

KNOWLEDGE MANAGEMENT AND LEARNING CULTURE IN HIGHER EDUCATION

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ABSTRACT

This study concentrates on finding the relationship between organizational learning culture and knowledge management in order to introduce a model of knowledge management with regard to the effect of organizational learning culture. The seven hypotheses of this study tested 42 relationships between organizational learning culture dimensions and knowledge management dimensions. Sixteen branches of Islamic Azad universities in Esfahan, Iran, were selected for data gathering. These universities have 1562 faculty members. Based on Kukran formula, the designed sample size was 226 persons. Data analysis was done using Structural Equation Modelling. Following confirmatory factor analyzing, and modifications made in the model, hypothesis testing was done. Based on seven hypotheses, 19 out of 42 relationships were supported and others were not supported in the place of study. The findings showed that creating an opportunity for continuous learning had an effect on knowledge identification, utilization and knowledge sharing. Developing the culture of inquiry and dialogue had an effect on knowledge creation and knowledge storage. Encouraging team learning had an effect on knowledge identification, creation, utilization and knowledge storage. Empowering others had an effect only on knowledge identification. Developing a systematic training had an effect on knowledge identification and creation. Developing a systematic communication had an effect on knowledge creation, utilization and knowledge sharing. Strategic leadership had an effect on knowledge utilization and knowledge creation. A model of the relationship between organizational learning culture and knowledge management was developed which can be utilized by universities in order to increase their knowledge management system by paying more attention to organizational learning culture.

INTRODUCTION

In this era which has been called the era of knowledge, knowledge and knowledge management are introduced as the strategic sources for every organization, especially for universities. On the other hand, many researchers are of this belief that one of the important factors in knowledge management development is organizational culture (Lee & Lee, 2007; Zaim, Taoglu, & Zaim, 2007). In addition, having a good learning culture that can support the knowledge management is quite necessary in an organization.

While there are many researches about the relationship between organizational culture and organizational learning with knowledge management, there is a lack of study about the relationship between organizational learning culture and knowledge management.

In this study, after reviewing several researches on knowledge management and organizational learning culture, the influence of organizational learning culture in knowledge management is investigated in Azad Universities in Esfahan. Esfahan is the second largest city in Iran. This study can help the universities' executives to recognize the organizational

learning culture factors which influence the knowledge management process. Therefore, it can help them reach the best strategies for their knowledge management plans.

Organizational Learning Culture (OLC) and Knowledge Management (KM)

Knowledge management is one of the important factors in competitive advantages. In fact, many opportunities for developing human resource performance and competitive advantages are created by knowledge management. Pauleen and Manson's research showed that the most important barrier for knowledge management implementation in organizations is cultural and managerial factors (Pauleen & Manson, 2002). In addition, Monavarian (2006) in his research on the knowledge management illustrated that cultural factors are important parameters in knowledge management implementation. He also introduced organizational culture, information technology, human resources and training as the factors which have a positive effect on knowledge management.

Nemati (2006) explained that the biggest challenge of knowledge management in Iran's higher education is a cultural one. Many higher education professionals believe that universities are the main organization for promoting the learning process in the society. They must transform the society to a learning society, create the culture of knowledge sharing, and utilize knowledge management strategy efficiently.

Organizational Learning Culture and Knowledge Management In Universities

Through a successful implementation of knowledge management and use of its potentials, acquiring competitive advantage and knowledge development capabilities would be easier for universities. While there are many researches on knowledge management and its operative factors, the effect of OLC dimensions of knowledge management is an area which has received less attention. Nevertheless, reviewing the researches related to knowledge management and/or organizational learning culture, particularly the ones focusing on universities, would be useful for the current study.

Mosavi Khatir et al. (2009) investigated in their research the factors affecting the success of knowledge management in several Iranian universities. They concluded that universities use factors such as culture, leadership, technology, process, training, learning and structure at less than average rate. Another study at some large universities in Iran (including University of Tehran, University of Esfahan, Tarbiyat Moddares University, Alzahra University, University of Mazandaran, University of Gilan, University of Yazd, University of Arak, and Razi University) showed that these universities are not in good condition with regards to the level of knowledge management indicators (Madhooshi & Niyazi, 2011). In fact, most research about the relationship between organizational culture, organizational learning and knowledge management, were done in the industrial arena. Therefore, a study of the important process of knowledge management in universities, and finding these relationships within universities seem to be of vital importance (Gholtash, Salehi, Javdani, & Sina, 2011). Holowzki (2002), in his research, investigated the organizational culture and knowledge management in Oregon University. He concluded that as knowledge management can be a competitive advantage, organizational culture also determines the corporate strategy. He also explained that focus on organizational culture is a key concept of knowledge management (Holowzki, 2002). Furthermore, the research results of Kantrobanda (2004) showed that the most essential factors influencing knowledge management processes are empowering human resource and organizational learning. Pajohan (2009), investigated the relationship between organizational culture and knowledge management implementation in Islamic Azad University of Tehran, Iran. The result of his research indicated that there is a significant relationship between organizational culture and knowledge management implementation.

Parham (2010), in his research at Shahid Chamran University in Ahvaz, Iran investigated the with regard to of this university for implementation of knowledge management models regarding the seven factors, including: internal processes, technology, culture, measurement, human resources and leadership. The results indicated that none of the key factors for knowledge management implementation were at a satisfactory level.

The results of a research done by Abdullah (2008) in a number of higher education organization in Malaysia showed that users' knowledge of implementation and usage of knowledge management system was not acceptable. The fundamental constructs for knowledge management in Tabriz University, Iran have been studied by Adineh Ghahremani et al. (2011). They concluded that use of four constructs, including organizational culture, organizational structure, process, and financial support was not at a satisfactory level, while use of human resource and technology seemed to be in a better condition. Gholtash et al. (2011), found a strong relationship between organizational culture, organizational learning and knowledge management in Islamic Azad University of Marvdasht, Iran. In addition, King (2009) concluded in his research that organizational learning is a complementary element of knowledge management.

In a research in several public and private (Azad) universities in Iran, Doaee and Dehghani (2011) showed that in public universities, knowledge management is highly considered by managers and planners while in private (Azad) universities, knowledge management dimensions are not at the desirable level. He also noticed that there is a gap between employees' expectations and perceptions.

Organizational Learning Culture Dimensions

While organizational learning culture facilitates efficient adaptations to challenging environments, it also extensively helps in the ongoing development of an organization (Cunningham & Gerrard, 2000). This learning ability has to be the continuing and driving force for all organizations in order to adjust to any unexpected changes in the environment. There is a link between organizational learning culture and employee and organizational performance, and also psychological and economic outcomes (Pantouvakis & Bouranta, 2013).

Watkins and Marsick (2003) stated that organizational learning culture is more associated to the learning organization's concept. They proposed an integrated model and specified seven dimensions of a learning organization culture which are: Continuous learning, Inquiry and dialogue, Team learning, Embedded system, Empowerment, System connection (in this study it is called "systematic communication"), and Strategic leadership.

Knowledge Management Dimensions

Knowledge management is illustrated as a multidimensional construct with a great quantity of interrelated characteristic (Darroch, 2003). In fact, the definition of knowledge management changes from organization to organization, even from program to program (Call, 2005). For the purposes of this paper, knowledge management process is defined as "the procedures that identify, create, and organize the necessary knowledge; that will storage and share the knowledge, and finally apply or utilize knowledge in the organizations." This study used following dimensions of knowledge management: Knowledge identification, Knowledge creation, Knowledge organization, Knowledge storage, Knowledge sharing, Knowledge utilization (Probst, 1999).

Hypotheses

The main hypothesis of this research is: “Organizational learning culture has a positive effect on knowledge management”. To test this main hypothesis, 7 sub-hypotheses were posed as follows:

H1: Creating an opportunity for continuous learning has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H2: Developing the culture of inquiry and dialogue has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H3: Encouraging team learning has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H4: Empowering others has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H5: Developing a systematic training has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H6: Developing a systematic communication has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

H7: Developing the strategic leadership has a positive effect on knowledge identification, creation, organizing, storage, sharing, and utilization, respectively.

METHODOLOGY

This study was done in 16 Islamic Azad universities in Esfahan, Iran. Esfahan is one of the largest cities in Iran, with 23 branches and 6 centers of Islamic Azad University. The sixteen branches chosen for data gathering are ranked as comprehensive, very large, large and medium sized branches, and others are small sized. These universities have 1562 faculty members. In order to calculate the sample size, this study used a pilot study. For the pilot study, 30 questionnaires were distributed in some related universities. Therefore, the adequate sample size calculated by the Kukran formula was 226 people.

To get the proper number of respondents, 250 questionnaires were distributed in selected universities. 142 questionnaires were returned after approximately two months. From this amount, 11 questionnaires were incomplete. In addition, since no major changes were made to the questionnaire following the pilot survey, these questionnaires (30) were also included in the final total of the collected questionnaires. Therefore, the usable questionnaires for analysis were 161 which represent a response rate of 71 percent.

The questionnaire's items were adapted from previous studies and modified for use in this study. Organizational learning culture was assessed by the 21 items of the questionnaire from research by Watkins and Marsick (2003). Knowledge management items were derived from the knowledge management assessment instrument by Liebowitz (2004) and knowledge sharing practice questionnaire by De Vries et al. (2006).

RESULTS AND DISCUSSION

Ahead of the gathering of the data, a reliability test was done using Cronbach's alpha value. The test showed the over level of 0.7 for each contract which indicated that the questionnaire was reliable. Structural equation modeling was used to analyze the model. First, the measurement model was examined in order to instrument validation, followed by an analysis of the structural model for testing association's hypotheses. The measurement models with all thirteen constructs were evaluated using confirmatory factor analysis. While testing each variable separately showed a good model fit, evaluating the total measurement model showed that CIMIN/df is the only indicator with an acceptable value (less than 3), and other

indicators did not have acceptable values as is illustrated in Figure 1 (AGFI = 0.640, GFI = 0.695, CFI=0.641, TLI= .594, and RMSEA = 0.084). Therefore, the model needed modification.

As the estimates showed, the correlation between KO and ID was more than 1. Therefore, one of them must be dropped from the model. As the main focus of this study is on organizational learning culture, it would be better not to drop the pertinent construct. Therefore, KO was the construct which was decided to be dropped. The results of the model estimate, after dropping the KO, did not show good model fit indicators. Therefore, more modification was needed. The results of item correlation showed that there were high correlations between some items. As a result, some of these items, including the first item of inquiry and dialogue (ID1), the third item of team learning, the first item of systematic communication (SC1), the third item of knowledge storage (KS3), the third item of team learning (TL3), and the first item of knowledge creation (KC1), were deleted from the model, step by step. Apart from the AGFI, which is a little less than 0.8, the model showed the best fit indices.

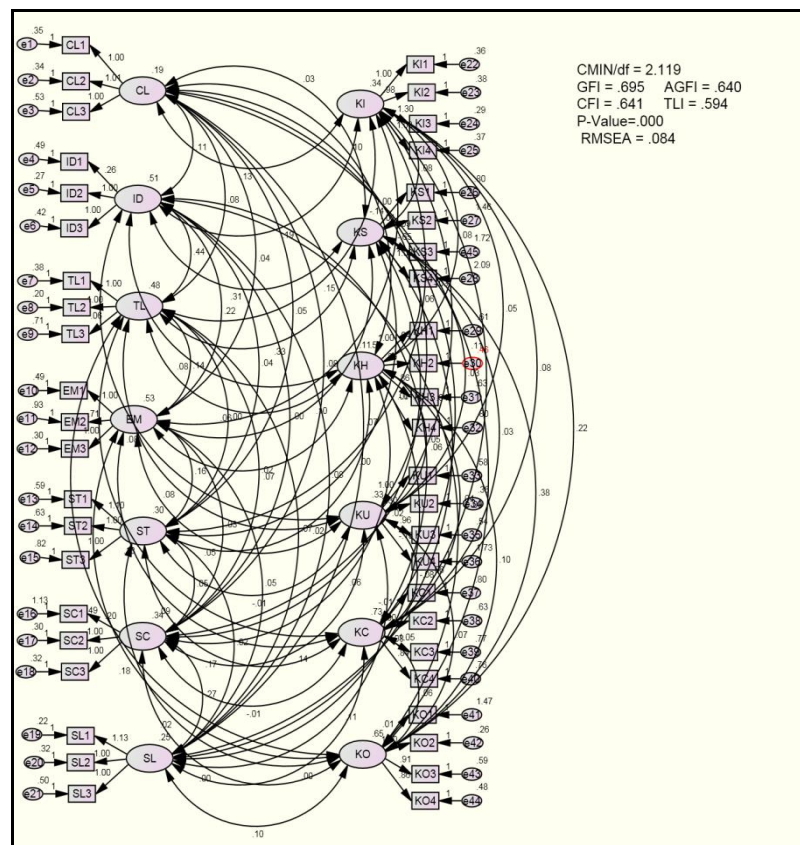


Figure 1. Measurement model

Ahead of dropping one construct (KO) and five items (ID1,SC1,KC1,KS3, TL3), the model was fitted and the structural model was developed to test the hypotheses (Figure 2). Since one of the constructs (KO) was deleted from the model, the hypotheses also decreased to 6.

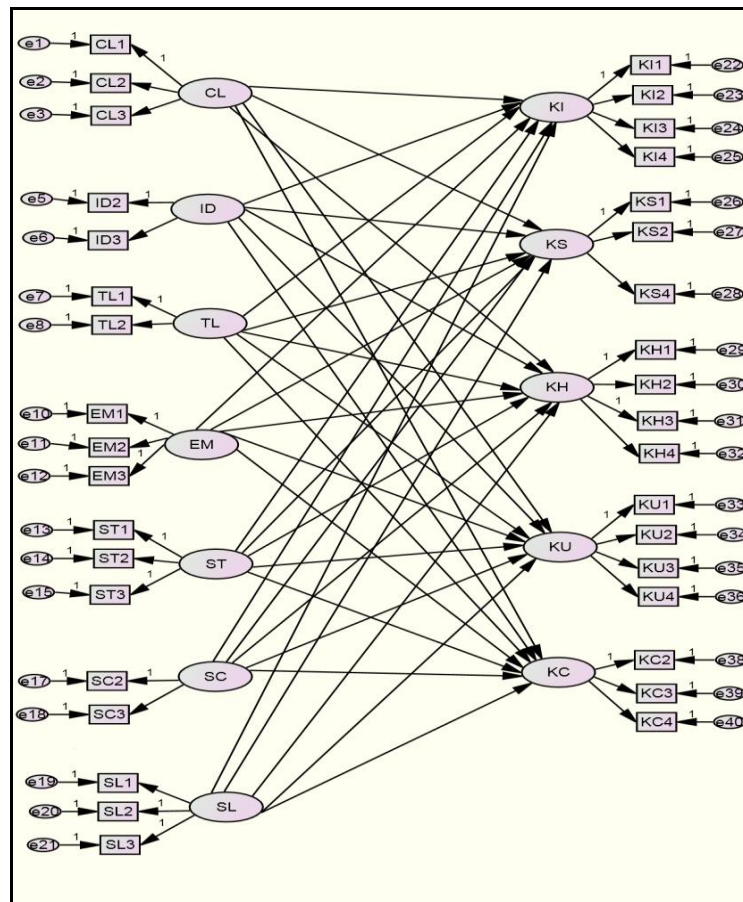


Figure 2. Structural model

Multiple regression analysis was applied to examine the significance of each hypothesis. The results of regression analysis are represented in Table 3. This table shows that some of relationships have a P-value more than 0.05, as highlighted in grey. Relations with values more than 0.05 are not significant, and must be deleted from the model. Therefore, these relations need to be deleted from the model. It would be better to leave out the parameters step by step. By following such a method, one of the variables may remain in the model. To have the significant regression weights the relations with a P-value more than 0.5, 0.2 and 0.07 were deleted in three steps. These relations were included KS-ST, KS-EM, KC-CL, KC-EM, KU-ST, KH-SL, KS-ST, KS-EM, KC-CL, KC-EM, KU-ST, KH-SL. Final structural model is illustrated in figure 3.

Table 2. Regression weights for the structural model

			Estimate	S.E.	P
KS	<---	TL	.899	.081	<0.001
KS	<---	EM	.036	.070	.605
KS	<---	ST	.090	.150	.549
KS	<---	SC	.154	.140	.270
KH	<---	SC	.184	.101	.068
KH	<---	ST	.122	.085	.149

			Estimate	S.E.	P
KH	<---	EM	.051	.037	.172
KH	<---	TL	.022	.031	.478
KH	<---	CL	.363	.183	.048
KI	<---	CL	1.282	.303	<0.001
KS	<---	CL	.351	.181	.052
KU	<---	CL	.956	.280	<0.001
KC	<---	CL	.126	.280	.653
KI	<---	ID	.058	.067	.386
KS	<---	ID	.258	.075	<0.001
KH	<---	ID	.031	.034	.360
KU	<---	ID	.077	.080	.335
KC	<---	ID	.586	.120	<0.001
KI	<---	TL	.131	.064	.042
KU	<---	TL	.157	.077	.043
KC	<---	TL	.680	.115	<0.001
KI	<---	EM	.136	.064	.036
KU	<---	EM	.067	.076	.377
KC	<---	EM	.007	.105	.945
KI	<---	ST	.323	.156	.039
KU	<---	ST	.035	.172	.840
KC	<---	ST	1.627	.357	<0.001
KU	<---	SC	1.263	.237	<0.001
KC	<---	SC	1.139	.261	<0.001
KH	<---	SL	.002	.045	.957
KS	<---	SL	.111	.106	.293
KU	<---	SL	.208	.117	.075
KC	<---	SL	.500	.166	.003
KI	<---	SC	.756	.168	<0.001
KI	<---	SL	.532	.113	<0.001

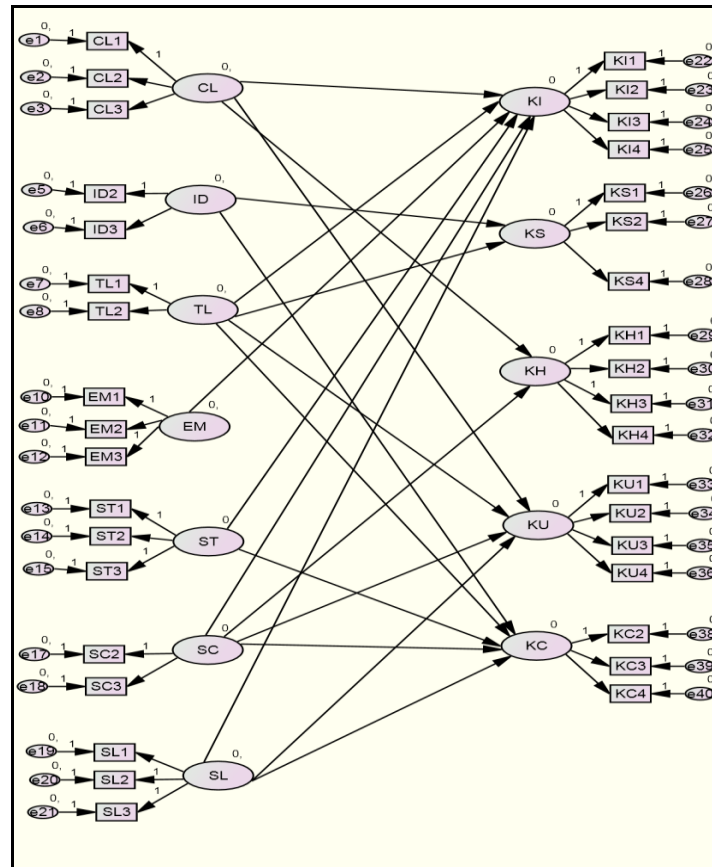


Figure 3. Final structural model

9. Conclusion and Recommendation

The findings show that creating an opportunity for continuous learning have an effect on knowledge identification, utilization, and sharing. Developing the culture of inquiry and dialogue has an effect on knowledge creation and knowledge storage. Encouraging team learning has an effect on knowledge identification, creation, utilization, and knowledge storage. Empowering others has an effect only on knowledge identification. Developing a systematic training has an effect on knowledge identification and creation. Developing a systematic communication has an effect on knowledge creation, utilization and knowledge sharing. Strategic leadership has an effect on knowledge utilization and knowledge creation. Therefore, 19 relationships were supported and 16 relationships were not supported in the places of the study. The final accepted model of this study is shown in Figure 4. Although, theoretically, this study proposed a research model for empirical studies on linking organizational learning culture with knowledge management, the most important advantages rendered by this study come from a practical perspective. From a practical perspective, the model of this study shows how universities’ managers can increase the knowledge management through developing organizational learning culture dimensions. The reason for the rejected relationships can be investigated by other researchers. In addition, the research model can be tested further by using samples from other countries or organizations. Future studies can also gather longitudinal data to examine the relationship between variables.

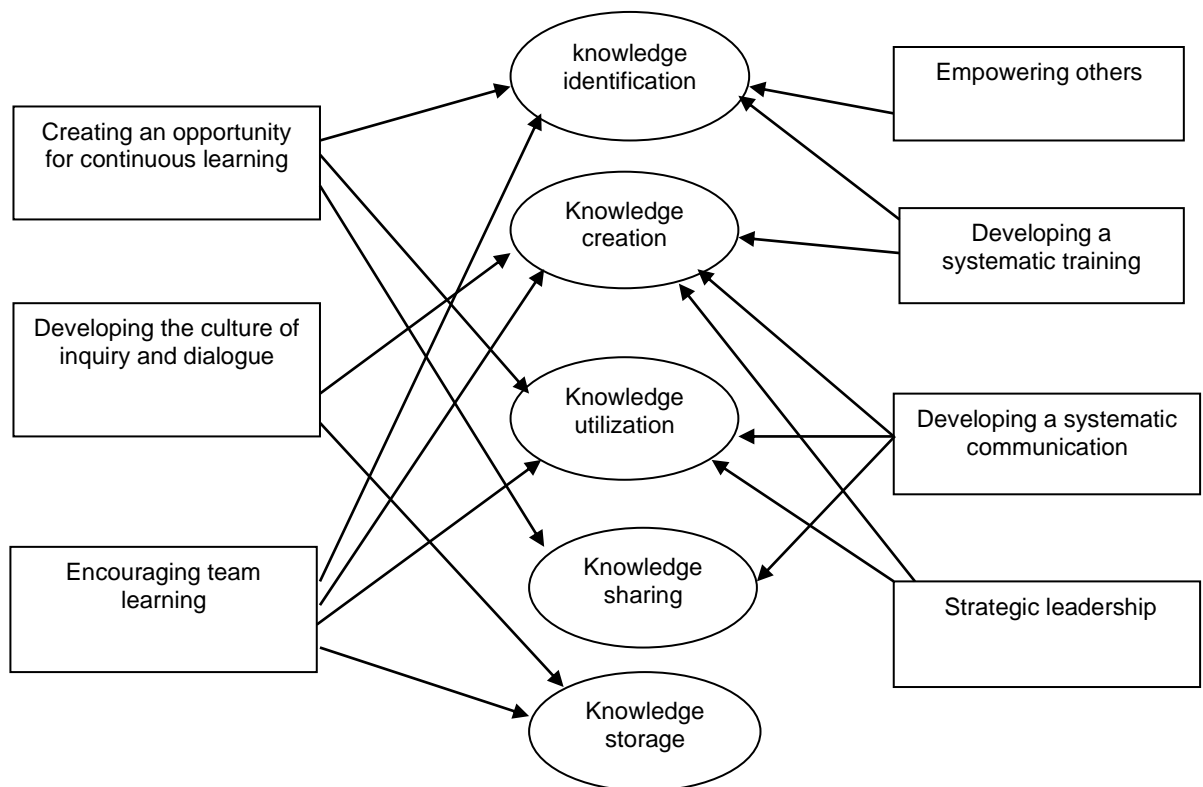


Figure 4. A Model of organizational learning culture and knowledge management

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Appendix

AGFI	- Adjusted Goodness-of-Fit Index
AMOS	- Analysis of Moment Structure
CFA	- Confirmatory Factor Analysis
CFI	- Comparative Fit Index
CL	- Continuous Learning
Df	- Degree of freedom
EM	- Empowering Others
GFI	- Goodness-of-Fit Index
ID	- Inquiry and Dialogue
KC	- Knowledge Creation
KI	- Knowledge Identification
KO	- Knowledge Organizing
KH	- Knowledge Sharing
KS	- Knowledge Storage
KU	- Knowledge Utilization
RMSEA	- Root Mean Square Error of Approximation
SEM	- Structural Equation Modelling
SC	- System Communication
SL	- Strategic Leadership
SPSS	- Statistical Package for the Social Sciences
ST	- Systematic Training
TL	- Team Learning
TLI	- Tucker Lewis Index