Dimensions of Knowledge Sharing Quality: An Empirical Investigation

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Abstract — This paper proposes a conceptual framework for assessing the high quality of Knowledge Sharing (KS) according to the dimensions of KS quality. Despite the variety of the specified perspectives of KS models, the issue of KS quality has been less attention rather than others. Hence this lack of investigation shows that KS researchers only focus on the factors for sharing the knowledge without considering the quality of all of them for achieving the best result of KS. This article reviews some of the existing frameworks of KS and upon a critical review, dimensions of KS quality are specified. These dimensions will use for assessing the quality of KS is then proposed. Literature has emerged that the models of KS are designed based on two main aspects. First aspect is related to the models according to the influenced factors of KS which are quality of fundamental factors and critical factors. The second aspect focus on the association of KS and organizational performance. Consequently this research has tended to focus on the both aspects of KS models which have not been well explored by the previous studies. These two aspects will be used for improving the dimensions of KS quality. It is suggested that the relationship of these aspects through the framework is investigated in future studies.

Keywords – knowledge sharing; knowledge sharing models; dimensions of KS models

1. INTRODUCTION

Knowledge Management is the collection of processes that comprehensively collects, organizes, shares, and analyzes knowledge assets which are recognized from resources, documents, and people skills. It is generally agreed upon that KS is an effective process within organizational settings[1,2,3]. Previous studies of KS show that there are many models of KS which are designed according to various perspectives. Two aspects identifying in the research, it means that influenced factors of KS and the relationship of KS and organizational performance that the existing models are related to one of these aspects. The existing KS models have not dealt with both of them. Hence this study has been carried out to find the connection between these aspects and identified dimensions of KS models to specific the proportions of the quality of KS.

However, despite the growing significance of KS for organization’s competitiveness and performance, analyzing the quality of KS make it difficult for KM to achieve the high quality of KS. The KS research to date has tended to focus on one of two aspects rather than both of them.

Hence, this paper defines KS initially, then it reviews some of the conceptual models of KS and makes a comparison based on their objectives. Accordingly the identified dimensions of KS models are comprised and different components of KS quality are specified also and a conceptual framework based on two mentioned aspects of KS is proposed that is discussed as the conclusion of this article.

2. KNOWLEDGE SHARING

Knowledge sharing is a movement through which knowledge such as information, skills, or expertise exchanges between people, friends, or members of a family, a community or an organization. Knowledge sharing is the management of explicit or tacit knowledge consists of performing one or several of the knowledge processes such as transferring, creating, integrating, combining and using knowledge.

The definition of data, information and knowledge are related to each other hierarchically. In other words, knowledge is information possessed within the organization which is intangible assets. And also information is data processed in a firm that collected as explicit assets. Although various systems are designed for supporting the knowledge, maybe appear in different forms of information systems. The aimed of systems designed to support knowledge will be enabling employees within the organization to assign meaning to information, in order to capture their knowledge [4].

About the sharing of knowledge, it should be mentioned that the three terms of “knowledge sharing,” “knowledge transfer,” and “knowledge flow” are often used interchangeably to illustrate knowledge transmission occurs along with people within or across organizations. Knowledge could be shared at individual, unit or group, and organizational levels, within or across organizations. The best definition could be the Nonaka and Takeuchi model that proposition a dynamic
model to demonstrate the communication between two kinds of knowledge, it means that tacit and explicit knowledge. The term of Knowledge Sharing has various descriptions, some of which are mentioned in this part [5].

Kim & Nelson emphasize that Knowledge sharing is seen as occurring through a dynamic learning process where organizations continually interact with customers and suppliers to innovate or creatively imitate [6].

Jeffrey Cummings defines KS involves the processes through which knowledge are channeled between a source and a recipient [7].

According to An Fengjie KS is the important part in the subject of Knowledge Management. Knowledge innovation is the goal of Knowledge Management, but knowledge innovation cannot run without the assistant of existing knowledge. KS also means knowledge innovation, because everybody must add his own understanding when sharing knowledge [8].

3. RESEARCH METHOD

A critical review on the KS models was used as the main research instrument to collect data from the investigations of KS from. A large and growing body of literature has investigated the KS models which are theoretical in the sense that they are an expected process or mechanism that has been developed to illustrate a phenomenon.

There are several models of KS that are recommended by researchers according to the different perspectives on the subject which is broad. Some of the common models are selected in this research that are Syed Ikhsan et al. Model[9], Supar et al. Model[10], M.B Ismail et al. Model[11], B.Hooff Model[12], K. Salleh Model [13]and H.Zarei Matin et al. Model [14]. Therefore this research has tended to focus on the two main identified aspects of KS models which have not previously been dealt by other studies in order to assessing the KS quality

4. KNOWLEDGE SHARING MODELS

In general, models represent a reality and most of the models of KS are conceptual which present the related process or mechanism that has been residential to illustrate a phenomenon. There are various KS models that are proposed by KS researchers. The varieties of existing models due to diverse researchers focus KS from different perspectives. Some of the KS models/frameworks are selected in the study such as Syed Ikhsan et al. Model, Supar et al. Model, M.B Ismail et al. Model, B.Hooff Model, K. Salleh Model and H.Zarei Matin et al. Model which are reviewed in this section respectively.

A. Syed Ikhsan et al. KS Model

They considered the correlation between elements of organization and performance of knowledge transfer (KT) and knowledge asset (KA) in a Malaysian ministry. The elements of the organizations recognized which are organizational culture and structure, human resource, technology and directives from politicians as shown in FIGURE1. It shows that there are major relationships between some of the variables and either the performance of KT or the creation of KA. They recommend that it may be essential for organizations to consider some of the elements that show a association between the variables in implementing KM strategy within an organization principally public sector [9].

B. Supar et al. KS Model

They recognized the factors that are influencing KS between academic staff and its influence on performance in three higher institutions in Malaysia that are chosen for the research. Those factors are cultural factors, technological factor, communication factor and organizational support factor. Findings from the study indicated that management support, solidarity, expert vs. distributed model, knowledge sharing related to knowledge sharing to be included in the work process, presence of IT for the purpose of knowledge sharing and mentoring are positive and that knowledge sharing is positively related to performance [10].

C. M.B Ismail et al. KS Model

The M.B Ismail et al. Model is drawn upon the knowledge-based theory of the firm. The knowledge-based theory of the firm considers knowledge as the most strategically significant resources of the firm. In this conceptual model, the factors are categorized into three categories, in other words, individual dimension, organizational dimension and technological dimension that FIGURE 3 shows them conceptually [11].
In the engineering approach, knowledge sharing is assumed to be implemented by providing appropriate means for people to exchange knowledge. So, if management provides good organizational and technical infrastructures, it should have provided a context in which employees share knowledge. The emergent approach assumes that knowledge sharing emerges from factors that are difficult to manage but the engineering approach suggests some ways for managing the process. They merged both views in FIGURE 4 as below [12].
E. K. Salleh KS Model

This empirical study of KS model in an accounting organization is another KM breakthrough whereby sharing process of tacit knowledge can be used as a strategic KM process to support the knowledge flow and knowledge networks to improve accounting process, reporting structure and decision making process. This conceptual model integrates KM solution through learning, leadership, culture and technology to improve KS process. FIGURE 5 shows the relationship between the learning factors of public sector accountants, organizational and technology infrastructure and the sharing performance of tacit knowledge in a public sector accounting organization [13].

F. H. Zarei Matin KS Model

In this model, knowledge sharing is considered as a process and includes propensity, vision and behavior and decision-making on knowledge sharing will be evaluated in this three stage process. The performance of knowledge sharing and intra-organizational knowledge sharing capabilities are considered in four perspectives: learning and growth, internal processes, customer and finance, so it is multidisciplinary [14].

5. COMPARISON OF STUDIES ON KS MODELS

Literature in KS shows that there are diverse KS models. A variety of models exist as a result of differing views on the subject which is broad and subjective. Although some of the models address the qualifications or factors which are influencing KS, the other address the relationship between KS and performance. In this study several theoretical models of KS are specified because of some reasons, it means that they try to present the influence factors or dimensions of sharing knowledge. Thus TABLE 1 is created to illustrate the comparison of studies on the selected KS models in the previous section based on the various objectives and outcomes of their studies.
TABLE 1: Comparison of studies on the selected KS Models

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Objective(S)</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.O.S. Syed Ikhsan et al. [9]</td>
<td>To find the relationship between organizational elements and knowledge transfer performance and knowledge asset in a ministry in Malaysia.</td>
<td>Theoretical Model of KS</td>
</tr>
<tr>
<td>N. Supar et al. [10]</td>
<td>To identify factors influencing KS among academic staff and its impact on performance in three selected higher institutions in Malaysia.</td>
<td>Theoretical Model of KS</td>
</tr>
<tr>
<td>M.B Ismail et al. [11]</td>
<td>To propose a KS model to focus on KS in public sectors To identify the relationship between KS, organizational performance and service delivery</td>
<td>Theoretical Model of KS</td>
</tr>
<tr>
<td>B. van den Hooff et al. [12]</td>
<td>To determine how the process of knowledge sharing could be managed To show that emergent and engineering approaches have value in explaining knowledge sharing.</td>
<td>Theoretical Model of KS</td>
</tr>
<tr>
<td>K. Salleh [13]</td>
<td>To presents the KS model that interconnects KM enablers and the sharing process of tacit knowledge in a public sector accounting organization.</td>
<td>A conceptual Model for sharing the tacit knowledge</td>
</tr>
<tr>
<td>H.Zarei Matin et al. [14]</td>
<td>To identify structural, behavioral, cultural, social and technological factors as the intra-organizational capabilities To investigate their impacts on KS behavior namely vision, tendency and behavior</td>
<td>KS management model which causes overall organizational performance improvement in terms of learning, growth, internal processes, customer and financial affairs.</td>
</tr>
</tbody>
</table>

Consequently, the models of KS are studied separately. As it has been mentioned before, there are various models of KS, some of which are related to the relationship of KS and performance, other ones are related to critical factors of KS. Hence FIGURE 7 is created for presenting the result of this review.

![FIGURE 7: Comparison of KS models based on two aspects](image)

According the above chart most of the researchers addressed critical factors of KS rather than the relationship between KS and performance. So, this paper will focus on both aspects.

6. DIMENSIONS OF KS MODELS

This paper will focus on the various dimensions of KS models. Different models of KS have been projected as an explanation of or instruction for the variety of dimensions. Some of the dimensions are not fully understood that, this study indicate that there has been little investigation about KS quality as one of the main dimensions of KS models. However, the general dimensions of KS models are identified and have been shown as TABLE2 and FIGURE 8.
TABLE 2: Dimensions of the KS Models

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Dimension(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.B. Cooper et al. (1990), R.G. Fichman et al. (1997), E. Wenger et al. (2000), E.A. Smith (2001), D. Chatterjee et al. (2002), S.O.S. Syed Ibnsan et al. (2004), S.Kim et al. (2005) [33,34,35,36,37,9,38]</td>
<td>Technological dimension</td>
<td>The main components of the technological dimension could be ICT tools, ICT infrastructure and ICT know how</td>
</tr>
<tr>
<td>V. McKinney et al. (2002), Delone and Mclean (2003), C.M. Chiu et al. (2006), [39,40,41]</td>
<td>Knowledge sharing quality</td>
<td>KS is measured in terms of its quality. Quality knowledge becomes important attention when a community become mature. Thus, the quality of knowledge shared could be measured based on McKinney (2002) et al., Delone and McLean (2003) and Chiu et al. (2006) approach that is relevant, easy to understand, accurate, complete, can be trusted and timely.</td>
</tr>
<tr>
<td>T.J. Breckmen (1997), N.B. Jones (2001), S. Al-Hawamdeh (2002), Karl Erik Sveiby (2006) [42,43,44,16,45]</td>
<td>Organizational Performance</td>
<td>Knowledge that is transferred between individuals does not only benefit organizations but also increases the competencies of individual involve in the process. KS is one of the important factors affecting organizational development and performance. The critical output from KS is new knowledge and innovation that will increase organizational performance. Organizational performance is measured by means of time saving, increased decision making, increased customer satisfaction, increased quality and problem solving, increased organizational learning and increased competitive advantage.</td>
</tr>
</tbody>
</table>
The above figure illustrates that, Technological, Organizational, individual, Service Delivery, Organizational Performance and KS Quality by 23%, 20%, 8%, 6% and 4% respectively, have been addressed within researches of KM/KS. Although all dimensions of KS are significant for researchers, there is little discussion about KS quality within KM researchers.

7. PROPOSED CONCEPTUAL FRAMEWORK

According to DeLone and McLean a system can be evaluated in terms of information, system, and service quality. These items are known as main independent factors of the Delone and Maclean IS Success Model. Then Jennex and Olfman mentioned that Knowledge could be added to the information quality of the model as Information/Knowledge quality for achieving the KM Success model. These definitions cause the factors to be the fundamental factors of KS quality. About the fundamental factors of KS quality, it should mention that, Systems Quality measures technical success; Information Quality measures semantic success; and Service Quality measures management support success [40,41,51].

Many authors have attempted to draw up a comprehensive list of critical success factors for successful implementation of knowledge sharing in different study contexts. Some of them are mentioned in this study. Other writers have also identified, based on various study contexts, different critical success factors that can aid and lead to effective knowledge sharing between individuals in an organization. While there are some similarities in the studies, they cannot be generalized. However by reviewing the CSFs of KS, some of them are selected as the major factors which are shown in FIGURE 9.

FIGURE 9: Critical Factors of KS quality
In this paper, the proposed conceptual framework is drawn upon the dimensions of KS quality. Because of this a few conceptual frameworks of KS are discussed above. The previous KS models focus on one aspect of KS models which are mentioned before. But in this proposed conceptual framework both aspects are considered, it means that influenced factors of KS quality and the relationship of KS and organizational performance. The proportions of KS quality are categorized into three categories (quality of the fundamental factors of KS, quality of critical factors of KS and the level of KS for specification of the organizational performance). Therefore, the present study was designed to determine the proportions of KS quality by review the effect of existing factors and dimensions on KS/KS models. FIGURE 10 shows the proposed conceptual framework as below.

8. CONCLUSION

In this paper KS definitions and some of the conceptual models of KS are discussed and the dimensions of KS models are specified. Therefore, in this study the proportions of KS quality have been clarified based on the KS literature review and the theories of Delone and McLean IS Success Model and Jennex and Olfman KM Success Model. Hence, quality of KS factors such as Information and Knowledge Quality, System Quality and Service Quality as the fundamental factors could be influence on the critical factors of KS which are Security, Trust and relation, Role and responsibility, Communication and training between staff, Technology and IS, Measurement, Reward and motivation, Strategy and Process, Organizational culture and structure and Leadership and senior management. Consequently the identified critical factors of could be influence on organizational performance and the level of KS can be specified in this part. The results of this study indicate that KS quality has various dimensions, but the main ones are the quality of the fundamental factors of KS, quality of critical factors of KS and the organizational performance that has been proposed as the conceptual framework of KS quality. These findings further support the idea of high quality of KS.

REFERENCES


