The Influence of Theories on Factors Affecting Knowledge Sharing and Its Relationship with Innovation and Organizational Performance

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ABSTRACT

Knowledge is an essential resource for organization. While knowledge sharing is an important human daily activity to create opportunities in maximizing employees innovation in organization to achieve performance. Knowledge sharing is the process of transferring knowledge from a person to another in organization. However, previous studies have indicated that employees are refused to share knowledge. Many factors influencing knowledge sharing were identified to solve the problem. A critical reviews on factors affecting knowledge sharing; individual, organization and technology factors are frequent mentioned in literature. Thus, this study proposes a conceptual model that takes into consideration the three factors and related theories to support the constructs in developing a fit knowledge sharing model. This study will be followed by an empirical study to test the hypothesis and to validate the model. This study will improve the understanding on theories, factors affecting knowledge sharing and its relationship with innovation and organizational performance.

Keywords: Knowledge sharing, Theory, Innovation, Organizational performance.

I INTRODUCTION

Knowledge is being recognized as an important asset in organization. The successful of societies and economies will depend on how well they enabled these valuable assets to be shared, learned, and created so as to add a new value from it. The management guru Peter Drucker had also acknowledge knowledge as an important economic resource in an organization (Drucker 1993). To maintain and to remain competitive, organization must ensure that knowledge is managed in the most effective manner.

Knowledge sharing (KS) is one of the most efficient human daily activities in organization. By sharing, knowledge is continuously created and transferred among employees and makes it available to others in business. A number of studies provided direct evidence of important role of knowledge sharing and innovative capabilities to firm performance (Andrew, Arvind and Segars 2001). Today, government, companies, public organizations, education institutes and others emphasized on the importance of 'knowledge sharing' in their organization for innovation and organizational performance.

But, to make people share their knowledge is not an easy work. In some organizations, sharing is natural, but in others the old dictum "knowledge is power" reigns (Skyrme 1998). KS need the capability and the willingness of individuals to engage in KS. KS may not happen if employees are not willing to share their knowledge and expertise. Literature has identified numerous barriers on KS because people are reluctant to share knowledge. Some of the factors are categorized into three main factors; individual, organization and technology.

In order to reap the benefits of KS, this study proposed a conceptual model that takes into consideration the three factors; individual, organization and technology in developing a fit KS model. In addition, each variable identified for the factors are based on the related theories to support the constructs. The theories could be used as a basis to improve understanding on factors influencing KS in organization. Then, this study will measure the relationship of KS with innovation and organizational performance.

II LITERATURE REVIEW

According to Senge (1990), organizations that facilitate knowledge sharing and learning among its members will continuously transform into a learning organization. The knowledge sharing will connect people to people and people to information for things such as problem solving, dynamic learning, strategic planning and decision making (Nonaka 2004). Empirical research has proven the positive impact of knowledge management (KM) and KS on organizational effectiveness (Yang 2004) and innovation capability (Lin 2007).

A. Knowledge Sharing

KS is "the process of transferring knowledge from a person to another in an organization" (Park and Im 2003). The process occurs at individual and organizational levels. For an individual (employee), KS is talking to colleagues to help them get

something done better, more quickly, or more efficiently. For an organization, KS is capturing, organizing, reusing, and transferring experience-based knowledge that resides within the organization between and among employees.

While sharing, knowledge shared is either tacit or explicit knowledge. Tacit knowledge is defined as personal, intangible and embedded knowledge. It deeply rooted in action, procedures, routines, commitment, ideals, values and emotions (Nonaka, I., Toyama, R. & Byosiere, P. 2003). Tacit knowledge always in the cognitive minds of people and is obtained through learning and experience. On the other hand, explicit knowledge is a systematic knowledge which is in written form such as books, documents and reports. Generally, KS is the solution necessary for companies to secure their differentiated competitive edge and to create the opportunities for maximizing the capability of company to achieve performance (Reid 2003).

B. Theory in Knowledge Sharing

Research on KS has drawn upon a wide range of theories. Among the theories are Social Exchange Theory (SET), Social Capital Theory (SCT), Social Cognitive Theory (SCT), Expectancy Theory (ET), Theory of Reasonable Action (TRA), Theory of Planned Behavior (TPB), and Knowledge-Based Theory of the Firm (KBT) or also known as Knowledge-Based View of the firm (KBV). However, a review on knowledge sharing for future research by Wang and Noe (2009), found that several studies used Social Capital and Network Theories to improve understanding of knowledge sharing in teams and communities of practice.

According to Liang et al. (2008), the diversity of these theories due to the tendency of researchers to take different factors to suit the theory. Hence, this study will adapt three theories which include Social Capital Theory, Institutional Theory and Adaptive Structuration Theory to explain the three factors affecting KS among employees in organization; individual, organization and technology.

C. Factor Affecting Knowledge Sharing

The biggest value of knowledge to organization is when it is shared because it can increase job performance and facilitate new knowledge creation (Cohen and Levinthal 1990). KS will benefit both sharers; the giver and the receiver, and the organization. However, to get people share their knowledge is a big challenge. To make it happen, it must be supported by several factors like 'social factors' such as trust, care and emotional commitment and the quality of the relationship (McDermott and O' Dell 2000, Yang 2004, von Krogh 1998) and 'technical factors' such as ICT infrastructure and ICT tools/IT applications (Goh 2002, Syed Ikhsan and Rowland 2004, Bakhari and Zawiyah 2008, Willcoxson 2003, Kim and Lee 2006).

Among the factors, some researchers grouped them into three main factors; individual, organizational and technological (Van den Brink 2003, Riege 2003, Bakhari and Zawiyah 2008). The three factors also have proposed by Orlikowski (1992) as the key factors in knowledge sharing in his study on a model of technology. It is because in order to fully leverage organizational knowledge-based assets, they must first understand factors that affect knowledge sharing at individual level. Then, KS takes place in organization and to facilitate the knowledge sharing process, information and communication technology play an important role.

D. Innovation

According to Schumpeter (1930), innovation is a new combination for the purpose and methods. Innovation will produce new qualitative product or process significantly different from the old. More literatures have shown a great interest in KS research within firms. One of the most important reasons may be that some kinds of close relationship exist between knowledge sharing and innovation (Song, Fan and Chen 2008).

Firms must be innovative in order to produce valuable products by using the relevant resources and keep competitiveness. As noted by Jantunen (2005), a positive knowledge sharing culture helps firms improve innovation capability.

E. Organizational Performance

Organizational performance is referring to the achievement of organizational against the objectives of its business (Elenkov 2002). To achieve this performance, organization need to manage and to measure their human resources, technology and finance well. One of the most effective and efficient way is to practice KS among employees to create, transfer and retain knowledge in organization.

An organization which knowledge sharing takes place will develop its human capital such as competencies of human resources, through knowledge transfer and exchange (Quinn, Anderson and Finkelstein 1996, Widen-Wulff and Soumi 2007). As organizational human capital is developed, human resources can improve their job performance and ultimately, organizational performance.

III CONCEPTUAL MODEL

This study proposes a conceptual model that takes into consideration the three factors; individual, organization and technology and related theories to support the constructs in developing a fit KS model. The theories are Social Capital Theory, Institutional Theory and Adaptive Structuration Theory. The variable for each factor are derived from in-depth study on KS and has significant or positive impact towards KS to ensure the high validity and reliability of each construct. Then, the study will measure the relationship between KS with innovation and, KS with organizational performance.

A. Individual and Social Capital Theory

Individuals as employees in an organization are the core component in implementing KS practices because individual who create and share knowledge. Although, the sophistication of information technology and computer network has facilitated knowledge sharing, without individual knowledge will not be invented in organization (Coleman 1999).

The related theory with individual factor in KS is *Social Capital Theory* (SCT). SCT stress on the relationship between individuals, groups, or organizations and knowledge sharing (Nahapiet and Ghoshal 1998, Adler and Kwon 2002). Social capitals provide the conditions necessary for knowledge sharing and transfer to occur (Nahapiet and Ghoshal 1998). Empirically, social capital has been demonstrated to be able to motivate individuals to contribute their knowledge to social communities (Wasko and Faraj 2005) or organizations (Kanhalli et al. 2005). Base on these finding, the hypothesis proposed is:

H_1: Individual is positively affecting KS among employees in organization.

B. Organization and Institutional Theory

Organization is a social entity, where KS take place. In organization, culture will acts as the invisible glue that unites individuals into social structures and holds part of the collective knowledge, tacit knowledge, and shapes the routines and ways of acting within organizations (Smircich 1983). Organization also enables knowledge to be captured, organized, reused, and transferred among employees and make it available to others in the business.

Institutional Theory (INT) is chosen to explain organizational factor because its focuses deeper on social structure in organization. According to Orlikowski et al. (1992), organization and the nested work groups can manipulate the institutional structures and thereby influence, guide, motivate, or alter individual actions. These actions are called 'meta structuring' actions, because they either reinforce the existing institutional structures or alter those structures to create conditions more conducive to knowledge sharing. Base on these finding, the hypothesis proposed is:

H_2: Organization is positively affecting KS among employees in organization.

C. Technology and Adaptive Structuration Theory

Technology is important in KS because it's provides two basic capabilities: integrating knowledge and creating network. Technology can enhance knowledge sharing by lowering temporal and spatial barriers between knowledge workers, and improving access to information about knowledge (Hendriks 1999). In this study, technology refers to the use of knowledge management system (KMS) to enhance KS among employees in organization. KMS is a special type of information system designed to support business processes by assisting in the creation, storage/retrieval, transfer, and application of knowledge (Alavi and Leidner 2001).

Adaptive Structuration Theory (AST) is a theory applies in technology factor. AST being popular in Information Science (IS) research since information technology (IT) become an important component in organizations (Orlikowski and Robey 1991, DeSanctis and Poole 1994, Salisbury et al. 2002). AST emphasized on the interaction between groups in organization with technology, and how technology can be applied in daily work activities. Base on these finding, the hypothesis proposed is:

H_3: Technology is positively affecting KS among employees in organization.

D. Knowledge Sharing and Innovation

Positive KS is the most basic precondition for organizational innovation. It means that high knowledge sharing willingness not only increases the possibility of knowledge exchange but also reduces the stickiness of knowledge in the organization and enhances the possibility of innovation (Yu, Yanfei and Hailin 2007). Hall (2006) also claims that the attitude and willingness of individuals to share knowledge is recognized as a crucial factor to organizational innovation. Base on these finding, the hypothesis proposed is:

H_4: KS among employees in organization significantly has relationship with innovation.

E. Knowledge Sharing and Organizational Performance

KS among employees in organization can be a backbone for organizational performance. KS processes gradually evolve and improves the production system and its constituting elements (Rong, Shizhong and Yuqing 2007). KS enhance management, decision making and production processes. As a result, knowledge sharing is closely related to long-run performance and the competitiveness of a firm. A number of studies also

provided direct evidence of important role of knowledge sharing and innovative capabilities to firm performance (Andrew, Arvind and Segars 2001). Base on these finding, the hypothesis proposed is:

H_5: KS among employees in organization significantly has relationship with organizational performance.

Based on the hypothesis, the influence of Social Capital Theory on individual factor, Institutional Theory on organization factor and Adaptive Structuration Theory on technology factor in KS and its relationship with innovation and organizational performance is illustrated in the conceptual model in Figure 1.

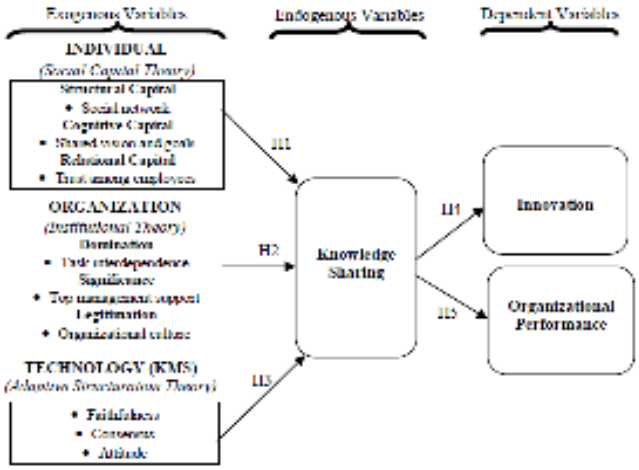

Figure 1. A Conceptual Model

The exogenous variables are individual, organization and technology factors. Individual factor consists of three indicators related to the three components in Social Capital Theory which are structural capital, cognitive capital and relational capital. The variable for structural capital is social network. Social networks indicate communications, dialogue, and interaction between individual and group. The ties among individuals within social networks can facilitate KS in organization (Leonard and Sensiper 1998, Levinthal and March 1993). Cognitive capital variable is shared vision and goals. The shared organizational vision and goals among employees in organization engender a sense of involvement and contribution among employees to share knowledge (Dyer 1997, O'Dell and Grayson 1998). The relational capital variable is trust among employees. Trust among employees will promote active KS behavior. Active KS behavior enhances effective communication by empowering members or an organization to freely share personal knowledge and concerns (Von Krogh 1998).

Organization factor also have three selected indicators based on Institutional Theory. In Institutional Theory, the 'meta structuring' actions influences the behaviors of individuals to share knowledge in three ways; domination, significance and legitimization (Yu and Khalifa 2007). Thus, the variable for domination is task interdependence. According to Yu and Khalifa (2007), prior studies have documented that members of groups with higher level of task interdependence engage in more knowledge sharing than those in the groups with lower level of task interdependence. Significance variable is top management support. Top management support is considered one of the important potential influences on organizational knowledge sharing (Connelly and Kelloway 2003). His/her encouragement will create and maintain a positive knowledge sharing culture in an organization. The legitimization variable is organizational culture. Organizational culture refers to practices, values and norms that promote sharing culture in an organization (Sharratt & Usoro 2003, Syed Ikhsan & Rowland 2004). Organization which practiced cooperative culture and partnership among employees would be more successful in knowledge sharing than organization which employee hoards knowledge and compete between one another.

Three variables of technology factor are faithfulness, consensus and attitude of individuals toward the use of KMS to share knowledge. A study by Yu and Khalifa (2007) on intra-group knowledge sharing showed that the faithfulness of using KMS has impact on KS, the consensus to use KMS in organization has influence KS and the attitude that individuals in groups developed toward technologies such as KMS also influence the outcomes of its use and knowledge sharing.

The endogenous variable for this study is knowledge sharing. KS refers to the willingness to contribute and the ability to collect knowledge among employees in organization through face to face interaction (meetings, courses, seminars, workshops) and via online (Knowledge Management System-KMS). The dependent variables are innovation and organizational performance which is the effect of KS among employees in organization. Innovation criteria measured are creativity and find new ways to do job. While, organizational performance criteria measured are time savings, cost effectiveness and quality of work.

IV METHODOLOGY

The methodology of this research is the mix method which is a combination of qualitative and quantitative methods. The mixtures of both qualitative and quantitative methods are good because it will help to answer the research questions better. It will also be able to offset the weaknesses of one method against the strengths of the other (Miles and Huberman 1994, Silverman 1985). The quantitative method involves the questionnaire survey approach, while the qualitative method is the in-depth interview. The interview with senior managers is the most extensively methods of data collection (Bryman and Burgess 1999) and will support the questionnaire survey data.

The population for this study encompasses middle management officers from the private organizations in Malaysia. According to Nonaka and Takeuchi (1995), 'middle managers play a key role in the organizational knowledge-creation processes'. The selected organizations are the top five government-linked companies (GLC) which have a Knowledge

Management (KM) department, use KMS in their daily work activities to share knowledge and located in Klang Valley.

In this study, items used to operationalize the constructs in questionnaire design are using Lazarsfeld Scheme, sometimes known as "*descending the ladder of abstraction*" (Lazarsfeld 1955). Lazarsfeld scheme involves four stages; the imaginary of concept, the specification of concept, indicators selection and index construction which ranges from abstract concepts to real concepts. The constructs are divided into five sections and will be measured using multiple items. Section I of the questionnaire is the respondents' profile. It consists of five items ranging from the gender, age, education level, position and years of working experience in the organization. Section II focuses on KS, where the respondents are required to indicate the practices of KS among employees in the organization. Sections III are the set of questions on individual, organization and technology factors which affect KS activities in organization. Section IV and section V consists of questions on innovation and organizational performance which are the effect of KS among employees in organization. All items in section II, III, IV and V will be measured using a five-point Likert-type scale (ranging from 1 = strongly disagree to 5 = strongly agree).

The face validation on the instruments by five senior managers who lead KM department in the selected organization indicated that the questions were well constructed. The reliability test of variables shows Cronbach alpha values exceeding 0.70, which suggest that the variables are reliable and could be used for further analysis (Nunnaly 1978, Pallant 2001).

This study will use structural equation modeling (SEM) to validate the research model. This approach is chosen because of its ability to test casual relationships between constructs with multiple measurement items (Joreskog and Sorbom, 1996). The analyses done are descriptive analysis, and confirmatory analysis which include exploratory factor analysis and confirmatory factor analysis.

V CONTRIBUTION AND LIMITATION

The contribution of this study is to the theoretical knowledge via enriching the existing empirical knowledge on knowledge sharing, specifically in private sector in Malaysia. This study also proposed a conceptual model combining the three factors frequent mentioned in KS literature; individual, organization and technology. The effect of KS among employees in organization with innovation and organizational performance also will be measure. Therefore, top management who are interested in developing and sustaining KS in their organization should focus on the three factors, because all are important and cannot be ignored. The limitation of this study is on the scope of research which only focuses on KS in private sector in Malaysia. The research should extent to KS in public sector. The result from both types of organization (public and private sector) can be compared to see the difference on the effectiveness of KS in the two organizations. The findings can be used to help organizations enhance KS practices so as to reap the benefits of KS capability in an effort to improve organizational performance.

VI CONCLUSION AND FUTURE RESEARCH

KS among employees in organization is a part of critical success factor (CSF) in the implementation of KM because some people act as 'unnatural' to share. In order for private organizations to fully leverage the knowledge of their employees, they must first understand the factors that make their employees share knowledge. This study provides a comprehensive model to explain knowledge sharing among employees in organization combining the three main factors and the three theories in KS and its relationship with innovation and organizational performance. This study will be followed by an empirical study to test the hypothesis and to validate the model. The findings from this study aim to increase the understanding of KS among employees in the private sector in Malaysia.

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