hosseini, 2012; Erfani, 2012; Hamidi, 2011; Chaleshtari, 2010; Nazam, 2009; Haddadpour, 2010; Nasiri, 2012; Mousakhani, 2008; David, 2013; KuangChi, 2012; Bass, 2003; John, 2001; Zang, 2009) and their obtained reliability is appropriate and equal to 88%.

Results

The descriptive statistics and one-dimensional tables (consisting of frequency and percentage for rank and nominal scales, and mean, median, standard deviation, skewness and kurtosis, minimum and maximum, central and dispersion indices for distance scales, and diagrams for clarifying data) are utilized for describing data and the inferential statistics are applied for responding to questions. The factor analysis method according to Varimax method is used for measuring the number of factors in each variable. All descriptive tables and diagrams are obtained by SPSS and LISREL software.

RESULTS AND DISCUSSION

Table 1: Bartlett's Test and Kaiser Measure

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.911
Bartlett's Test of Sphericity	Approx. Chi-Square	5237.244
	Df	276
	Sig.	0.000

Dealing with missing data is the first step in factor analysis process which is considered as the first hypothesis. In this section, none of the subjects and questions is eliminated from statistical analysis. This status indicates that there is no need for eliminating some of the questions and the factor analysis process can be done according to all questions.

The second hypothesis of factor analysis pays attention to sufficient sample size. According to the Table 1, the rate of KMO is equal to 0.911, thus the sample size is sufficient.

The third hypothesis of factor analysis is known as the normal distribution of multi-variable distribution with the term of Spheri city. Since, the Chi-square approximation with degree of freedom equal to 276 is equal to 5137.244, it can be concluded that the approximate value of chi-square is statistically significant and the mentioned statistic is significant at least at the confidence level of 0.999 ($\propto$=0.001). Since the

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Bartlett's test of Spheri city compares the obtained Chi-square approximation with Chi-square approximation of table in degree of freedom equal to 276, it can be concluded that the obtained Chi-square approximation is significant and approves the sphere city of empirical data and thus it indicates that the multi- variable distribution is normal.

The fourth hypothesis of factor analysis implementation is to identify the shared values as shown in Table 2. Therefore, since all loadings of scale or joint coefficients of questions with scale are more than 0.5, it can be concluded that there is an internal heterogeneity between the questions and the whole test and the factor analysis can be performed with the emphasis on all questions.

The fifth hypothesis of factor analysis for explained variance is higher than 0.50; and the emphasis on the column of cumulative frequency percentage, which is abbreviated as cumulative, indicates that the first factor (45.24) explains nearly 46% of total variance and thus the second factor explains 9.31% of variance in the questionnaire, and ultimately 73.67% is covered. Given the contribution of each factor, presented in the column of "percentage of explained variance", it can conclude that to what extent each factor explains the total variance of questionnaire.

Table 2: Matrix of knowledge management variable after rotation

Question	Component					
	1	2	3	4	5	6
1			0.548			
2	0.577					
3	0.785					
4	0.808					
5	0.671					
6	0.738					
7			0.717			
8			0.751			
9						
10	0.531				0.584	
11					0.643	
12					0.518	
13					0.775	
14						
15				0.756		
16				0.853		
17				0.545		
18						0.788
19		0.566				
20		0.564				
21		0.710				
22		0.554	0.582			
23		0.833				
24		0.619	0.540			

After accurate investigation of component matrix table, the rotation method is utilized to determine the factor analysis of each question with an emphasis on the inclusion of each question in one of ten factors. With an emphasis on the fact that this study utilizes the exploratory factor analysis and the principal component method (PC) for factor extraction, the maximum dispersion rotation method is applied and Table 2 is called as the matrix of rotated components. According to the rotated component matrix of questions, we can find out that each question is associated with which factor after rotation and determine the position of each question in the relevant factor by referring to the factor analysis. Finally, it is found

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that six factors are extracted from the factor analysis rotation and in fact the knowledge management consists of six factors according to the following table:

Table 3: Results of knowledge management factor analysis

Factors	Index	Questions
First factor	Knowledge absorption	Questions 2 to 6
Second factor	Knowledge application	Questions 19 to 24
Third factor	Knowledge creation	Questions 1,7,8,22,24
Fourth factor	Knowledge storage	Questions 15 to 17
Fifth factor	Knowledge organization	Questions 10 to 13

Conclusion

According to the findings of this study, the knowledge manage men consists of factors, namely, the knowledge absorption, application, creation and dissemination, storage, and organization. Among the factors, the knowledge absorption plays the maximum role and the knowledge dissemination the minimum role in forming the knowledge management. The findings of research by (Jasmodin and Zopeng, 2013; Doris Omerzel and Roberto, 2012; Crick Standing and Stobenson, 2011; Chung and Jing, 2010; Yang and Kimiz, 2010; Wi *et al.,* 2010; Bright and Helge, 2009; Erissa, 2009; Chun and Jin, 2007; Keller, 2005; Keller, 2002; Zanganeh, 2013; Zanjani, 2013; Salehi and Safari., 2012; Zeinalifard and Hosseini, 2012; Zamani, 2011; KarbasiYazdi, 2011; Mojibi, 2011; Rastegar, 2009; Dehdarirad, 2009; Kheirandish, 2008;Hosseini, 2006; Jamshidi, 2007) are consistent with the findings of this study. (Azadmanesh, 2012; Hosseini, 2012; Erfani, 2012; Hamidi, 2011; Chaleshtari, 2010; Nazem, 2009; Haddadpour, 2010; Nasiri, 2012; Mousakhani, 2007; David, 2013; Kuang Chi , 2012; Bass, 2003; John, 2001; Zang, 2010; Jenz, 2009) utilized the questionnaires with all or a part of factors obtained in this study.

In this regard, the researchers have taken efforts to find out how the knowledge resources are collected and managed effectively in order to utilize them as the competitive advantage. According to this attitude that the lack of adequate information about the knowledge in the organization is one of the main issues of organizations especially the educational system and since the establishment of knowledge management system is among the major tools for solving this problem with a focus on the solutions that cover the entire system, it is essential to conduct this study because if the knowledge management is established and strengthened in the education, it will have the tangible and intangible advantages for organization as follows: 1- Increasing the knowledge base of organization, 2- Sharing the expertise among the individuals, 3- Preventing the knowledge outflow and the people from leaving the education, 4- Not relying on the individuals in the organization, 5- Increasing the employees'efficiency,6- Reducing the costs for re-collecting and re-applying the knowledge, 7- Avoiding the loss of education intellectual capital, 8- Increasing the job effectiveness. Furthermore, if the knowledge management is established and strengthened in the organization, it will lead to retention and conduction of organizational knowledge and the total effectiveness of the whole organization. The Department of education especially in Mazandaran province which is considered as the target population in this study, is seeking the knowledge management to enhance its own organization and since the educational system is totally changing in the era of rapid development, the educational system managers and employees' utilization of educational knowledge, information, technologies, principles and strategies is not only sufficient, but the timely and right organization and application of knowledge are essential in educational environments. In more scientific explanation, the knowledge management can be considered as the origin of developed software movement and knowledge generation at Department of Education and schools during the information century. Such this management begins the knowledge organization, retrieval, transfer, and dissemination from the Department of Education and schools, applies the students and employees' intellectual capital by creating the strategic motives, and accelerates the knowledge life cycle which establishes the organizational learning in the society. Therefore, this study provides a five-step scale for knowledge

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management in education including: 1- knowledge absorption, 2- knowledge application, 3- knowledge creation, 4- knowledge storage, and 5-knowledge organization.

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