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Reviewing the Relationship Between Knowledge Management and Trust Levels in Organizations (Case Study: Golestan's Province's Technical and Professional Schools)

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Abstract: Increasing the power of knowledge in providing competitive advantages for today's organizations has necessitated the establishment of knowledge management. Knowledge can be created and produced in organizations effectively provided that it is supported by the culture of organizations. Trust is one of the attributes of any organization and in the present research we shall review the correlation among knowledge management processes with different levels of trust (Individual, Group and Organizational). The type of present descriptive research is correlation and we have used some questionnaires for collecting the inputs. The volume of sample has been specified based on Morgan's table and classified random sampling method was utilized for this purpose. For determining permissibility, the content permissibility, was used and the consistency of the questionnaires were also measured by the aid of Cronbach's Alpha and internal correlation. The input analysis was performed by using descriptive and perceived statistical methods, Pearson correlation and the regression analysis (through utilizing SPSS software). Input analysis showed that there is a positive and significant correlation relationship between processes of knowledge management (Harvesting, Filtering, Organization, Dissemination and Application) and all the research assumptions were confirmed. The effects of colleges for transforming into knowledge-oriented scientific centers will be successful if initiatives are taken for establishing knowledge management in them and considering the meaningful correlation between knowledge processes and trust levels, creation of a trustful-based culture for establishing knowledge management, will play an important role.

Key words: Knowledge Management · Individual Trust · Group Trust · Organizational Trust

INTRODUCTION

The present time has been named "The knowledge era". Knowledge is the largest source of wealth for all nations. The most important competitive advantage of organizations lies in their capabilities for knowledge management [1]. Knowledge management theory has been concentrated on organizational needs for organizing thoughts, human and scientific investments and management of muscle power has manifested in the form of brain management [2]. Based on researches done, the major distribution and production localities for knowledge are universities [3]. As it is widely believed by academicians and business communities, by leveraging knowledge, organizations are capable of sustaining their long-term competitive advantages [4]. Knowledge management includes a combination of control, management, creativity, dissemination and imposing knowledge power processes and its main goal is to guarantee people to have access to their required knowledge, such that they are able to make proper and timely decisions [5]. Execution of knowledge management process results in fundamental changes in organizational structures and those organizations who have established this type of management in their structures have considerable differences with their competitors. Among these changes we can mention the speed of processes, identifying and compatibility with the changes, preserving and growth of mind investments and continuous competitive advantages [6].

On one hand, our complex and changing environments, globalization, the advent of new information and communication technologies and rapid growth of science have created deep challenges for higher educational centers. Peter Drucker warned that in the next 30 years, large educational centers will turn into

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monumental structures and if traditional universities do not accommodate themselves with globalization phenomenon and don't pay attention to the influence of new technologies on production of knowledge, they will witness the ends of their lives [2].

As the centers of thought, innovations and creativity, universities have the responsibility of providing people's needs, production of knowledge and technology. For these reasons they must be the pioneers of recognizing and presenting solutions for social and economical problems [7]. It should be however admitted that knowledge management is one of the pre-requisites for universities to transform themselves into better higher educational centers which is one of the main factors for universities to achieve their goals. Knowledge technology management in higher education includes a combination of creation, organization, sharing and knowledge application processes for universities to reach their objectives in an increasing manner [8]. Therefore, since the final goal of this project was to create a superior education center (the case study), in the first stage, we segregated knowledge management into some components, in order to specify the conditions for achieving the related processes. On the other hand, establishing knowledge management in any organization entails the existence of trust at various individual, group and organizational levels. This trust fortifies and facilitates functions of knowledge management components and prepares the ground for establishing knowledge management in the organization in an improving manner [9]. For this purpose, the relationship between processes of knowledge management and trust levels will be assessed based on a conceptual model in Golestan province's technical-professional training centers and the results will be discussed after presenting the related discussion.

Literature Review: Gholikhani [10] studied the relationship between knowledge management and high school teachers' creativities in Golestan province. The first tools for collecting inputs in this descriptive-correlation research, was the questionnaires of Loveson's knowledge management and Randsip's creativity.

The input analysis showed that there is a significant and positive relationship between knowledge and creativity management processes. Khatami [2] studied the role of organizational culture in establishing knowledge management in Al-zahra University and the same subject was also reviewed by Shojaee [11] in Iran's telecommunication organization. The results of both researches showed that there is a significant and positive relationship between organizational culture and establishment of knowledge management. The stronger the organizational culture, more successful the establishment of knowledge management will be. Khaef Elahi [12] analyzed the role of trust in creating organizational knowledge and their research results showed that trust is an effective catalyst for sharing knowledge. Establishing effective relationships results in creation of knowledge and knowledge-based structures must be basically formed on trust rather than on control. Keshavarzi [13] studied the obstacles and catalysts of knowledge sharing in organizations and presented the challenges of knowledge sharing in three groups of individual, organizational and technical obstacles. Loie Stevens [14] studied the role of trust in mid-organizational learning in Hong Kong. The volume of his sample included 126 mediators and the results indicated that the longer relationship between two companies, the stronger the relationship between competency-based trust and obtaining knowledge will be. Adel Ismael Al-Alawi and et al's research results [15] in 25 ministries, governmental and private institutes of Bahrain (with the aim of reviewing the role of successful knowledge sharing in organizations) showed that there is a very strong relationship between trust, employee's relationships and information systems with the process of knowledge sharing in organizations. Peterson and Paul Felt performed some researches regarding the importance of trust creation in Denmark's different organizations and concluded that trust is a vital and even the most important element for creating knowledge and successful performances. This element manifests itself in knowledge distribution and if there is no atmosphere of trust, the employees will not provide others with their knowledge either [16]. In a similar research Bat reasoned that distribution of knowledge at different organizational levels depends on trust [17]. Downport's and Prosack's findings in this respect show that trust has a positive influence on flourishing of knowledge market [18]. Recently, In similar researches, Mohammad *et al.,* have reviewed the influence of knowledge management in the function of university activities. In this research, different stages of establishing knowledge management has been described in a case study and the desirable function of university activities has been shown to depend on knowledge management [19].

Knowledge Management: The concept of knowledge management was introduced by the end of 1970's. In the mid 80's and with specifying the stance of knowledge and its effect on competition market of economical markets, its

importance was doubled. During this decade, artificial intelligence based disciplines were used gradually for knowledge management and the advent of global web in the mid 90's created a new dynamic for knowledge management [20]. Knowledge management is one of the significant fields in the current organization in order to improve performance [18]. Knowledge in management may generate new ideas in organization as demonstrated [3].

Presently, knowledge management in many advanced countries is the symbol of competition and a factor for achieving power and development [6]. According to the definition, knowledge includes the ability of reacting to real situations and performance of tasks instead of talking about them [21]. In other words, knowledge is a flowing combination of experiences, values, the available information and disciplined insights which present a frame for assessing and utilizing new experiences and information [5]. Knowledge management includes the processes of discovery, organizing, dissemination and transferring information and specialties in organizations and it is necessary for problem solving, dynamic learning and decision makings [5]. Eskim introduced knowledge management as a systematic approach for presentation of knowledge which ties with the processes of creation, knowledge and knowledge applications. In his opinion, in knowledge management, transformation of personal knowledge to group knowledge is important [6]. The processes of knowledge management can be shown in the below cycle:

- Harvesting: Perception or achievement of knowledge is necessary for responding to the present and future predictable requirements and the effectiveness of goals. Knowledge can be obtained through different mechanisms and includes intra-organizational and extra-organizational resources [5].
- Filtering: It means that only useful and applicable knowledge is permitted to enter organizations. What is important in filtering process is to ensure that all the useful and valuable knowledge are selected [5].
- Organization: In this process, organizations must store and organize a considerable amount of information after its entrance into the establishments. Organization process may be performed in any section of an organization [5].
- Dissemination: It means distributing or sharing the required knowledge. This process includes distribution of knowledge up to the point of activities and even beyond that to outside of organizations.

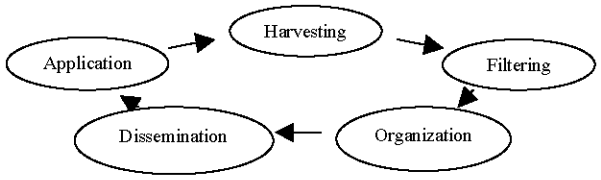

Fig. 1: The processes of knowledge management [5]

- Application: This is the most important process of knowledge management. The competitive advantage does not belong to those who have the best capitals, but it belongs to those who use their knowledge in the best manner. Application of knowledge results in elimination of the gap between "knowing" and "performing" and the important loop of learning input will be resulted through performance and application [5].

Trust: Today the most important challenge in knowledge management is to ensure the members' participation in knowledge sharing, cooperation and re-application of knowledge for obtaining results [5]. Knowledge can be created in organizations effectively provided that it is supported by organizational cultures. Trust is one of the important aspects of human relations which paves the way for cooperation and coordination of organization members [23]. Trust is necessary to create a culture in organizations to prevent creation of "hidden knowledge" and instead to create an atmosphere of intimacy and trust [5]. Trust results in facilitation of exchanging knowledge in organizations and transferring the same and the necessary knowledge will be created accordingly [23]. According to the definition, trust is a kind of expecting positive results in an interaction which on one hand can be received by one party based on the other party's expectations with its main attribute as "not-trusting" [24]. Trust is a complex and multi-dimensional phenomenon [25]. Trust can be classified and defined at different levels. Individual trust is based on individuals' experiences which results from interactions during a period [26]. Group trust includes trust between people and has a direct effect on desirable performances of organizational activities [27]. This type of trust is necessary for developing an optimistic attitude towards others, which makes social interaction possible [25]. Laws, regulations, methods, policies and the relationship among the managers of an organization are influential in creating organization trust [28]. Increasing of the employee's trust for their organizations, their participation in the free flow of knowledge for the purpose

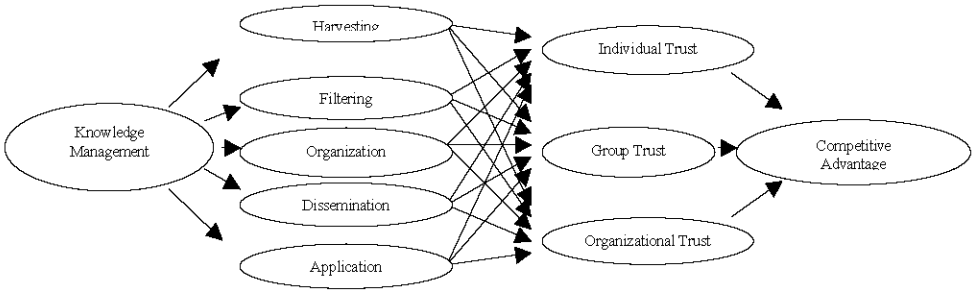

Fig. 2: The research conceptual model

of implementing knowledge management will also increase [29]. Based on this model, the conceptual model of research is presented as below:

Research Assumptions: Based on the research objectives and the presented conceptual model, the major and minor assumptions of the research are as follows:

Major Assumption: There is a relationship between the process of knowledge management and trust levels.

Minor Assumptions:

- There is a relationship between harvesting of knowledge with individual, group and organizational trusts of administrative and training personnel.
- There is a relationship between filtering of knowledge with individual, group and organizational trusts of administrative and training personnel.
- There is a relationship between organization of knowledge with individual, group and organizational trusts of training and administrative personnel.
- There is a relationship between dissemination of knowledge with individual, group and organizational trusts of administrative and training personnel.
- There is a relationship between application of knowledge with individual, group and organizational trusts of administrative and training personnel.
- The rate of trust levels (individual, group and organizational) is different in establishment of knowledge management.

MATERIALS AND METHODS

The research method is based on the nature of subject and may be descriptive (correlation type) and the aim is to obtain and describe the research findings without any changes. The statistical society of the present research includes all the staffs and professors who were active in Golestan province's technical and professional academies during the academic year of 2009 and they consist of 527 people. Before sampling, first 223 people were specified as the sample volume by using Morgan's table and considering the society's volume (Table 1).

Table 1: Distribution of sample abundance based on gender

Statistical Index	Male	Female	Total
Abundance	392	135	527
The Ratio of Class to Society	64.1	35.9	100
The Numbers in Sample	143	80	223

Research tools consisted of a three part questionnaire based on the research assumptions and the questions were according to Likert's 5 options spectrum and the scores ranged from zero to four. The questions were designed such that the higher scores indicated more desirable establishment of knowledge management and the lesser scores showed non-desirable execution of knowledge management process in organizations.

The descriptive statistics method was used to describe the attributes of demography which includes gender, level of education, work experience and describing the questionnaires. At the level of perceptual statistics, input analysis was performed by the aid of SPSS software and in order to extract the abundance, average, criteria deviation, elongation and etc, Pearson's correlation test and Regression analysis were utilized to determine the relationship between the variables.

RESULTS

After describing the questionnaires, content permissibility was used to determine the questions permissibility. Consistency of questionnaires was also calculated by the aid of Cronbach's Alpha and the internal similarity method. The rate of questionnaire's consistency for the section of knowledge management process was 85% and the confidence level was 93%. After distributing

the questionnaires in statistics society based on the scores considered for the questions of Likert's spectrum by the employees, the following classified findings were resulted for testing the assumptions:

Considering the findings of Table 1, the correlation rate resulted from the two variables of knowledge management and trust is R=0.45 with the Sig = 0.00. This correlation is positive and since there is a significant relationship between knowledge management and trust, the main assumption of research at the deviation level of Alfa = 0.01 is confirmed.

The test inputs show that correlation between harvesting of knowledge and trust levels with Sig = 0.00 is positive. This relationship is significant with P<0.01. It must be mentioned that the first minor assumption is accepted.

The inputs of correlation test for confirming the second minor assumption indicates that correlation between knowledge filtering and levels of trust with Sig = 0.00 is positive. This relationship is significant with P<0.01.

The table inputs show a positive correlation between knowledge organization and levels of trust with Sig = 0.00. This correlation is significant with confidence level of P<0.01 and therefore the third assumption is also confirmed.

The positive value of correlation between the knowledge dissemination and trust levels with Sig = 0.00 means that with P<0.01 it cab be claimed that the fourth minor assumption will also be acceptable.

Inputs of the above mentioned correlation test shows that correlation between application of knowledge and trust levels with Sig = 0.00 is positive. This relationship with the confidence level of P<0.01 is significant and is a logical reason for accepting the fifth minor assumption. In order to test the sixth minor assumption, the regression test method was used in order to specify the effect of each level of trust for establishing knowledge management. The findings of this test are presented in Table 8.

As shown in the table of regression test, all the three trust levels have a considerable and significant share for predicting knowledge management. Individual trust has the highest share in the prediction process (R = 0.61). Its determination ratio shows that individual trust forms 38% of knowledge management. By adding the trust level (group trust) to these variables, 44% of the knowledge management share will be predictable. Considering the high rate of correlation in these variables, it can be claimed that the sixth minor assumption which states that

Table 2: Correlation test between knowledge management and trust

	Quantity	Mean	Correlation Rate	Sig
Knowledge Management	223	80.66	0.45	0.00
Trust	223	98.60		

Table 3: Correlation test between the harvesting and different levels of trust

P<0.01	Quantity	Mean	Correlation Rate	Sig
Harvesting	223	17.60	0.39	0.00
Individual Trust	223	34.43		
Harvesting	223	17.60	0.21	0.00
Group Trust	223	34.78		
Harvesting	223	17.60	0.31	0.00
Organizational Trust	223	29.31		

Table 4: Correlation test between the filtering and different levels of trust

P<0.01	Quantity	Mean	Correlation Rate	Sig
Filtering	223	14.33	0.42	0.00
Individual Trust	223	34.43		
Filtering	223	14.33	0.39	0.00
Group Trust	223	34.78		
Filtering	223	14.33	0.42	0.00
Organizational Trust	223	29.31		

Table 5: Correlation test between organization and different levels of trust

P<0.01	Quantity	Mean	Correlation Rate	Sig
Organization	223	17.17	0.52	0.00
Individual Trust	223	34.43		
Organization	223	17.17	0.46	0.00
Group Trust	223	34.78		
Organization	223	17.17	0.51	0.00
Organizational Trust	223	29.31		

Table 6: Correlation test between dissemination and different levels of trust

P<0.01	Quantity	Mean	Correlation Rate	Sig
Dissemination	223	14.35	0.46	0.00
Individual Trust	223	34.43		
Dissemination	223	14.35	0.42	0.00
Group Trust	223	34.78		
Dissemination	223	14.35	0.46	0.00
Organizational Trust	223	29.31		

Table 7: Correlation test between organizations and different levels of trust

P<0.01	Quantity	Mean	Correlation Rate	Sig
Application	223	17.75	0.35	0.00
Individual Trust	223	34.43		
Application	223	17.75	0.33	0.00
Group Trust	223	34.78		
Application	223	17.75	0.31	0.00
Organizational Trust	223	29.31		

Table 8: Regression test for determining the effect of trust levels for establishing knowledge management

Knowledge Management	R	R^2	β	f	Sig	t	Sig
Individual Trust	0.61	0.38	0.61	137.31	0.00	11.71	0.00
Individual & Group Trust	0.65	0.43	0.28	84.63	0.00	4.48	0.00
Individual, Group & Organizational Trust	0.67	0.44	0.16	59.33	0.00	2.31	0.00

there are different rates of individual trust (individual, group and organizational) for establishment of knowledge management, is acceptable.

DISCUSSION

Considering acceptance of the sixth assumption, it should be mentioned that the previous research results such as Khatami [2] and Shojaee [11] confirms this claim which state that the existence of trust-based organizational culture is effective for successful establishment of knowledge management. Sometimes people share their knowledge for achieving organizational goals, such that the culture of trust is imposed on the organization.

The research findings of Khaef Elahi *et al.* [12] which confirms the first minor assumption showed that trust results in organizational creativity and Dianne Ford's researches [28] emphasizes that inter-individual trust is the best type of trust for knowledge achievement, while mentioning the existence of a relationship between knowledge perception and different types of trust.

Bhatt's findings [17] indicate that for organizations it is necessary to review, test and increase the credibility of knowledge in an increasing manner in order to achieve the same and Gholikhani [10] believes that continuous filtration of information is a basic necessity in the process of knowledge management. In the second assumption of the present research, the necessity of knowledge filtration for establishing knowledge management and its significant relationship with different levels of trust was confirmed.

Based on third assumption, knowledge organization results in an easy access to knowledge to enable the members to use them for making decisions and solving problems and of course utilization of IT and software will be a very effective factor for organization of knowledge.

Based on confirming the 4th minor assumption, dissemination of knowledge for better functioning requires suitable culture. A culture in which all the members respect each other, trust one another and interact in order to transfer the necessary knowledge. Khatami's findings [2] showed that by trust-based organizational culture, sincerity and incentives are strengthened and ultimately result in creation of new ideas. Khaef Elahi [12] perceived that trust is one of the effective facilitators of knowledge sharing. Gholikhani [10] confirmed the relationship between creativity and knowledge sharing and stated that creation of culture creativity in organizations in which the members don't trust each other is difficult.

Keshavarzi [13] showed that people's concern regarding reduction of their job security by using their knowledge is one of the obstacles of knowledge sharing and this obstacle can be eliminated through a trust based culture in organizations. Dianne Ford [28] while confirming this fact believes that existence of organizational and inter-individual trusts are important in knowledge applications. The fifth minor assumption which has been approved during this project includes a review of this matter.

Based on the sixth assumption, Dianne Ford [28] also showed that there is a relationship between trust and the process of knowledge management. He pays more attention to organizational and inter-individual trusts and believes that flexible and multi-directional communicational patterns by which people can communicate freely is effective for the success of knowledge management systems.

Findings indicate that the presence of weak trust culture causes employees to get used to the available organizational methods and will have no willingness for innovations and creating new ideas. Furthermore, they are not willing to share their knowledge with others in order to transform the results into the skills which can be effective for solving organizational problems. Consequently, since the presence of universities and higher education institutes in knowledge market has been recognized as a necessary tool for achieving organizational goals, establishment of trust culture in the form of different individual, group and organizational dimensions, needs special attention in order to witness the growth of scientific centers as the pioneers of our country's development in all dimensions.

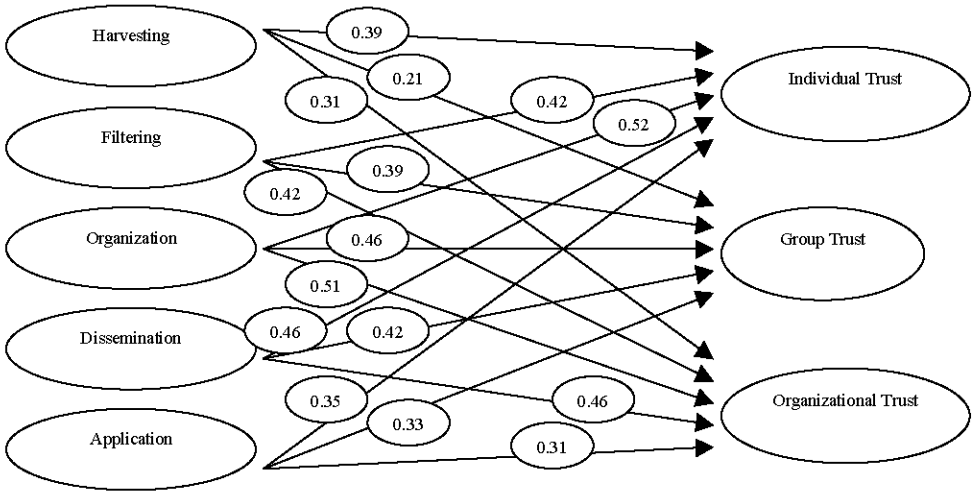

Fig. 3: The correlation rate between the process of knowledge and different levels of trust

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