Journal of Engineering and Applied Sciences 12 (5): 1085-1091, 2017
ISSN: 1816-949X

Proposing a Model to Create Value in Organizations Through Forming and Establishing Communities of Practice (COP)

Saeid Shavvalpur, Morteza Bayat and Fahimeh Sharif
Department of Progress Engineering, Iran University of Science and Technology, Tehran, Iran

Abstract: A big number of organizations including profiting and non-profiting, profit and mission-driven have figured out that knowledge is their major capital and asset. Hence, they look at knowledge management as a main factor in achieving success in long-term based on their major perspectives and strategies. Similar to any other systems, knowledge management also needs some methods to be implemented and executed. The methods of knowledge management are combinations of human-driven approaches emphasizing on human and technology-driven resources relying on information technology. Communities of Practice (CoP) is used as one of human-driven approaches in order to promote and stabilize knowledge in knowledge-driven organizations. The main aim of this study is designing a model to increase expected values of organizations through forming and establishing Communities of Practice (CoP) as a human-driven approach emphasizing on human resources. Due to this aim, descriptive-analytical study method was used. As the first step, 26 effective independent variables on forming and establishing CoP were identified through studying and investigating theoretical texts. As the second step, the rate of importance for these variables were determined through providing a structured questionnaire by organizational elites of various business domains who were selected through target purposive sampling. Descriptive levels including testing structural model and independent sample t-test and hypotheses were analyzed using SPSS and AMOS Software. The obtained results show that leadership is the most important factor in organization for forming CoP and CoP is also effective on knowledge management procedures and directly affects value creation in organizations that means after improving knowledge management procedures.

Key words: Knowledge, knowledge management, community of practice, CoP, structural model

INTRODUCTION

Similar to any other systems, knowledge management also needs some methods to be implemented and executed. These tools help knowledge management success significantly. The tools of knowledge management are combinations of human-driven and technology-driven tools. Human-driven tools have been developed emphasizing on human resources and technology-driven resources relying on information technology. One of these human-driven tools is the Community of Practice (CoP).

On the other hand, one of important categorizations of knowledge is its implicitness and explicitness. Explicit knowledge (evident) is a set of processes, work methods, instruction, written methods and databases, conducted designs and so on and implicit knowledge (intangible, hidden in the mind and heart) is a set of acquired knowledge which hasn't been manifested has a hidden aspect and others aren't that much aware of it. This knowledge is in the framework of human resources (Probst *et al*., 2000; Probst and Borzillo, 2008).

Since, one of organization's concerns is creating added value of employee's implicit knowledge, they are seeking to be able to use their employee's implicit knowledge as much as possible and this won't be achieved except the participation of employees in cooperating and sharing knowledge. One of these techniques is formation of community of practice in organization.

In second part of study, the literature of research will be reviewed. Later (3rd section) the used method in this research and fourth part will be allocated to the introduction of main criteria of the model, formation and implementing CoP in organizations which have been obtained through investigating the literature of subject and elite's idea. Ultimately, the results and achievements of research have been proposed and necessary suggestions will be stated for doing future researches in this field.

Problem statement: In this case, knowledge management is one of the new approaches of organizations in the recent decades that creates competitive advantage based

Corresponding Author: Saeid Shavvalpur, Department of Progress Engineering, Iran University of Science and Technology (IUST), Tehran, Iran

on knowledge. The importance of knowledge management for organizations has drawn the attention of researchers. There are many definitions related to knowledge management which some of them have been briefly mentioned as following. The quality and productivity center of America has considered knowledge management as system strategies and processes of acquiring, transferring and using information and knowledge by people and organization in order to create innovation, competition and promote productivity.

The process of production, storing and sharing valuable information as well as the attitudes and experiences inside and within human or organizational communities and similar necessities are called knowledge management (Nonaka, 1991). Key point in knowledge management is ensuring that proposed knowledge in organization is used effectively for giving advantages to the organization (Probest *et al*., 2000). One of new attitudes which have been entered the literature of knowledge management subject recently is knowledge management attitude as camp of human beings. Noonaka believes that the attitude not only emphasize on cognitive nature but also on social and relational nature of knowledge (Drucker, 1997).

One of techniques and methods is formation of Community of Practice (CoP) in organization. The concept of CoP has been proposed by Lave and wenger (1991) 20 years ago (Terra, 2000). CoPs are increasingly paid attention by researchers in various fields such as economy, education, health, business and management (Gongla and Rizzuto, 2001). CoPs can be used for promoting learning and innovation inside and within organizations, outside of organization in regional, national and international levels (Nonaka and Takeuchi, 1995).

CoPs play a significant role in the chain of knowledge value in global companies such as IBM, 3M, Xerox, Cisco and Dell (Pfeffer and Sutton, 1999). By applying inside and outside CoPs, they have improved their successful performance such as increasing main competence (base), training innovation caused by increasing the productivity of work and promoting responsibility (Bonifacio *et al*., 2002).

In this research we are trying to investigate the factors and criteria which can contribute the formation and implementation of CoPs in organizations in order to create value in organization and finally introduce it in form of a model. Therefore, in this research, the following hypotheses and questions are supposed to be appropriately answered: what is appropriate model for creating value in organizations through establishing and developing Communities of Practice (CoPs)?

Knowledge management and CoP: Similar to any other systems, knowledge management also needs some methods to be implemented and executed. These tools help knowledge management success significantly. The tools of knowledge management are combinations of human-driven and technology-driven tools.

Human-driven tools have been developed emphasizing on human resources and technology-driven resources relying on information technology. One of these human-driven tools is the Community of Practice (CoP). Since one of organization's concerns is creating added value of employee's implicit knowledge, they are seeking to be able to use their employee's implicit knowledge as much as possible and this won't be achieved except the participation of employees in cooperating and sharing knowledge. One of these techniques is formation of community of practice in organization.

A reason for important role of CoPs in knowledge management is that knowledge cannot be separated from its field (Lesser and Storck, 2001; Pan and Leidner, 2003). Generally speaking, knowledge is categorized into two types of implicit and explicit. Most of organizations concentrate on explicit knowledge management and try to extract implicit knowledge from people's skills and experiences. A big number of methods have been developed for acquiring, storing, sharing and using knowledge. Sharing knowledge is often the main aim of knowledge management as result it has been converted into an important theoretical and practical problem (Kankanhalli *et al*., 2003; Scholl *et al*., 2004).

Designing Knowledge Management system (KM) requires consistency with organization's cognitive social processes. One of today problems of KM is how a relationship can be made between technical architecture and human factors (like behavior) (Liedtka, 1999; Bonifaso *et al*., 2002).

Some of researchers believe that CoP is an effective tool for settling unstructured problems, this issue will be realized through sharing knowledge and intra organizational interaction (Holtshouse, 1998; Liser *et al*., 2001). In fact, many of organization such as MOTORALA, HP, IBM, Xerox, FORD and Shell use CoP as the tool of knowledge management. CoP is as an engine which increases knowledge and experience creation and sharing (Holtshouse, 1998; Alavi and Lesser, and Storck, 2001; Chong *et al*., 2011; Kankanhalli *et al*., 2003; Wartburg *et al*., 2004).

The researches of knowledge management show that online interactions encourage CoP members to accept KM (Plessis, 2008; Schenkel and Teigland, 2008; Ardichvill *et al*., 2003; Liedtka, 1999). Social and

technological characteristics of a knowledge management system is in determining the success of creation and sharing knowledge (Swan *et al*., 2002; Holtshouse, 1998).

Extracting implicit knowledge in knowledge management compared to explicit knowledge is very difficult but not impossible. Considering implicit knowledge of a process, it emphasizes on nurturing, sharing and maintaining knowledge through open and informal training and other social interaction techniques (Wenger *et al*., 2002; Alavi and Lidner, 2001; Chong *et al*., 2011).

CoPs are known as of the most important tools of knowledge management that their popularity is recently increasing considering cooperation and their open attitude in the field of sharing implicit knowledge (Wenger *et al*., 2002; Mitchell, 2002; Plessis, 2008; Schenkel and Tigland, 2008). The organizations create CoPs as a part of knowledge management strategy which are also called as a complementary form of organization (Tremblay, 2004; Swan *et al*., 2002).

It can be generally stated that the companies which have concentrated on making knowledge management system are looking for other methods for creating and sharing knowledge. CoPs are appropriate alternatives for knowledge management implementation systems in which the members create and share knowledge through voluntary participation and help each other for learning (Cardona *et al*., 2012; Jeon *et al*., 2011).

The definition of CoP: The concept of CoP has been proposed by Lave and Wenger (1991) about twenty years ago. CoPs are known as people who share a social concern or problem (Wang *et al*., 2008; Haldin-Herrgard, 2000; Wenger *et al*., 2002). They are groups which are regularly involved in learning and sharing considering their common interests (Probst and Borzillo, 2008; Mitchell, 2002) and mainly learn through exchanging information and cooperation (Khuzaimah and Hassan, 2012; Termalay, 2004).

CoP occurs to propose some ideas which might be in social and network interactions among several participants who have common interests about a particular subject (Von Krogh, 2002; Fallah, 2012). CoP reveals a particular form of knowledge among routine affairs and has potential for accumulating implicit knowledge of people in informal methods (Mangisengi and Essmayr, 2003; Falleh, 2012). CoP is a set of people who have common interest in cooperative learning through social interaction and sharing knowledge (Von Krogh, 2002).

CoP can be considered including a group of people who are in common about a work field or set of problems or a particular subject and deepen their knowledge through interaction with each other. CoPs also refer to a network of people who have common interest in a knowledge or competitive field and tend to work with each other and learn from each other on that knowledge field. CoPs are the most important organizational units for developing and sharing knowledge. Work groups, professional associations, work communities and so on are various translations which have been used for CoP.

In another definition which is discussed by The UN human rights office, CoP is a group of people in a professional field who share their interests in a knowledge field (Dove, 1999). CoP is also defined as a network of very motivated people with common interests, beliefs and perception in order to interact and share knowledge and training learning activities (Wang *et al*., 2008).

CoPs are informal intra organizational structures which connect people through informal relations to share their skills and experiences (Berkani and Chik, 2009). CoPs a semi-formal and autonomous structure which emphasizes on mutual participation and knowledge sharing and people experience and is considered for complementing existing structures inside the organizations (Onge and Wallace, 2003).

Main difference between CoP and other work groups: Wenger *et al*. (2002) stated that community of practice are distinct from other organized networks such as "project team", "operational team" and "informal networks". At first compared to project team, in CoP the participants aren't defined formally and it is not obvious in extra description of members. In CoP, the success of a program won't be assessed through realizing pre-determined goals but it will be evaluated through developing its practical quantity which causes improvement in implanting project. Secondly, the difference between CoP and operational team is that no contractual formalities are involved in evaluating member's responsibility to acquire functional goals. Thirdly, the members of CoP share a common interest in developing a practice in a particular field while a simple informal network can continue working till its members look for business relations. Unlike CoP, in an informal network, many of independent subjects and information are passed and the knowledge of members in a particular field isn't concentrated.

MATERIALS AND METHODS

Three main hypotheses below were discussed in this study:

- H_1: the formation of CoP has a direct and significant effect on improving the processes of knowledge management

- H_2: improving the process of knowledge management has a direct and significant effect on creation of value in organization
- H_3: the formation of CoP has a direct and significant effect on creation of value in organization

The conducted research is applied in terms of goal and survey in terms of method. The population of this research included organizations and companies which have participated in world award of superior knowledge organizations (MAKE) or are familiar enough with knowledge management and have implemented it in their organizations and finally the population was estimated about 500 people. Estimated sample included 217 people according to Morgan table that considering subjects drop phenomenon, 250 questionnaires were distributed and 224 out of that was collected and the volume of final sample includes 224 questionnaires which were analyzed.

To answer the question of research, using library method and collecting the latest related studies to CoP, effective factors on CoP were extracted. Through investigation and study, 6 effective factors including strategy, human resources, cooperation among employees, culture, leadership and infrastructure wereidentified that using 26 items (questions) in form of questionnaire, the mentioned factors were evaluated by participants based on the rate of their importance in formation of CoP using Likert scale of 5 items (1 very low to 5 very high).

The validity of questionnaire was confirmed by some of activists and elites in the field of knowledge management and in order to determine the reliability of questionnaire, first 20 questionnaires were given to activists and acquaintances to knowledge management in 5 organizations and the rate of reliability was assessed using Cronbach's alpha coefficients that obtained result was the value of 0.9 which represented the reliability of questionnaire. In order to analyze collected information using the method of structural model and help of AMOS Software, determined routes in model and hypotheses of research was evaluated using t-test and SPSS Software.

RESULTS AND DISCUSSION

Research results: The results of research have been shown in two sections of analyzing proposed model results and final model:

Analyzing proposed model: Considering Fig. 1, there are two models of measurement that have been proposed in

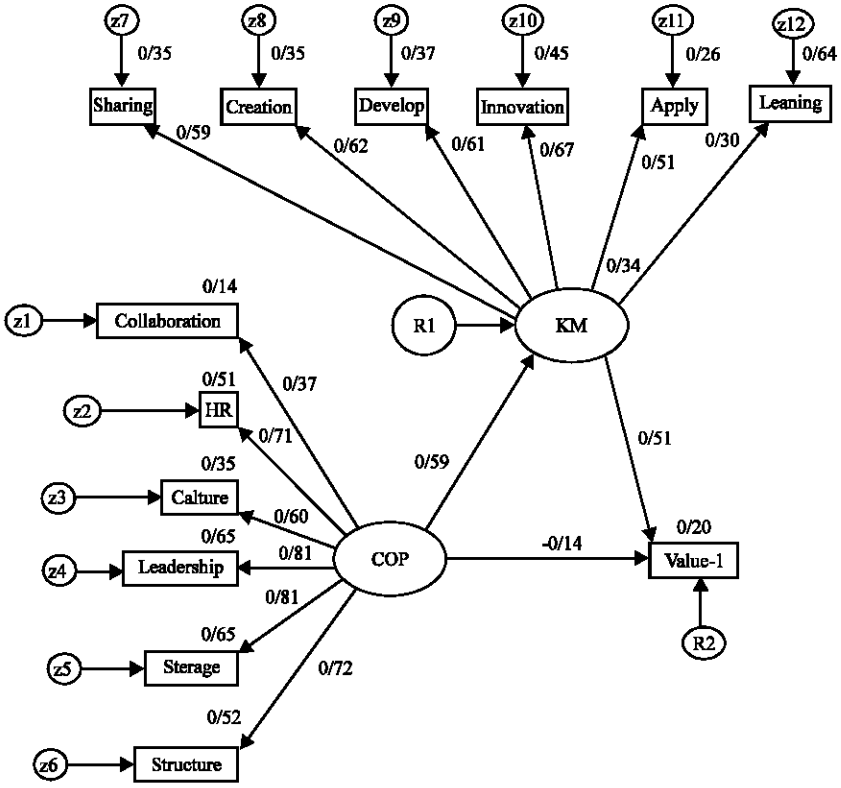

Fig. 1: Proposed model with standardized coefficients

two sections of independent and dependent variables. In this study, first the models of measuring analysis and then structural model o research will be investigated.

The results show that six effective criteria on hidden variable of CoP estimate high factors loads (standardized coefficients) on hidden factor and their level of significance is accepted in 0.001. in case of hidden variable of knowledge management, the results represent that six effective criteria on hidden variable of CoP estimate high factors loads (standardized coefficients) on hidden factor and their level of significance is accepted in 0.001.

Figure 2 shows structural model of research with standardized coefficients. Description and interpretation of the results above are as follows: Route CoP toward knowledge management has non-standardized coefficient of 0.89 and standardized coefficient of 0.59. the standard error of this route is 0.195 and critical ratio is 4.54 in which this route is significant at level of 0.001. Also route CoP toward creating value has non-standardized coefficient of -0.11 and standardized coefficient of -0.14. the standard error of this route is 0.07 and critical ratio is -1.51 in which this route isn't significant at level of 0.001.

Finally, the route of knowledge management toward creating value has non-standardized coefficient of 0.27 and standardized coefficient of 0.52. the standard error of this route is 0.05 and critical ratio is 5.45 in which this route is also significant at level of 0.001.

According to analyzing the results of structural model routes, it can be concluded that hypothesis 1 and 2 are confirmed and hypothesis 3 which says formation of CoP has a direct and significant effect on creating value in organization and this hypothesis wasn't confirmed.

Load factors of 26 items (questions) were also analyzed on variable CoP that related items (questions) to strategy variable considering that their critical value rate was >1.96 and significance level >0.05 are rejected.

Finally, the ultimate model of this research was proposed as shown below through eliminating the route of CoP toward creating value and eliminating strategy variable as one of effective factor on CoP (Fig. 3 and Table 1). According to the conducted analysis, it can be said that the formation of successful CoP has a direct relationship with human resources, culture, cooperation

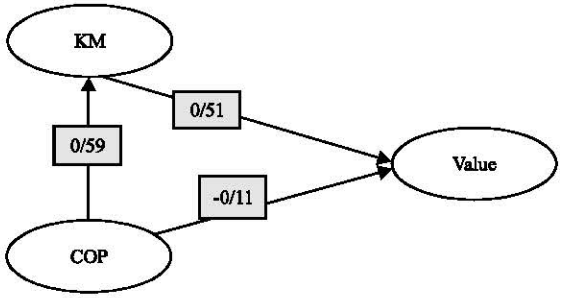

Fig. 2: Structural model with standardized coefficients

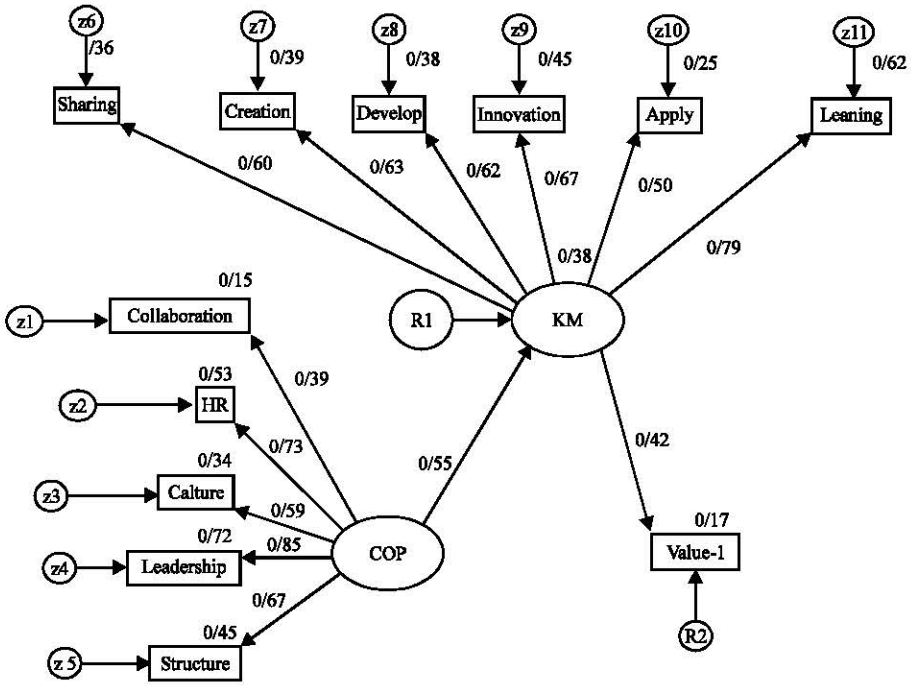

Fig. 3: Standardized coefficients of research final model

Table 1: prioritizing observable variables based on standard coefficients

Priority	Observable variable (question)	Standardized coefficient
1	The existence of mutual trust among the staff for membership in CoP	0.8580
2	The rate of commitment of senior management of organization toward the formation of CoP and using its outputs	0.7570
3	Creating trust in staff toward implementation of decisions and CoP outputs	0.7470
4	Choosing the members having close skills	0.6750
5	The existence of regulations and meeting them for formation of CoP	0.6750
6	The existence of strong leader and his popularity among the employees	0.6360

among employees, leadership and infrastructure and strategy variable considering that not all observable variables (its questions) had direct effect on strategy variable were eliminated from final model. Considering obtained results, the most effective observable variables (out of 26 asked questions) after eliminating the variables which have been rejected in structural model test and t-test, the most important ones of them have been respectively mentioned in following Table 1.

According to the results above, it can be concluded that the most important factors in formation and establishing a successful CoP is "the existence of mutual trust among organization staff". And after that the priorities 2 and 3 are factors of "the rate of commitment of senior management of organization toward the formation of CoP and using its outputs" and "creating trust in staff toward implementation of decisions and CoP outputs" that both of them are located in leadership variable. The priorities 4-6 are also in leadership variable and in fact the most important effective variable on formation and establishing CoP out of 5 existing variables in final model is leadership variable in organization. As another analysis, the formation of CoP in organizations requires changing the attitude and approach and commitment of managers in organization more than budget and facilities!

CONCLUSION

The formation of successful CoP affects knowledge management directly but not on creating value of organization and finally knowledge management has also direct effect on creating value in organization. As in Balanced Score Card (BSC), growth and learning has direct effect on improving the processes of organization business but it doesn't affect customer and market perspective directly. In the end, some suggestions are given to work on in future researches which include investigating the possibility of implementing designed model in this research in Iranian organizations, investigating effective identified factors on CoP in this research in other companies, investigating and recognizing effective factors and the effect of leadership and the features of CoP members in Iranian organizations and investigating and recognizing the factors which lead to CoP failure in Iranian organizations.

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