

Full Length Research Paper

Knowledge-oriented roles of managers and its relationship to knowledge management process

Sadegh Shokrzadeh*, Zahra Sabbaghian, Mohammad Hassan Pardakhtchi and Mahmood Abolghasemi

Department of Education and Psychology, Shahid Beheshti University, Tehran, Iran.

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This study aimed to investigate the relationship as well as the impact of knowledge oriented roles of managers on knowledge management process at a research based organization in Iran. The target population consisted of all experts in atomic energy organization of Iran (AEOI). Based on Krejcie and Morgan table, 328 statistical samples were randomly selected. Instruments for data collection were two questionnaires which the reliability level was acceptable. The result of this study showed positive and significant relationship between knowledge oriented roles of managers and knowledge management process. Based on this research, trust builder, knowledge facilitator, knowledge leader and knowledge worker steward roles were found to be significant in predicting knowledge creation process. Among knowledge oriented roles of managers the trust builder role had high regression impact on knowledge creation.

Key words: Human resource management, knowledge management, role.

INTRODUCTION

Effective knowledge management requires an organization to identify, generate, diffuse, and capture the benefits of knowledge that provide a strategic advantage to that organization (Dalkir, 2011). As organizations continue to become knowledge-based and operate with knowledge as a production, tool or strategic asset under different situation, similarly, it seems the managers should be take new roles and responsibilities to run the knowledge management process effectively. Usage of roles in organizations is not new. Actually role theory has been used by researchers in fields of psychology, organizational behavior, and human resource management since the early 1930s (Welbourne et al., 1998). Originally the first and serious analysis of managers' roles within organizations has been proposed by Henry Mintzberg in 1973 (Luthans, 2008). Additionally, role has been proposed to explain teamwork. Chen et al. (2002) provide

experimental results demonstrating that role is effective in predicting group performance (Wang and Niu, 2010). From this viewpoint, while knowledge management process is collective activity rather than individual and as Roberts (2000) said that "knowledge management is 80% people" we can suppose knowledge-oriented roles of managers as important variables which they can affect on process of knowledge management. While literature on knowledge management has a dominant tendency to focus attention on the management of data and information and much has been written about the technological, social and economic aspect of managing knowledge in organizations (MacNeil, 2004; Awazu and Desouza, 2004) little is known about the managers who lead the engagements. Organizations need to huge consideration on the new roles of managers, who are actually responsible for creating the new knowledge, as well as the application, transforming and integration of existing knowledge in the first place. Managers need more and specific roles in processes of knowledge development. In fact, the rising of the so called 'knowledge as a organizational asset' has had a major impact with a

*Corresponding author. E-mail: sshokrzadeh@aeoi.org.ir. Tel: +98-02182063376. Fax: +98-021-82063318.

considerable shift from traditional roles of managers focused on official functions to the development of new roles, focused on knowledge creation and knowledge sharing within organization.

According to literature, although the role of managers within organizations lucidly highlighted by researchers and somewhere its effects has been studied on some of knowledge management process, but there are no or very little empirical research around knowledge oriented roles and their relationship to knowledge management process. The purpose of this study is to investigate the relationship as well as the impact of knowledge oriented roles of managers on knowledge management process in atomic energy organization of Iran (AEOI). Our research deal with the co-study of roles and knowledge management process in AEOI as knowledge and research based organization. The main question is that, what are the relationships between knowledge oriented roles of managers and knowledge management process? We hope that the findings of the study will be of significant value in filling in the gaps that exist in the literatures.

LITERATURE REVIEW

In general, academics agree there are three different types of knowledge: Explicit, implicit and tacit. Explicit knowledge is contained and conveyed in documents, drawings, calculations, designs, databases, procedures and manuals. In contrast to such relatively accessible information, implicit knowledge is difficult to reveal, but it is still possible to record. It is generally feasible to convert implicit knowledge into explicit knowledge through a knowledge conversion processes generally referred to as 'codification' or 'transformation'. The third type of knowledge, tacit knowledge, is the most difficult to recall and to articulate, and thus to transfer. Tacit knowledge includes skills, experience, insight, intuition and judgment. It is the 'know-how' accumulated in an individual's mind (Golipour et al., 2010; IAEA, 2011). Various definitions of 'knowledge management' also exist in literature, however, most are consistent with the notion that a coordinated approach is required to manage an organization's knowledge and improve organizational performance and that this is achieved through knowledge creation, structuring, and dissemination processes (O'leary, 1998). Gathering the best available knowledge is not always easy. Perhaps the most crucial element for organizations to understand is that knowledge management is not a single set of skills or use of technologies, rather it is a collection of ideas and experiences only to be passed on by those who lived and understand it. To effectively compete in the knowledge economy, organizations will need human resource managers that are role-based (that is, not tied to specific functional responsibilities, as in the past) and contribute directly to the creation of personnel and organizational capabilities. Through roles and

organizational corporate management system, the knowledge of an enterprise can be developed within the organization (Ning et al., 2011). Roles provide more flexibility than functions. Role reduces rigid functional boundaries and facilitates adaption and adjustment. Traditionally one of the classic works around knowing roles of managers comes back to Henry Mintzberg in 1973. On the basis of direct observational study he proposed the ten types of managerial roles into three categories. These roles encompass figurehead, leader, liaison, monitor, disseminator, spokesperson, entrepreneur, disturbance handler, resource allocator, and negotiator (Pearson and Porath, 2005). Mintzberg's work has definitely shed some light on what managers do, but we remain grossly ignorant about the fundamental content of the manager's job. Luthans et al. (1988) conducted a comprehensive study to answer what do successful and effective managers do? Answer to this question lead to knowing 12 roles then conceptually collapsed into the four managerial activities including: Communication, traditional management, human resource management and networking.

However, we believe that we need to some another roles further than managerial or official roles in today's knowledge based organization to support continues flow of knowledge management process between individual and inter-organization. According to Ulrich (1997), the dynamic business environment requires four roles; administrative expert, employee champion, change agent, and rapid deployment specialist. Ellinger and Bostrum (1999, 2002) argue that the role of managers as a knowledge facilitator and encouraging knowledge-sharing in teams are important for developing the collective learning capability in organizations. Lengnick-Hall and Lengnick-Hall (2003) take the view that in the knowledge economy, organizations will need a new set of roles for managers that can assist in generating and sustaining organizational capabilities. These new roles are those of human capital steward, knowledge facilitator, relationship builder, and rapid deployment specialist. They propose that human resource management roles can provide a logical basis for constructing common themes that support an organizations ability to adapt to the demand of the knowledge economy. Another study examined aspects of the revitalization of the human resource management functions in Chinese organizations and highlighted that managers have a shared responsibility now (Glote and Berrell, 2003). They indicated that today's knowledge based organizations require managers who can generate sustained organizational capability and use learning and development program to disseminate knowledge. Gloet (2006) trying to mapping the relationship between knowledge management and human resource management presents a comparative analysis of traditional and knowledge based roles of managers. Gloet (2006) indicated that knowledge management has the capability to significantly broaden

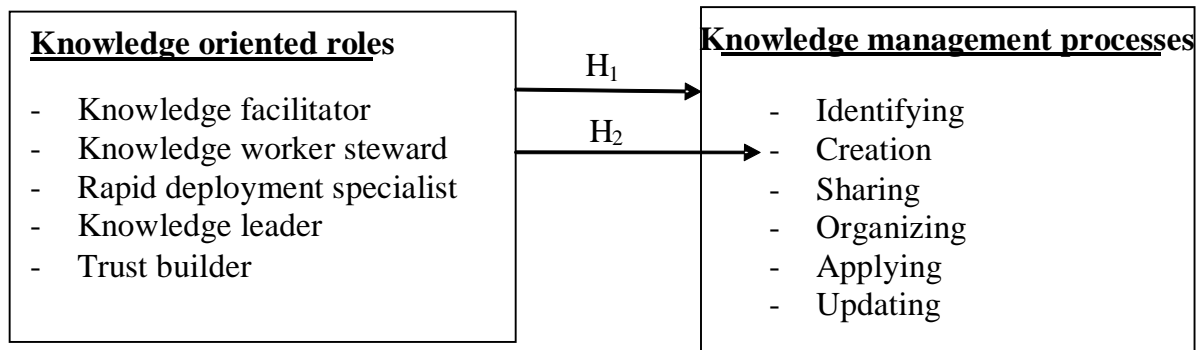


Figure 1. Research conceptual model.

the role of human resource management. From viewpoint of Glote, brokering the services of knowledge workers, creating environments conducive to knowledge creation, sharing and dissemination are some of new roles of managers. Harman and Brelade (2007) emphasize roles of managers in traditional organizations has been based on the control of information and staff. Harman and Brelade (2007) added that the changing in relationship between knowledge worker and the organization is leading to paradigm shift for managers toward a servant, facilitator and coaching roles. New roles of managers offer great opportunity to articulate the purpose of the knowledge management process. Danpopescu (2008) presented one major role of managers is to create the ultimate employee experience by transforming tacit knowledge into explicit knowledge. Some studies considered leadership and trust builder roles for managers in knowledge environment. Ali (2009) argues that leadership role of manager helps to employee to know what needs to be achieved and how to go about achieving it.

The role of knowledge leader is to provide strategic vision, motivate others, effectively communicate and carry out the knowledge agenda (Debowski, 2006 and Singh, 2008). In another study Judeh (2011) explains that trust enhances the process of exchanging ideas and opinions between managers and subordinates. While the great deal of organizational knowledge is tacit and it is necessary to share and exchange knowledge between people within an inter-organization, therefore, the trust building role for managers is vital.

These viewpoints on roles of managers and its impact and relationship with knowledge management process in organizations provide a clear hint of the overcoming influence of the roles of managers on knowledge management process. In the other words, these observations and research findings suggest that the pious goal of any organization to become a knowledge creating and managing company depends a great deal on the kind of knowledge oriented roles of managers. On the basis of the findings of the researches and literature, the authors formulate the following hypotheses. Assumptions in this

study divided into two parts. First, the paper examines the relationship between roles and knowledge management process. Therefore:

H₁: There are significant relationship among knowledge oriented roles of managers (knowledge facilitator, knowledge worker steward, rapid deployment specialist, knowledge leader, trust builder) and knowledge management process (identifying, creation, organizing, sharing, applying and updating knowledge).

While in aresearch institutes knowledge is the key asset, it may be useful to focus simply on whether this asset is mostly reprocessed unchanged or it is continually being renewed. As March (1991) and IAEA (2006, 2008) refer research institutes will need to focus on exploration and creation knowledge to remain innovation and ahead of competitors. According to Nonaka and Toyama (2005) Creation knowledge organizationally does not just mean organizational members supplementing each other to overcome an individual's bounded rationality. It means that subjective tacit knowledge held by an individual is externalized into objective explicit knowledge to be shared and synthesized. The newly created knowledge is then used and embodied by individuals to enrich their subjective tacit knowledge. Since knowledge is created through dynamic interaction, management in a knowledge creation firm requires active roles to manage a multi layer shared space and develop the capability of the organization workforces. Therefore, the second hypothesis related to knowledge creation is:

H₂: knowledge oriented roles of managers (knowledge facilitator, knowledge worker steward, rapid deployment specialist, knowledge leader, trust builder) can positively affect knowledge creation.

MATERIALS AND METHODS

Design of the study

This is a quantitative research investigation to find out the

Table 1. The confidence value for each variable.

KMPQ variable	knowledge facilitator	knowledge worker steward	rapid deployment specialist	knowledge leader	Trust builder	-
Cranach's alpha	0.825	0.914	0.830	0.884	0.880	-
KORQ variables	Identifying	Creation	Sharing	Organizing	Applying	Updating
Cranach's alpha	0.717	0.888	0.878	0.866	0.888	0.961

Table 2. Test of H₁ (relationship between knowledge oriented roles and knowledge management process). Pearson correlation coefficient.

Process	Role	Identifying	Creation	Sharing	Organizing	Applying	Updating
Knowledge facilitator		0.873 (**)	0.675 (**)	0.494 (**)	0.503 (**)	0.757 (**)	0.634 (**)
Knowledge worker steward		0.371 (**)	0.779 (**)	0.353 (**)	0.090	0.710 (**)	0.082
Rapid deployment specialist		0.675 (**)	0.274 (**)	0.740 (**)	0.35 (**)	0.471 (**)	0.812 (**)
Knowledge leader		0.712 (**)	0.465 (**)	0.841 (**)	0.661 (**)	0.587 (**)	0.766 (**)
Trust builder		0.631 (**)	0.803 (**)	0.747 (**)	0.447 (**)	0.765 (**)	0.448 (**)

** Correlation is significant at the 0.01 level (2-tailed).

relationship as well as impact of knowledge oriented roles of managers on knowledge management process in AEOI. Figure 1 shows conceptual model for this present research. To test the hypotheses, two survey questionnaires were used for data collection.

Statistical population and sample

The statistical population in this research is Atomic Energy Organization of Iran (AEOI). Diversification of tasks, expert employees with higher educational degrees and knowledge as an organizational asset, support the researchers to choose of AEOI appropriate as knowledge based organization for this research. From this statistical population based on table determining the size of a random sample provided by Krejcie and Morgan (1970) selected 328 samples (Cohen et al., 2001).

Measures

The study used two questionnaires that consisted of 26 questions for knowledge oriented roles of managers and 34 questions for process of knowledge management, in addition to six specific questions on background (gender, age, job experience, job category and educational level).

1. Knowledge oriented roles questionnaire (KORQ): The KORQ was used to determine the existence and the extent of the roles of managers. This questionnaire was developed by present researchers based on the theory in related literature and previous works of (Conner and Ulrich, 1996; Ulrich, 1997; Lengnick-Hall and Lengnick-Hall, 2003; Gloet and Berrell, 2003; Gloet, 2006; Long and Wan Ismail, 2008; Singh, 2008). The KORQ has altogether five dimensions (roles). The Items cited from the literature and questions from previous questionnaires were translated into Persian (the native language of the respondents) and in order to determine content reliability, the questionnaire delivered to three professors and some organizational experts to declare their views.

Their views used for editing the questionnaire and making it final. To know the internal consistency of the both Questionnaire, the investigators calculated Cronbach alpha coefficients for all dimensions which are shown in Table 1. A six- point Likert scale was used to measure research variables.

2. Knowledge management assessment questionnaire (KMPQ): The KMPQ was used to determine the existence and the extent of the knowledge management process. According to literature scales to measure practices of each component of knowledge management in organizations were developed by some researchers as (Maier and Mosley, 2003; Darroch, 2005, IAEA, 2006; IAEA, 2008). Approximately all of them have the same items. In this research to be used scale developed by IAEA (2008). The KMPQ has altogether six dimensions including: knowledge identification (KI), knowledge creation (KC), knowledge sharing (KS), knowledge organizing (KO), knowledge applying (KA) and knowledge updating (KU).

Based on Hinton (2004), the reliability level is acceptable if the value is at least 0.7. This study therefore, meets the requirements for reliability shown in Table 1.

DATA ANALYSIS AND RESULT

Pearson correlation coefficient and multiple regression analysis - stepwise were performed on the collected data in this study. The results are shown in Tables 2, 3 and 4. The result shows that the correlation value between each roles and processes reaches a significant level. This represents a highly positive correlation among those factors, as shown in Table 2.

As shown in the Table 3, we can say correlation between roles and knowledge creation process is significant at the 0.01 level. Since the F values are significant, therefore, regression model composed of 4 independent variables can determine the variance of

Table 3. Test of H₂ (affect of knowledge oriented roles on knowledge creation). Multiple regression analysis-stepwise.

Model	R	R ²	F	Sig
Trust builder	0.803	0.644	590.38	0.000
Trust builder and knowledge worker steward	0.881	0.776	563.86	0.000
Trust builder, knowledge worker steward and knowledge facilitator	0.894	0.799	429.20	0.000
Trust builder, knowledge worker steward, knowledge facilitator and knowledge facilitator	0.913	0.833	403.05	0.000

Dependent variable: knowledge creation.

Table 4. Continuation of H₂ tests (coefficients).

Model	Independent variable	Beta	T	sig
1	Trust builder	0.803	24.20	0.000
2	Trust builder	0.521	15.69	0.000
	Knowledge worker steward	0.460	13.84	0.000
3	Trust builder	0.876	13.15	0.000
	Knowledge worker steward	0.318	8.11	0.000
	Knowledge leader	-0.326	-60.04	0.000
4	Trust builder	0.916	15.05	0.000
	Knowledge worker steward	0.186	4.74	0.000
	Knowledge leader	-0.532	-9.59	0.000
	Knowledge facilitator	0.296	8.12	0.000

Dependent variable: knowledge creation.

independent variable (knowledge creation). To know regression coefficient of each independent variables on dependent variable we have to see Table 4.

Table 4 shows regression coefficient or relative contribution of each independent variable (knowledge oriented roles of managers) on knowledge creation as a dependent variable. First, all of independent variables impact on knowledge creation because T value is significant at the 0.01 level. Second, trust builder role of managers has strong regression coefficient (Beta = 0.803) on knowledge creation. This means one standard deviation increase on trust builder caused 0.803 increases in knowledge creation. As we see with adding other independent variables in 2, 3, and 4 models, relative contribution of independent variables are decreased. Rapid deployment specialist variable has not any effect on knowledge creation, as a result it has deleted from the model.

DISCUSSION

This study was an attempt to investigate the relationship

as well as the impact of knowledge oriented roles of managers on knowledge management process. It was also designed to find out impacts of roles on knowledge creation. To investigate all the above mentioned objectives, the study was conducted at a research center in Iran. The results obtained in this study depicted in Tables 2 to 4.

The result in Table 2 shows relationships of knowledge oriented roles of managers with knowledge management processes. The overall findings of the study shows there are strong positive relationship among roles (knowledge facilitator, knowledge worker steward, rapid deployment specialist, trust builder, knowledge leader) and knowledge management, processes (identifying, creation, updating, organizing, applying, sharing). It may mean that as managers are done knowledge oriented roles regarding to employees, as well as, knowledge management practices will be done increasingly. The works of some researchers provide theoretical and empirical support for this position. Ellinger and Bostrum (1999, 2002) argue that the role of managers as a knowledge facilitator encourage knowledge-sharing within organizations.

Lengnick-Hall and Lengnick-Hall (2003) argue that roles of human capital steward, knowledge facilitator, and rapid deployment specialist for managers can help to follow up knowledge management process within and intra organizations. Work of Singh (2008) provides an empirical support for relationships between knowledge leader role for managers and knowledge management practices. Singh (2008) found that consulting and delegating modes of leadership behaviors (both of them are factors of knowledge leader) significantly as well as positively associated with creation, application, organizing, and sharing knowledge. According to Green (2008), leaders should create an environment that supports knowledge sharing. Green (2008) argues that most managers do not match their words of being a concern manager with their action, when employees see no action; they lose trust and confidence in their managers. Table 2 also indicates no significant between role of knowledge worker steward with organizing and updating process. It may be said that, since organizing and updating practices are usually institutional task rather than individual, therefore it is necessary we search for correlation of these two process with organizational and institutional variables.

The results in Tables 3 and 4 depict regression coefficient of each independent variables on knowledge creation as a dependent variable. The overall findings of the study are such that (knowledge facilitator, knowledge worker steward, trust builder, and knowledge leader) have been found to have significantly effect on knowledge creation. While, knowledge creation in research centers is vital task and principally, knowledge creation in research centers is the same business strategy, these results indicate good factors effecting on knowledge creation. In other words, if we want to increase knowledge creation capacity in research centers, paying attention to roles of managers is necessary. Nonaka and Toyama (2005) reported managers play various roles in the knowledge creation process. To be specific, the results in Table 4 say that trust builder role of managers is an important variable to preparing content for knowledge creation. According to literature this result is not unexpected. Schein (1992) argues that the limitations to learning within an organization can be overcome through good leadership. Malhotra (2001) argues that organizations should allow staff room to act on incomplete information, trust their own judgment, and feed input from informal fore into formal structures. While effective knowledge creation practice in organizations requires communication and collaboration, on the other hand, roles naturally are informal, friendly and people oriented rather than functions, therefore, focus on roles probably will be rational way into knowledge creation purposes.

RESEARCH LIMITATIONS AND IMPLICATIONS

Like any other investigations, the present study is also

not free of limitations. First, the study was conducted in only a research based organization in Iran. Hence, blanket generalization of the findings of the study to other public or service sector organizations should be done with caution. Second, it was knowledge based roles of managers alone more than any other variables which were taken to study its relationship with knowledge management process. Therefore, it is suggested that future research, if any, in the area of roles of managers should take note of these two limitations for the benefits of the organizations as a whole. However, the findings of the study may be of great use for both academicians as well as practitioners. The paper provides evidence of the relationship between new knowledge oriented roles of managers and knowledge management process. Therefore, organizations and managers should consider programs to enhance the knowledge oriented roles of managers in order to implement knowledge management process effectively. Against some backdrop that emphasized the roles of three C-level executives, that is, chief knowledge officers, chief learning officers, and chief privacy officers to manage various aspects of an organization's knowledge assets (Awazu and Desouza, 2004; Raub and Wittich, 2004), we propose that it is more worthwhile to think about knowledge management process as a collective practice than as an individual practice or process. Ultimately, from this viewpoint not only individual but also managers in all level will play main role in successful implementing of knowledge management process and they need understand and implement their new roles in content of knowledge management systems.

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