Checking the Possibility of Implementing Knowledge Management Based on Palovski Model in Iran's Universities

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Abstract

Current study deals with the possibility of knowledge management establishment, and it also considers the different points of view of faculty members and employees in Iran's university;therefore,we used Palovsky model for dimensions measurement and knowledge management. This study was appliable in nature and descriptive-scaling method was used. Population sample includes 70people of faculty members and 98 employees, thus, accumulated sample by using Morgan chart was 59 and 78 people, respectively. Questionnaires were distributed to the samples by reduction coefficient of 20.Sampling method was classified random sampling. Questionnaire measurement tools were confirmed by 5 management professors the correctness and reliability was tested by Cronbach's alpha realibility test with the coefficient of 0/95 .In order to verify hypothesis researchers preferred to use sample t-test. According to the results of this study there are possibilities such as, determining knowledge factors, generating knowledge, expanding knowledge, integrating knowledge and transferring knowledge in 3 dimensions with organizational structure in university of Bojnourd. Furthermore, by considering the difference between faculty members and employees point of view about required preparation for knowledge management we used two groups average comparison test, the results showed there is a significant difference between faculty members and employees point of view in all aspects. The result also showed Bojnourd university is ready to establish knowledge management by using Palovsky model.

Keywords: possibility measurement,Palovsky model,knowledge management,university

1. Introduction

Higher education in past 20 years has changed significantly around the world through new challenges and the changes of situation these days leadership or management of higher education is emphasized more than ever.(Luis,2010) following these changes require, perception of phenomena like rapid changes ,rivalry , uncertainty and the danger of increasing university downfall. These changes include the progression of higher education toward universalization, developing of higher education with characteristic of one market, concerns about the quality of higher education, curriculum development toward job centralization and general costs that aren't sufficient regarding the number of students.(Agren Mining.2006)knowledge management is the ability of managing universities that increases learning of surrounding environment. Also, knowledge management causes an increase in using of academic processes by implementing new tools and technologies. knowledge management is used to test the connections among professors, students, training courses and planning in educational setting .(pezars 2006)in Iran ,for the first time in 4th economic , social , cultural development plan, the plan for 1385 to 1388 ,a development based on knowledge as an basic strategy to reach stable development was predicted in planning, but, the most important question is by existence of this planning as a main strategy to much extent universities are based on knowledge? Especially the universities which are the center

of generating knowledge or do the universities have the needed organizational facility to be knowledge centered? It is also important to consider facilities or fundamentals to apply innovated system specially regarding the social nature and complexity of such humanist organization which using of experimental models related to innovated managing approach without considering the available facilities, strenghths and weaknesess cause a failure. Knowledge management provides numerous benefits such as, opportunities for saving, significant increase in employees skill, and other rivalry benefits. .universities which employs knowledge management planning take its benefits ,e.g., increasing cooperation , improved university connections , improved employee skills, making better decisions and increased innovativeness.(Albert 2009)although many universities were successful in developing knowledge in different levels of investing but many have failed in it. Lack of the exact assessment to implement knowledge management has changed these types of investing in managers' mind as an extra cost. hence , universities should create an environment for sharing, transferring and exchanging of knowledge among their members and try to make it possible to recognize basic factors for implementing knowledge management.(Cidole et al.2006) observed in their study that higher education institution can develop their organizational duty by usages of knowledge management. They suggested higher education institutions are ready to take the managing responsibility and they need an official and documentary planning for knowledge

management application in organizational levels. They suggested higher education institution in the beginning of designing knowledge management system they can use of the best patterns, courses which they learn through implementing of different curriculums. Regarding above suggestions to perform and implement knowledge management in Bojnourd university-the center of North Khorasan province, established in 1384-currently more than 4000 students are continuing their studying in this university. Ahmad Mohaqar is the chancellor of university. This university is located on 4th kilometer of Esfaraien road. first, it is necessary to deal with current status of university to identify available potential and clarify the state of university on its way through progression,Then, regarding to defined goals missions and outlooks the best model should be selected.

Required Fundamentals to implement and apply innovative systems like knowledge management is very important in this respect implementing this system without paying any attention to weaknesses, strengths and readiness of facilities often faces a failure. Although many researches have dealt with knowledge management and these researches resulted in representing many basic and compound models that were useful in their place but researches in implementing knowledge management are few in numbers in universities and higher education institution and lack of studies and related information to knowledge management application in universities made the researcher to answer the question of whether there is a possibility of implementing knowledge management in Bojnourd university.

2. Theoretical concept

Knowledge management is a kind of management that is responsible for selecting, constant assessment and implementation of knowledge strategies. Its aim at improving the external and internal methods of knowledge management inside an organization in order to improve organizational performance. implementing knowledge strategies in different levels, organizational dynamic optimization in respect to abilities training and developing social wisdom.(Mayer 2007) knowledge management refers to a set of actions that are systematically implemented to find, organize and preserve organizational though power, to support continuous learning culture and sharing knowledge in organization.knowledge management doesn't deal with technology management only, but it rather deals with peoples' management of organizations in order to share their knowledge efficiently and effectively. sharing knowledge is Also a kind of knowledge process which shapes knowledge circle inside the organization specially it extends knowledge across the organization (Shihen & Berkinshu 2002) the main goal of knowledge management is to utilize its sources of knowledge fundamentals processes and technologies rapidly and effectively to university goals.(Garry Tesen Koo 2008)based on above definitions different models are introduced in knowledge management setting.

Gopta Sharma & Vahso architectural model of knowledge consisted of 3 layers (layer of representing knowledge, layer of knowledge management and layer of data sources)it is based on web design and it focuses on internal performance ability of system components: accessibility to external and internal sources of information, reservoirs that includes definite knowledge, processes and supporting tools for markting, refinement, classifying, storing, recovering publishing and representing knowledge of knowledgeable employees of organization like knowledge facilitators, protectors and engineers.

One of the most famous knowledge model in organizational learning is the work by (Nonaka 199).this model unlike previous ones, focuses on two kinds of knowledge(explicit and implicit knowledge) and it pays attention to their transformation into each other and how to

implement the in all organizational level (individual , organizational and grouped) in this dynamic model, transforming and using these 2 kinds of knowledge and knowledge management is supposed as Helicoial flow.also in mentioned contemplation we suppose that people are the creators of knowledge. Consequently, the process of creating organizational knowledge is an steady process which created knowledge by people should be guided and improved in organized way.

The Main challenge of knowledge management is the better and more transformation of implicit knowledge into explicit one. Generally,there are different ideas about representing implicit knowledge, some experts like Kim believe that implicit knowledge has representing nature existence while many experts like Nonaka Rain Molrosno ,Vilari ,Toilo and et… suggest implicit knowledge can't be simply coded and it has low tansformablity.as Hese 2009 also reminds one of the goals of knowledge management is to ensure that implicit knowledge is collected and shared in organizational level; but, before dealing with methods of gaining knowledge it is necessary to mention, theoreticians have disagreements about the nature of implicit knowledge.

Pronire 2009 in his research about a model based on Asian productivity organization framework of knowledge management (APO) represent a simple schema of knowledge management for organization.in this model he supposed knowledge management as an integrated approach of creating, sharing and applicability of knowledge for growth, organizational efficiency and profitability. Knowledge management emphasizes on organizational success and it highlights key factors of knowledge management success.

An study by Kim and Joe (2008) under the title of (analyzing faculty members perception: perspectives on knowledge sharing and participation in higher education) the method of study was measuring and it was done in one of private higher education institute .researchers in this study attempted to answer the question below:

What are the main factors that affect shared knowledge among members of faculty?

How these mentioned factors as main factors of shared knowledge are different from factors that affect shared knowledge in commercial section?

This study was done by questioning 109 individual faculty members in a private university aiming at recognizing effective factors in members of faculty shared knowledge. Researchers for comprehensive consideration ordered effective factors in two main classification of communication factors (perception, reliance, free communication and cooperation) and structural factors(,remuneration system, and communication channels based on substructures of information and technology)and they tested the relations between factors mentioned above with dependent variable of sharing factors(curriculum)by regression .Regression analyzes showed (perception is considered the most important factor that affects faculty members shared knowledge and remuneration systems in universities was also the second priority),likewise, researchers studies confirmed in faculty members point of view, understanding the importance of shared knowledge and remuneration system in shred knowledge between faculty members was effective, but reliability factors, free communications, cooperation and communication channels was based on information and technology substructures, there wasn't any significance relation between shared knowledge and faculty members.

Picolli et al . 2007) during an study proposed a framework and a model for knowledge management in higher education institutes. This study considered creation, management and knowledge transformation in relation with members of faculty activities and

student in distance learning environment. Study, production and learning engines are three main elements of this model. Picolli etal. model is one of the most key models: because it introduces creation process and knowledge transformation comprehensively.so,it is possible to implement it in education system with students and faculty members help.

Martin 2005) propsed some general goals to codify knowledge management strategies in universities. protrcting moral properties by providing intra organizational knowledge,encouraging knowledge creation processes and its application for teaching and learning is one of these strategies.

Yang Yong 2005) in an study dealt with knowledge management system applications in a private higher education institute in Taiwan.researchers in this study achieved a multi-dimensional model.in this study researchers first, held on brainstorming meetings with faculty members to consider the outlook. then,in this study leadership in shared knowledge culture was considered. Researchers after codifying knowledge management strategies with organizational and academic outlook used a model to interpret the steps and procedures to implement it.

Regarding literature review, knowledge management concepts and basic knowledge management models review such as Hiseg MODEL 2000) that consists of four processes of creation, storage, publishing and implementing.(Afrazeh 1368) Nanok and Takochi model (1995) consists of phases ,e.g., socialization, externalization, linkage ,communication and internalization .Backman model (1999)consists of eight phases of recognizing,capturing,selecting,storing,dividing,using,implementing and commercilazing.regarding cultural equality, brightful ,recognizable and understandable dimensions and by paying attention to Iran's organizations structure.(specially higher education institues, universitis and etc…)the model we use in this study is Palovsky model which consists of factors such as, knowledge recognition, knowledge production, development, integration and transformation relate to three strategies :organizational structure, human resources and technology of information and communication.it has three dimensions: organizational structure, technology of information and communication and human resources which each dimension has six factors : knowledge recognition, production,development,integration and transferring, this factors are related to each other which constitute Palovsky conceptual model.

3. Theoretical framework

Table 1: Working areas and Pawlowsky's levels of management

Problem and Working Area	Related to		
	Structure	Human	Technical and Instrumental
Knowledge Identification How do we identify the knowledge related to the working processes?	Presenting the working processes, internal and external sensor strategies, competency and success factors	Understanding the competencies, informal networks of delegated roles and tasks	Information mining, important working processes, scanning tools, scenario data storages, electronic newsletters for customers
Knowledge Production How knowledge innovation is supported?	Organizational structure, teamwork, organization, meta-texts, network structures, knowledge addressing connections	Creating a trusting atmosphere and sharing culture, creating tools for knowledge exchange, readiness for implied knowledge transfer	Infrastructures, media and channel communications, telephone, fax, internal network, group tools, post, electronic voice
Integration (Establishment) How can we reveal knowledge inside the organization?	Document management, up to date and continuous storage, technical knowledge formation, consultation	Consolidating common working theories, readiness and flexibility for innovative subjects, subjective knowledge plans	Selection, storage, updating, refinement, revision, provision, hardware production, appropriate software
Transferring knowledge to business How can we employ the acquired knowledge in work? And how can we learn from it?	Potential educational capability in workplace, creating a loop between behavior and the results or feedback	Understanding the individual barriers and the transferring structure, error tolerance, incentives for creating, preserving and transferring the innovations	Creating areas of research for new works, educational labs, simulation

4. Research Hypotheses

1- It is possible to implement the knowledge management in Bojnurd University from the Organizational Structure perspective
2- It is possible to implement the knowledge management in Bojnurd University from the Human Resource perspective
3- It is possible to implement the knowledge management in Bojnurd University from the Communication and Information Technology perspective

5. Research Methodology

The present research is an applied research, because the question is taken from the real world and the possible results can be used to meet a real need. In terms of methodology, this research investigates the possibility of knowledge management establishment in Bonjurd University based on Pawlowsky model, and describes and measures reality in present tense. In addition, since this research collects a structured set of data in a questionnaire and have active subjects to fill the questionnaire, it can be considered as a survey. The statistical population of this research includes all the faculty members and staff at Bojnurd University. It is reported that a total of 70 faculty members and 98 staff work in Bojnurd University during 1396-97 educational year. Using Cochran's Table, 59 faculty members and 78 staff were selected as the research sample. The measurement tool in this research is a researcher-made questionnaire based on organized studies and conducted researches. Given the total credit coefficient of the questionnaire, obtained by Chrobach' Alpha as 0.95, the validity and stability of the questionnaire is established. The questionnaire is finalized in three aspects and 5 components, in a total of 47 questions, and the items are organized according to a 4-point Likert scale from very low (1), to low (2), high (3) and very high (4). The collected information and data are analyzed according to the research hypotheses. In order to summarize and categorize the information, some descriptive statistics, including mean (M), standard deviation (SD); are used. In addition, to find the variable correlations and to investigate the research hypotheses, inferential statistics including

one-sample t-test, and independent samples t-test are employed. All the calculations are conducted by SPSS24 software.

6. Research Findings

Having compared the opinion of faculty members and the staff about the possibility of establishing knowledge management, according to the research findings and data analysis, it was concluded that there is a significant difference between the opinions of faculty members and the staff in terms of readiness for implementing knowledge management. According to the abovementioned discussions, it can be understood that the mean in all three aspects of knowledge management is higher than average. Therefore, it can be said that generally, the respondents think that, at the moment the State University of Bonjurd is ready for implementing knowledge management based on Pawlowsky model. The first research Hypothesis: the faculty members and staff think that, in terms of organizational structure, it is possible to implement the knowledge management in Bojnurd University.

H_0: $M \leq 2.5$

H_1: $M > 2.5$

Table 1: The results of t-test for comparing the means of two independent samples in terms of organizational structure

Index Variable	Rate	Number	Mean	SD		Degree of Freedom	T	Significance Level
Organizational Structure	Faculty Members	59	3.8084	0.61744	Variances are assumed to be equal	318	2.253	0.025
	University Staff	78	3.9819	0.75727	Variances are not assumed to be equal	295.6	2.26	0.026

Table 2: The results of t-test for comparing the means of two independent samples in terms of human resources

Index Variable	Rate	Number	Mean	SD		Degree of Freedom	T	Significance Level
Human resources	Faculty Members	59	3.2576	0.76328	Variances are assumed to be equal	318	3.142	0.002
	University Staff	78	3..5532	0.90715	Variances are not assumed to be equal	300	3.162	0.002

Table 3: The results of t-test for comparing the means of two independent samples in terms of communication and information technology

Index Variable	Rate	Number	Mean	SD		Degree of Freedom	T	Significance Level
Communication and information technology	Faculty Members	59	3.4075	0.58316	Variances are assumed to be equal	318	3.223	0.025
	University Staff	78	3.5632	0.65578	Variances are not assumed to be equal	306	3.248	0.026

Given the data calculated in Table 1, since the *t* calculated with a degree of freedom equal to 319 in 0.0.5 significance level (2.25), is greater than *t* (1.96), so H_0, stating there is no difference between the mean of two samples, is rejected. Therefore, there is a significant difference between the compared samples. So, it can be said that, there is a significant difference between the opinions of faculty members and the opinion of university staff, in terms of organizational structure, about the possibility of establishing the knowledge management system. The second research Hypothesis: the faculty members and staff think that, in terms of human resources, it is possible to implement the knowledge management in Bojnurd University.

Given the data calculated in Table 2, since the *t* calculated with a degree of freedom equal to 319 in 0.05 significance level, is greater than *t* (1.96), so H_0, stating there is no difference between the mean of two samples, is rejected. Therefore, there is a significant difference between the compared samples. So, it can be said that, there is a significant difference between the opinions of faculty members and the opinion of university staff, in terms of human resources, about the possibility of establishing the knowledge management system. The third research Hypothesis: the faculty members and staff think that, in terms of communication and information technology, it is possible to implement the knowledge management in Bojnurd University.

Given the data calculated in Table 3, since the *t* calculated with a degree of freedom equal to 319 in 0.05 significance level, is greater than *t* (1.96), so H_0, stating there is no difference between the mean of two samples, is rejected. Therefore, there is a significant difference between the compared samples. So, it can be said that, there is a significant difference between the opinions of faculty members and the opinion of university staff, in terms of communication and information technology, about the possibility of establishing the knowledge management system.

So, given the abovementioned results, it can be said that in all three components of knowledge management is higher than average. Therefore, it can be said that generally, the respondents think that, at the moment the State University of Bonjurd is ready for implementing knowledge management based on Pawlowsky model.

7. Discussion and conclusion

The results of this research show that, given the vast range of attempts conducted in knowledge management around the world and Iran, knowledge management – despite the different but united models – has been neglected in universities which are scientific and knowledge-based places, and the potential of this kind of management to increase the organization power and lifetime has been underestimated.

Since theoretical backgrounds and knowledge management infrastructures are taken for granted in Iran, to implement this management practice and to exploit its various benefits, we need knowledge leaders and managers to guide different organizations, especially universities which are knowledge-based organizations, through their knowledge-oriented attitudes. If values such as senior management commitment and leadership, staff involvement, trusted committee, staff reinforcement, and performance appraisal and information system infrastructures (Hang et al. 29, 2005) are considered in implementing the knowledge management system, then its success rate will increase significantly. Because knowledge, as a

public capital, can be a vital part of any organization's strategy and can determine their differences (Rahimi and Najafi, 1386).

According to the findings of this research regarding the subscales of knowledge recognition, knowledge production, knowledge distribution, knowledge integration and knowledge transfer in three aspects, organizational structure, communication and information technology, and human resources, which are constituents of Pawlowsky model, it can be concluded that knowledge management in Bojnurd University is in a good condition and all the findings of this research are higher than average. In addition, having compared the opinions of faculty members and university staff, it was revealed that there is significant difference between the opinions of university staff and the opinions of faculty members about university's readiness for implementation of knowledge management system based on Pawlowsky model. The obtained results are consistent with the results of Pranir (2009), and Pockoly et al. (2007).

Yang and Yung (2005) in a research investigated the knowledge management system in a higher education institution in Taiwan. The researchers obtained a multi-dimensional model. In this research, first some brain storm sessions with the faculty members were held to develop a perspective for the institution. Then the leadership issue was investigated to have better picture of knowledge sharing culture. The researchers developed knowledge management strategies according to academic and organization perspective, and then provided a model to describe the implementation stages and policies. Their results are consistent with the findings of the present research.

Haghani et al. (1393), in a research titled "Feasibility of Knowledge Management Implementation (Pawlowsky Model) in Islamic Azad University of Islamshahr", concluded that the subjects believe that it is NOT feasible to implement components such as knowledge recognition, knowledge production, knowledge distribution, knowledge integration and knowledge transfer in there aspects of organizational structure, communication and information technology, and human resources in Islamic Azad University of Islamshahr. As such, to compare the opinions of the faculty members and the opinions of the university staff about the readiness for implementation of knowledge management, a two samples t-test was used, the results showed that there is NO significant difference between the opinions of faculty members and university staff in none of aspects and components of knowledge management. Their results are not consistent with the results of the present research.

References

[1] Birkinshaw, J.,& Sheehan, T.(2002). Managing the Knowledge life cycle. MIT Sloan Management Rewive, 44(1), 75-83.

[2] Hung, Y., Huang, S., Pin Lin, Quo.and Tsai, M. Ling. (2005. Critical Factors in Adopting a Knowledge Management System for the Pharmaceutical Industry. Industrial Management and Data Systems, 105(2).

[3] Hislop, D. (2003). Linking Human Resource Management and Knowledge Management via Commitment. A Review and Research Agenda, Employee Relations, 25, 182-202.

[4] Kidwell,J.J. Vander Linde, K.M. and Sandra l.J.,(2006). « Tacit Knowledge, Innova on and Technology Transfer», in :technology Analysis & Strategic Management.,4, 28- 33.

[5] Luiyz, V. (2010). Reconfiguring the value network. Journal of Business Strategy , 21(4),36–39.

[6] -MinuIpe. (2003). Knowledge Sharing in Organizations: A Conceptual Framework. Human Resource Development Review, 2(4), 337-359.

[7] -Maier, R. (2007).Knowledge Management Systems Information and Communication Technologies for Knowledge Management, Third Edition, Springer.

[8] Martin, J. S., & Marion, R. (2005).Higher education leadership roles in knowledge processing, The Learning Organization, 12 (2), 140-151.

[9] Nonaka , I,. Toyama, R., Konno, (2000), «SECI, Ba and Leadership : a unified model of dynamic Knowledge crea on», long Rang Planning.

[10] psarras, G ; Ahmad, R and Ives, B,(2006);» Knowledge management in academia: Aproposed framework»; Journal of Information Technology and Management, Volume ١, Number ٤ . p245-239.

[11] Sharifuddin, S.O. Rowland, f. (2004). « Knowledge management in a Public organization : Study on the relation ship between organizational element and performance of Knowledge transfer», jornal of Knowledge management vol.2.

[12] Tikhomirova, N; Gritsenk, A.(2008). University approach to Knowledge management. The Journal of information and Knowledge management systems. Vol. 38. No. 1. Pp. 16-21.

[13] Yaying M., Chou Yeh & Yung,T.(2005).The Implementation of Knowledge Management System In Taiwan's Higher Education. Journal of College Teaching & Learning, Volume 2, Number 42-9-35.

[14] Xianming, X(2006). Academic Management and Administratino System Reformin Higher Education Institutions, Higher Education Press and Springer – Verlag, Front. Educ. China, pp 70-78. Yaying M., Chou Yeh & Yung,T.(2005).The Implementation of Knowledge Management System In Taiwan's Higher Education. Journal of College Teaching & Learning, Volume 2, Number 42-9-35