A MODEL TO ESTABLISH KNOWLEDGE MANAGEMENT IN ISLAMIC AZAD UNIVERSITY BRANCHES, MAZANDARAN PROVINCE

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ABSTRACT

Due to the absence of a suitable model to establish knowledge management in Islamic Azad University branches in Mazandaran, Iran, the researcher attempts in this study to develop an appropriate model for the establishment of knowledge management and also to explore the priorities regarding the dimensions of such an establishment. After a thorough review of the relevant literature, and getting help from learning management experts' comments, an initial scale in ten dimensions would be created. The dimensions are organizational culture, senior management commitment, academic staff participation, academic staff training, team work, academic staff empowerment, Information technology infrastructures, performance assessment, modeling, and financial resources. The scale consists of 61 items. Following that, the reliability and validity of the initial scale would be evaluated. The statistical population of the study is comprised of the academic staff of Islamic Azad University branches in Mazandaran Province, Iran. Using a random cluster sampling and according to the province map, it was divided into three areas, naming east, center, and west. A list of the university branches was compiled for each area. Using a simple random sampling method, five branches were selected for the purposes of data collection and research conduction. Finally, 385 questionnaires were given back to the researcher. Ultimately, a suitable final model for the establishment of knowledge management with 61 items in nine dimensions was created. The dimensions are training team work participation, empowerment in using infrastructure, organizational culture, modeling, organization goals clearness, financial resources, senior management commitment, performance assessment, and academic staff empowerment.

Key words: Knowledge management establishment, Infrastructure, Organizational culture, Modeling, Organizational goals, financial resources, Performance assessment, senior management commitment, Empowerment

INTRODUCTION

In the past, the competitive advantage of an organization was its access to monetary resources (Ansari et al. 2012). Nevertheless, today it is knowledge that is regarded as an organizational capital, and organizations have found out that they need to protect their capital more than ever. Intellectual capitals are now the strategic resources of organizations because of playing a key role in achieving competitive advantage (Cech, 2000). Today, the primary competitive advantage of an organization is its ability to manage knowledge (Donoghue et al, 1999) From Peter Drucker's standpoint, the secret of organizations' success in the 21st century is nothing but knowledge management. Thus, organization managers, by relying on superior knowledge, ought to take the capability of making wiser decisions regarding more important matters into their possession and improve knowledge-based performance. In fact, knowledge management is a subject which is more important than knowledge itself. Organizations attempt to make clear the way individual and organizational information and know-how is transformed into individual and group knowledge and skills (Garavelli et al. 2004).

Knowledge management is a series of procedures to create and share knowledge in the organization with the aim of maximizing the achievement of organizational mission and goals (Townley, 2001). Experts attribute various stages to the process of knowledge management (Manasco, 2000). In the era of knowledge-based societies and knowledge-based economies, the proper establishment of knowledge management is not solely limited to organizations or corporations; rather, universities, as the centers of knowledge creation and dissemination, can take great advantage from it. In the competitive environment created in today's societies, research institutions compete in attracting the best researchers and investors; universities are also trying to find the best investors possible - i.e. staff and students. Similar to other organizations involved in knowledge management, universities and other centers of higher education are, on the one hand, facing with several obstacles such as financial pressure, fast growth of technology, changing role of employees, competitive values and, in general, the fast-pacing change of the world. On the other hand, these institutions strive to accomplish

their fundamental goal, which are education, research and social service. This field is so important that some organizations are now trying to measure their existing knowledge and reflect their findings as the intellectual capital of the organization and also as an indicator of organization ranking. Such institutions consider the establishment of knowledge management as a vital part of organizational strategy (Storey, and Kahn, 2010). With respect to the discussed issues in the review of the literatures and due to the lack of a study on establishing knowledge management, this piece of research aims as finding a model that can be helpful for the managers of the Islamic Azad University in accurately gaining insight into and using the value of the successful establishment of knowledge management. Ten variables are examined in a proper model to establish knowledge management in Islamic Azad University branches.

2. Review of Literature

Knowledge management is associated with the disciplined and consistent use of knowledge in organization as well as implementing it in practices to achieve organizational goals and missions. The goal of knowledge management is to prevent repeating mistakes and to make all decisions according to the organizational knowledge (Martini and Pellegrini 2005). The authors

and experts of this field have defined knowledge management from various standpoints some of which are provided in the following paragraphs.

Malhotra (2001) defines knowledge management as a process through which firms gain skills in learning (knowledge internalization), encoding (knowledge externalization) and transferring knowledge. Hales (2001) regards knowledge management as a process used by organizations to acquire the capability of rendering data to information and information to knowledge so that they could be able to decisively use the acquired knowledge in their decisions. Wiig (2000) believes that knowledge management is primarily the creation of necessary processes to identify and attract data, information, and required fields of knowledge by organizations from the inside and outside environment and to apply them in their organizational and individual decisions and actions.

Knowledge management is comprised of all methods by which an organization manages its knowledge-related assets including how to collect, store, transfer, utilize, update, and create knowledge (Wickramasinghe and Lubitz, 2007). By bringing around change in the organization and preserving this domain, a manager helps with inventing more

effective fields of scientific thought in the future (Sher and Lee, 2004).

Factors Affecting Knowledge Management Establishment

Knowledge management is considered as a significant factor in an organization, and organizations are forced to implement the assumptions of knowledge management model. In addition, it is not clear for organizations what factors are influential in the success of a knowledge management system. The researcher, thus, aimed at exploring such factors and at determining which of them are effective on knowledge management establishment. Various aspects can be studied in this regard. As it was mentioned in the previous section, several researchers implemented several categories with several results; while some of them are similar, all of them are considerable. In this article, all elements of past studies have been used in the establishment of knowledge management in branches of Islamic Azad University in Mazandaran province, Iran. Some of the appropriate factors are elaborated as followes:

Organizational Culture

Knowledge management must take on critical tasks to change organizational culture so that it would end in sharing knowledge and transferring it to understand organizational knowledge sources (Darroch, 2005). Informing individuals about their own organization's culture and about its effect on knowledge processes is an important action in introducing an influential knowledge management (Hansen and Haas, 2001).

Organizational culture is a feature that has the potential to affect the success of any given approach to knowledge management, especially when technology, comprehensive quality management etc. must be established (Zacket al. 2009). In case organizations have different cultures, individuals would have different perceptions and impressions about organizational change, and this is effective on individuals' acceptance of such a change (Wei and Ke 2008).

Holsapple and Jones (2005) regard organizational culture as a relatively coherent set of values, beliefs, traditions and customs, and sustainable methods shared by organization members. Further, organizational culture is a framework that defines organizational values, individuals' behavior, and unique orientations of that organization. Organizational culture determines a certain identity for the organization (Chouang et al, 2004).

Cameron and Quinn (2006) also believe that organizational culture is a set of presumed definite values, fundamental beliefs, group memories, expectations and definitions of success flowing in and organization. It reflects a prevalent ideology that individuals

possess in their minds, and it is an indication of employees' feelings of identity (Cameron and Quinn, 2006). Organizational culture specifies the social identity of every organization. Culture is a set of key values widely accepted by organization members (Tsui et al, 2006).

Senior Manager Commitment

A noticeable prerequisite for the success of knowledge management is the creation of a ceaseless commitment to knowledge management in the senior manager of a firm. Studies have found out that the reason for the failure of knowledge management measures in some organizations was the big mistake that it was seen as a short-term process. Through creating vision, senior managers define the world in which they live and provide a big picture for the general knowledge that must be brought about (Borghini, 2005). The success of every plan or planning in an organization is directly dependent upon the support and commitment from senior managers (Akhavan 2006).

The lack of support from the senior management for the improvement of the organization makes the possibility of advancement so weak. Knowledge management plans require senior management support (Zhang and Hean 2010).

Senior managers ought to prove the commitment of a firm. Such a commitment is important, especially when the firm's problems intensify in number and the employees and middle managers start asking questions about change and decline of motivation. The absence of senior management commitment looks like the tendency of quality cycles to degradation (McGreevy, 2006).

Academic Staff Participation

For the participation of the staff, a procedure has been designed to enable organization members to make decisions related to them and settle their problems. Participation is the mental-emotional engagement of the staff in group circumstances, and it motivates them to help the group achieve its goals and feel responsibility about that. One of the challenges in identifying the participation of knowledge-oriented staff is the intangibility of the participants. It is difficult to quantify the share of participation in intellectual assets, because such measurements are either inappropriate or they need interpretation. The senior executive managers of companies in the United States have suggested that the best way to reach organizational success is the participation of the staff and enabling them at all levels (Civi, 2000).

Staff Training

This is a critical prerequisite for the proper enforcement at every stage of knowledge management process. The staff is required to be trained in order to focus on the general processes related to knowledge management, even when they are participating in solving specific problems. In order to succeed in knowledge management plans, therefore, a comprehensive investment in training the academic staff is necessary (Macintosh. and Doherty, 2010).

Many organizations offer various training courses to empower their staff. In addition, in order to separate knowledge policies, and generally knowledge in universities, the academic staff must completely and deeply get familiar with knowledge concepts. Therefore, training programs are absolutely significant. Training is comprised of the planned attempts of a firm to make its academic staff's learning about their job capabilities easy. These capabilities include the knowledge and skills critical to the success of job performance (Noe et al, 2003).

Team Work

In today's economic-oriented atmosphere, most businesses focus on issues such as efficiency, quality, and profitability. The competitive market thinking, on the other hand, emphasizes minimizing spending in order to maximize profit. We seek to find a way to restrict these emerged gaps through nothing but the implementation of team work (Conti and kleiner, 1997). The concept of team is not new. Historical sciences tell us that team work is very important and must be drawn upon. Organizations tend to choose those individuals who possess team-oriented features (McGreevy, 2006).

Team-orientation means directing the staff behavior toward a set of common goals. Such an approach to promoting organization routines is carried out with a powerful sense of responsibility (Nier, 2008). Team work is more efficient that individual work; for example, in situations where several skills are required, a team brings about better outcomes than an individual (Conti and kleiner, 1997).

Academic Staff Empowerment

In dictionaries, empowerment would be defined as giving administrative authority or delegating legal power (Rehman, 2006). Senior managers of universities play a critical role in the process of empowerment. They have to entitle the academic staff to making decisions and grant them substantial responsibilities. They must encourage the staff to use their power of decision-making, inform them of how to use their enhanced decision-making power, and support them in succeeding in accomplishing their new roles (Klidas et al, 2007). Staff empowerment

will go astray with constant commitment of senior management, because the empowerment of the staff requires the delegation of authority from the university senior management (Marshal et al, 2006).

Information Systems Infrastructure

In the 80's, this idea was proposed that information systems would result in the superiority of an organization over its rivals. The same idea in some other studies showed that how modern technologies make an organization superior. Alavi and lidner, (2001) created a framework in their article to analyze the support provided for the role of an information system by knowledge management system which includes four established sets dependent upon knowledge processes:

1) Knowledge creation 2) knowledge sharing 3) knowledge transfer and 4) knowledge application (Bray, 2008).

Technology would be the key mechanism for the improvement of knowledge transfer. Each member of an organization, using each computer connected to the network, can participate in the collection of knowledge. Members of most organizations, especially senior ones, are afraid of computers or avoid looking at them as important sources of individual and organizational success (Yang, 2010).

Assessing Performance

Every organization needs to build appropriate systems of control and assessment to be informed about the degree of the accomplishment of determined. In the past, organization managers used performance assessment in order to control the personnel while the guiding aspect of this procedure is more important now. The primary goal is to collect the required information about the people working in the organization so that necessary decisions would be made in line with each individual's job. In spite of continuous attempts to design better and more effective systems of academic staff assessment, evidence shows that senior managers are not completely satisfied with the used techniques of staff performance assessment (Marshal *et al*, 2006).

Modeling

Global competition is intensifying. In this condition, those organizations are successful that have productions with higher quality, better technologies, and less expenditure than competitors (Anand and Kodali, 2008). Most companies compare their productivity with other companies' and in this way they find the best operational ways from the inside and outside of the organization. Benchmarking is the process of finding and enforcing the best performance. However, the most typical definition would be "the search for the best industry action that

results in an exceptional performance through the implementation of that action". Benchmarking is a part of any business performance being used to constantly compare a company's performance with other companies' performance and achievements. Managers try to enhance their company's competition power through learning what other companies do (Szulanski, 1996).

Financial resources

Today, in upstream documents such as development outlook document and comprehensive scientific map of the country as well as in official, state, and university reports, there is high emphasis on Iran's level of scientific growth based on the international evaluations and comparisons, which indicates the adoption of some promising measures. Despite the acceptance of university independence from long times ago, the lack of financial independence there would be no real independence. Independence does not imply separation; rather, it is the heavy burden of accountability regarding the resources allocated to universities and institutes of higher education. Accountability is the obligation of individuals to make clear what decisions they have made and what actions they have done with reasonable evidence (Paine and Organ, 2002).

METHODOLOGY

Regarding the method of conduction, the present research is a descriptive study. On the other hand, since we want to select a sample from the study population – i.e. the academic staff of the Islamic Azad University in Mazandaran Province – and the main data collection instrument is distributed among the sample participants, it is a descriptive survey.

The statistic population of the study is comprised of the academic staff of the Islamic Azad University, Mazandaran, Iran. In order to carry out the cluster sampling method, the province was divided into three regions according to its map namely, the east, the middle and the west. For each region, a list of the branches of the University was compiled, and among these branches, five were selected randomly to conduct research and collect data.

In order to develop a suitable model to establish knowledge management, a researcher-designed questionnaire in ten dimensions was utilized.

The questionnaire rests on a five-level Likert scale ranging from absolutely disagrees to absolutely agree. After rendering it to a quasi-interval scale, each level is attributed a number from 1 to 5. In order to develop Knowledge Management Establishment Scale, 61 items were used in 10 dimensions.

In order to test the content validity, experts' judgment and Lawshe's ratio were implemented. To determine the experts, several characteristics were determined; for example, they must do academic work specifically in the field of learning management, therefore, related Ph.D.

candidates were chosen. Finally, 13 experts were selected from different universities.

As we mentioned before, the number of the experts was 13; therefore, the minimum acceptable value would be 54% according to Lawshe's table. According to the obtained results, none of 61 items was eliminated.

Table 1: Dimensions of Knowledge Management Establishment and Corresponding Items

Dimension	Number of items	Items correspondence
Organizational Culture	10	1-10
Senior Management Commitment	7	11-17
Staff Participation	5	18-24
Staff Training	5	25-29
Team Work	5	30-34
Staff Empowerment	4	35-38
IT Infrastructure	8	39-46
Performance Assessment	6	47-52
Modeling	4	53-56
Financial Resources	5	57-61

RESULTS

In order to perform exploratory factor analysis, SPSS v16 software was used. A critical issue in this analysis is the selection of an appropriate method to extract factors. In this thesis, *Principals Axis Factoring* (PAF) was used, which is among the most popular methods when the variables are interval. Further, the main goal of factor analysis is to explain and justify the observed correlations; therefore, rotation methods must be used. In the following paragraphs, the stages of exploratory factor analysis to develop the suitable model for the establishment of knowledge management are described.

Stage 1: Plausibility of performing factor analysis

According to the results of this stage, presented in **Table 2**, the value of KMO was higher than 0.7, and the significance of Bartlett's test was less than 0.05; thus, factor analysis is legitimate and the data can be restricted to some principal factors.

Stage 2: Determining sum of factors share in accounting for each item variance

According to factor analysis, the eigenvalue of all items was higher than 0.3 and, thus, we can proceed to the next stage.

Stage 3: Determining each factor's share in accounting for all items variance

According to the results of this stage, 11 factors have values higher than one. Therefore, it is possible to build 11 factors out of 61 items.

Stage 4. Finding correlation matrix between items and factors and classification of items in factors

As we can see in **Table 4**, each item was attributed to one of the factors.

Stage 5: Labeling and interpreting factors

In the knowledge management scale, out of 61 items in 10 dimensions, none of the items was eliminated according to the results of the exploratory factor analysis.

The grouping of the items among dimensions is presented in **Table 3 and Table 4.** Among the 11 identified dimensions, no questions were allocated to two of the dimensions. Thus, we achieve nine dimensions in this study.

In order to determine the reliability of the instrument, Cronbach's alpha was performed in SPSS. The results of this analysis indicate the properness of the reliability of the constructs according to the following **Table 6**.

Table 2: KMO and Bartlett's Test of Knowledge Management

KMO sampling adequacy		0.901
Bartlett's test	**Chi-square value**	**0.640**
		15793
		0.892
	Degree of freedom	**1830**
	Significance	**0**

Table 3: Commune Value of each Item

Item	Extracted value	Item	Extracted value	Item	Extracted value
1	0.640	21	0.683	41	0.697
2	0.712	22	0.679	42	0.699
3	0.633	23	0.721	43	0.604
4	0.652	24	0.704	44	0.360
5	0.599	25	0.660	45	0.665
6	0.572	26	0.672	46	0.786
7	0.570	27	0.758	47	0.651
8	0.485	28	0.733	48	0.552
9	0.643	29	0.658	49	0.701
10	0.687	30	0.639	50	0.640
11	0.709	31	0.710	51	0.576
12	0.634	32	0.701	52	0.693
13	0.752	33	0.684	53	0.739
14	0.769	34	0.669	54	0.602
15	0.720	35	0.602	55	0.594
16	0.687	36	0.664	56	0.659
17	0.822	37	0.656	57	0.652
18	0.725	38	0.688	58	0.580
19	0.734	39	0.606	59	0.751

20	0.712	40	0.567	60	0.766
				61	0.592

Table 4: Sum of variance accounted for by factors

Factor	Sum	Variance percent	Cumulative percent
1	14.750	24.181	24.181
2	8.499	13.932	38.113
3	4.364	7.154	45.267
4	2.728	4.472	49.739
5	2.001	3.280	53.019
6	1.859	3.047	56.066
7	1.465	2.402	58.468
8	1.359	2.228	60.969
9	1.234	2.023	62.719
10	1.088	1.783	64.502
11	1.060	1.738	66.241

Table 5: Labeling Extracted Factors of Knowledge Management Scale

Actor	Number	Correspondence	Correspondence	Pre-analysis equivalent	New label
1	18	tah17- mo18- mo19- mo20- mo21- mo22- mo23- mo24- am25- am26- am27- am28- am29- kt30- kt31- kt32- kt33- kt34	q1, q2, q3, q4, q5, q6, q7, q8, q9, q10, q11, q12, q13, q14, q15, q16, q17, q18	Senior Management Commitment Staff Participation Staff training Team work	Training to Participate in Team Work
2	13	tav37- tav38- zi39- zi40- zi41- zi42- zi43- zi44- zi45- zi46- sa47- sa48- sa49	q19, q20, q21, q22, q23, q24, q25, q26, q27, q28, q29, q30, q31	Staff Empowerment IT Infrastructure Performance Assessment	Empowerment in Using Infrastructure
3	9	fa1- fa2- fa3- fa4- fa5- fa6- fa7- fa8- fa9-	q32, q33, q34, q35, q36, q37, q38, q39, q40	Organizational Culture	Organizational culture
4	6	sa50- ol54- ol55- ol56- man57- man58	q41, q42, q43, q44, q45, q46	Performance Assessment Modeling Financial resources	Modeling
5	4	fa10- tah11- tah12- tah13	q47, q48, q49, q50	Organizational Culture Senior Management Commitment	Organizational Goals Clearness
6	3	man59- man60- man61	q51, q52, q53	Financial Resources	Financial Resources
7	3	tah14- tah15- tah16	q54, q55, q56	Senior Management Commitment	Senior Management Commitment
8	3	sa51- sa52- ol53	q57, q58, q59	Performance Assessment Modeling	Performance Assessment
9	2	tav35- tav36	q60, q61	Staff Empowerment	Staff Empowerment

Table 6: Cronbach's Alpha Results

	Number of items	Alpha value
Training to Participate in Team work	18	0.953
Empowerment in Using Infrastructure	13	0.908

Organizational Culture	9	0.894
Modeling	6	0.846
Organizational Goals Clearness	4	0.825
Financial Resources	3	0.768
Senior Management Commitment	3	0.758
Performance Assessment	3	0.807
Staff Empowerment	2	0.715

CONCLUSION

According to the examinations, there have been a few studies in Iran on the development of an appropriate model for establishing knowledge management in universities located in Mazandaran. Outside Iran, there have been some vigorous studies. It can be suggested that the present scale can be another suitable tool to establish this concept. As a result, the present piece of research can be regarded as a novel attempt in the literature of learning management. All organizations seek for a set of factors that end in the establishment of knowledge management so that they can gain the necessary competitive advantage against others. This study proposes ten factors that are influential in the establishment of knowledge management in universities of Mazandaran province in Iran. Using these factors makes organizational success possible. The present study gathered a comprehensive set of effective factors and pointed to their effects.

Training how to participate in team work is the first effective factor in the establishment of knowledge management. Organizational culture is the second factor for this practice.

Regarding its location, this study was carried out in branches of Islamic Azad University. Therefore, the enhancement of its generalizability calls for the conduction of similar studies in other universities and centers for higher education so that the measurement scales would gain the highest capability for explication.

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