

## **Developing Knowledge Management (KM): Contributions by Organizational Learning and Total Quality Management (TQM)**

*Richard Yu-Yuan Hung*

*Toko University, Chia-Yi, Taiwan*

*Bella Ya-Hui Lien*

*National Chung Cheng University, Chia-Yi, Taiwan*

*Knowledge management is an integral business function for many organizations to manage intellectual resources effectively. From a resource-based perspective, organizational learning and TQM are antecedents that are closely related to KM. The purposes of this study were to explain the contents of KM, and explore the relationship between KM-related concepts. Three propositions and one KM-related conceptual model were developed. This paper concludes with a discussion of how organizational learning and TQM contribute to KM.*

**Key Words:** Knowledge Management, Organizational Learning, Total Quality Management

According to Jackson et al. (2003), knowledge-based resources include all the intellectual abilities and knowledge that is possessed by employees, as well as their capacity to learn and acquire more knowledge. Knowledge is the key resource that facilitates a sustained competitive advantage in the global competition and increasingly dynamic environments. As a result, organizations are being advised to assemble people of diverse talents and employ their expertise to gain access to new markets and new technologies to foster organizational innovation.

From the strategic point of view, organizations can use their innovative competency to differentiate themselves from other companies and create their unique competitive advantage. Currently, organizations are challenged to be innovative, responsive, proactive and representative of their value. Hence, organizations must demonstrate that their services have relevance, value, and impact for stakeholders and customers. Knowledge management (KM) provides opportunities for organizations to accumulate knowledge to improve their innovation competencies and demonstrate their value. As Grover and Davenport (2001) point out, KM is rapidly becoming an integral business function and a solution for many organizations in managing intellectual resources effectively.

In this study, several issues are addressed, including: 1) What is the essential meaning of KM, and what is the content in organizational KM initiatives? 2) What kind of factors influence KM initiatives to facilitate organizational performance? and 3) How is the effectiveness of KM initiatives measured? Further, to what extent can organizational innovation provides indicators for KM to be measured?

In reviewing the KM literature, on one hand, previous research suggests that organizational learning (OL) and KM are integral to each other (Bixler, 2002; Schulz, 2001). Bates and Khasawneh (2004) also suggested that innovation is closely related to organizational learning. On the other hand, McAdam and Leonard (2001) suggest that in daily business processes and operations, an interactive relationship exists between Total Quality Management (TQM) and KM.

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TQM focuses on customer orientation and continuing improvements, that are the basic concepts of KM and organizational innovation, as well. Still, there is a very limited research discuss the relationship between KM and organizational innovation through TQM, with organizational learning. For academic, this study enhances the understanding of the relationship among several construct. For practitioner, it can provide the mechanism to increase performance in organization. The strategy used for the literature review on this topic was developed to first gain a sense of how organizational learning and TQM can influence KM and organizational innovation.

The purposes of this study are to:

1. explain the contents of KM initiatives to improve organizational innovation competency
2. explore and understand the relationship among organizational learning, KM, and organizational innovation
3. explore and understand the relationship among TQM, KM, and organizational innovation
4. propose a conceptual model to describe the relationship among organizational learning, TQM, KM, and organizational innovation

In this paper, the discussion begins by describing how scholars and practitioners have addressed KM initiatives and organizational innovation in the work context. Then, we describe the KM initiatives that are included in this research and their relationship to organizational innovation performance. Further, TQM and organizational learning (e.g., organizational culture), taken together and as antecedents, are argued to influence KM initiatives and organizational innovation performance. Next, we develop a proposition and a conceptual model that specifies the potential effects of organizational learning and TQM on KM initiatives on organizational innovation performance. Finally, we discuss theoretical and practical implications for this study.

## Literature Review

The resource-based view perceives the firm as a unique bundle of idiosyncratic resources and capabilities where the primary task of management is to maximize value through the optimal deployment of existing resources and capabilities, while developing the firm's resource base for the future. The aim of organizational learning is to maximize the firm's knowledge base. The aim of knowledge management is to create and apply knowledge while TQM is a mean to develop KM. It seems knowledge as the most strategically important of the firm's resources (Grant, 1996). Therefore resource-based view serves as a major theoretical base for this study. Through careful examination of the major database such as EBSCO and ABI-Inform, this section presents some of the core research work related to organizational learning, TQM, KM, and organizational innovation.

### *Knowledge Management (KM) Initiatives and Organizational Innovation*

From a resource-based view (RBV), a sustainable competitive advantage can only come from resources that are rare, valuable, and difficult to imitate. These resources are often the intangibles of human or social capital. The knowledge-based view of the firm is a special case of the resource-based view with a focus on knowledge as an organizational key resource (Bhatt, 2000).

No consensus yet exists about the definition of knowledge. Quinn et al. (1996) suggested that knowledge is professional intellect. According to Marakas (1999), knowledge is a "meaning" made by the mind – without meaning, knowledge is inert, static, and disorganized information. Nonaka (1991) defines knowledge as justified belief, where beliefs are used to justify self-interests. In addition, knowledge can be both explicit and tacit, with tacit knowledge being difficult to codify and transmit. The author proposed four basic modes for creating knowledge in

any organization: 1) socialization (from tacit to tacit), 2) articulation (from tacit to explicit), 3) combination (from explicit to explicit), and 4) internationalization (from explicit to tacit). Nevertheless, knowledge is an organized combination of ideas, rules, procedures, and information.

For knowledge management, De Jarnett (1996) defines KM as including knowledge creation, which is followed by knowledge interpretation, knowledge dissemination and use, and knowledge retention and refinement. Brooking (1997) posits that knowledge management is the activity that is concerned with strategy and tactics to manage human-centered assets. Quintas et al. (1997) suggested that KM is the process of critically managing knowledge to meet existing needs, to identify and exploit existing and acquired knowledge assets, and to develop new opportunities. From the process point of view, KM includes knowledge creation, knowledge storage/retrieval, knowledge transfer, and knowledge application (Alavi & Leidner, 2001; Nonaka & Takeuchi, 1995). From the above statements, KM initiatives could include knowledge creation, knowledge access, knowledge transfer, and knowledge application. These four elements also become the major concepts of KM, as discussed in this study.

For knowledge creation and knowledge access, Leung (2001) argued that knowledge building not only depends on information processing, but also on shared interpretation of the information and the filtering of the knowledge into degrees of importance. As such, crucial components of knowledge development include the mechanism for evaluating the quality and usefulness of the processed information, and the mechanism for filtering knowledge to be kept in accessible organizational memory vs. being disregarded or stored, but not readily accessible.

With regards to explicit vs. tacit knowledge, Hansen et al. (1999) classified an organization knowledge transfer as being comprised of two distinct strategies: codification and personalization. The codification approach implies that learning relies on using knowledge databases and connecting people with reusable, codified knowledge. In contrast, the personalization mode of knowledge transfer relies more on direct interactions between individuals in that the learning occurs through direct collaborative interaction with experts and peers in small groups of people.

For knowledge application, Carneiro (2000) finds that the KM system is a key component in innovation and competitiveness. From an application perspective, a close relationship exists between a company's management of innovation and its management of knowledge. The two functions proceed from similar basic values (e.g., the conversion of implicit into explicit knowledge) and utilize similar instruments (e.g., experience groups and quality circles) (Zaugg & Thom, 2003).

Organizational innovation also has been consistently defined as the adoption of an idea or behavior that is new to the organization (Hage, 1999). Bates and Khasawneh (2004) suggest that innovation is equated with the adoption and application of new knowledge and practice. This also includes the ability of an organization to adopt or create new ideas and implement these ideas in the development of new and better products, services, and work processes or procedures. From a competency point of view, organizations with innovative competency have the ability to convert the knowledge and ideas of its employees into products and services tailored to meet the needs of customers, as well as into innovations in the creative production of goods and services. The innovation can either be a new product, a new service, a new technology, or a new administrative practice (Zaugg & Thom, 2003). From the above discussion, the first proposition is:

Proposition 1: When the correct KM strategies are used when organizations utilize their KM initiatives, namely: knowledge creation, knowledge access, knowledge transfer, and knowledge application, organizational innovation will be positively influenced.

### *Contribution of Organizational Learning to KM*

From the organizational learning (OL) school, Brown and Woodland (1999) claim that learning is the process of acquiring knowledge. Their study synergized learning and knowledge by claiming that an organization cannot sustain a competitive advantage without constantly learning and developing new knowledge. Easterby-Smith and Araujo (1999), from a technical view, assumed that organizational learning is the effective processing, interpretation of, and response to information, both inside and outside the organization. Allee (1997), from the KM school suggested that each aspect of knowledge has a corresponding learning activity that supports it. Nevertheless, learning occurs when we talk about creating, sharing, and using knowledge, thus, knowledge develops by learning (Loermans, 2002). Addleson's (1999) study suggests that organizational learning empowers members of an organization to gain knowledge and develop skills. The above statements clearly link the learning process and knowledge.

The KBV of a firm provides the conceptual foundation for the research and design efforts that link organizational learning and KM (Bhatt, 2000). The organization's possession of knowledge as its resources is not enough; as it must be managed and developed with structures, strategies, and systems. Therefore, we suggest that an organizational learning environment facilitates and develops the KM, in connection with the supportive culture, learning strategies, and IT systems.

In organizational learning, Hibbard and Carrilo (1998) suggest, suitable organizational cultures and environments are critical factors for an organization to implement KM. The essence of culture is the values, beliefs, and assumptions that, over time, become shared and taken for granted through a continuous, collaborative learning and influencing process (Schein, 1999). Hence, the organizational supportive culture as an integrated system of ideologies, values, and beliefs that provide behavioral norms for KM activities (Janz & Prasarnphanich, 2003). Marquardt (1996) and Watkins and Marsick (1993) suggest that, in the process of organizational learning, the supportive culture can help members in the organization to acquire information, distribute and share their learning experiences, and provide rewards and recognition for the members of the organization, while promoting continuous learning and improvement. In summary, if the organizational culture possesses a supportive environment for knowledge exchange and accessibility, then organizational KM activities will be more effective (Jane & Prasarnphanich, 2003).

Organizations with supportive organizational cultures and learning strategies can enable their members to share the knowledge, create interactive learning, and build a trustworthy relationship. As a result, organizations can maintain the effectiveness of the KM. Learning strategies help members in organizations to effectively manage the knowledge review process, which can directly affect the process of knowledge creation in the organization. In an organization with a learning strategy, where knowledge distribution and sharing is promoted, individuals can create new knowledge and broaden the organizational knowledgebase. In an organization, knowledge is not only stored with individuals but also within the organization. When organizational members are creative and willing to learn cooperatively, the process of knowledge creation is simplified in the organization (Weick & Roberts, 1993). Thus, one of the main strategies of management is to create a learning environment of interaction between individuals and the organization, for strengthening each other's knowledge base (Alder et al., 1999; Bhatt, 2000).

Chourides et al. (2003) suggested that strategy and people are the principle drivers for KM, and that IT is a fundamental enabler. Chen and Chin (2004) suggested that developing a comprehensive IT infrastructure allowed its members to share knowledge and information both within the organization and between the organization and others, and become innovative. Therefore, in a learning organization, a comprehensive IT system is a factor that enables

organizational learning. As Mason (2003) suggests, a mix of technology and organizational learning processes can contribute to KM programs.

From the innovation perspective, learning activities occur with new experiences directed towards exploration (i.e., research), routine experiences, and training (Bates & Khasawneh, 2004). These activities help develop knowledge that can be used to recognize, acquire, and assimilate new information and then to apply the ensuing knowledge. The greater the knowledge possessed and shared throughout the organization, the more the organization will be inclined to absorb new knowledge, and apply it towards innovative, creative, and effective products and services. Accordingly, the second proposition is:

**Proposition 2:** The greater the organizational learning process throughout the organization, the more successful is the KM and the outcome of organizational innovation in the organization.

#### *Contribution of TQM to KM*

Zhao and Bryer (2001) see strong links between KM and TQM, particularly in the areas of continuous improvement, and empowerment of the workforce. Zairi et al. (1999) also suggested that organizations that have reached maturity in their TQM programs, may have established the right culture and conditions to best develop KM programs. Kotler's (2002) study confirms that an organization must develop internal awareness within itself to be able to respond and create innovative solutions for customers.

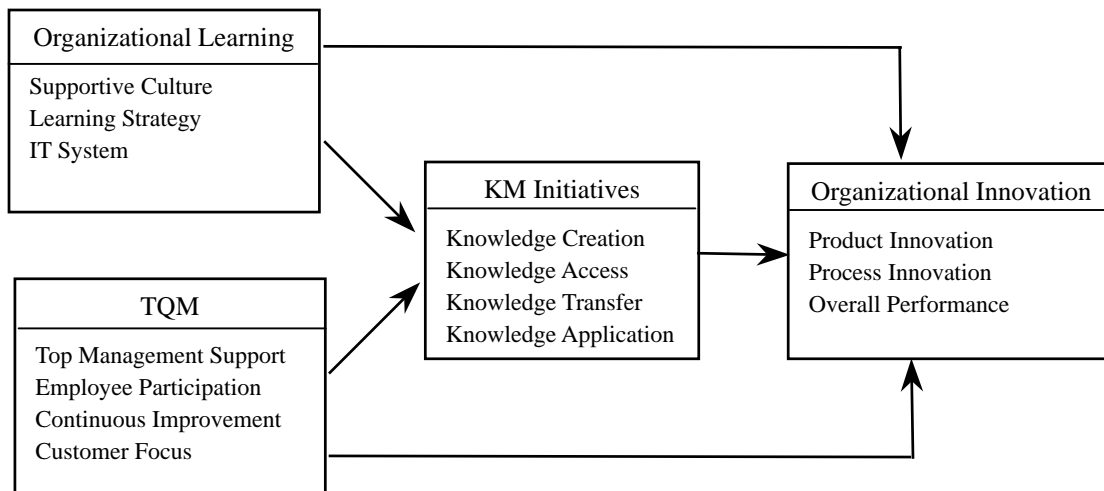
From the TQM perspective, organizations that focus on customers by continuously building staff confidence, increase their quality service to their customers by concentrating on the organization's ability to learn and create innovative and timely solutions. Evans and Lindsay (1998) point out that TQM is a management approach, focusing on quality, with its aim to improve organizational effectiveness and flexibility. Also, TQM focuses on the top management support and emphasizes every employee's involvement in related continuing improvement initiatives. Zairi (1997) pointed out that top management's visible commitment is a crucial factor in the process of continuous improvement. Hung (2001) suggests that, though top management is fully responsible for the success of TQM, the participation and corporation of employees is another crucial factor. As organizational change occurs, these statements are similar to those for describing KM. In addition, Huselid (1995) maintained that when employees are empowered for quality improvement initiatives, they may fully perform their knowledge and skills, more easily. As a result, opportunities are created for employees to transfer their knowledge to the whole organization. Another aim for TQM is to provide the services that fulfill customer needs. As with the TQM concept, Davenport and Klahr (1998) re-affirm that customers should be the focus of KM activities. In sum, this study, however, the contribution of the TQM concept to KM included: (a) customer focus, (b) continuing improvement, (c) top management support, and (d) employee involvement. Thus, the third proposition is as follows:

**Proposition 3:** The major concepts of TQM contribute to organizational KM initiatives; the more successful the TQM implemented, the more successful is the KM and organizational innovation outcome.

#### **Proposed Conceptual Model**

From the above literature review and propositions, the following conceptual model is proposed (Figure 1), demonstrating the linkages among organizational learning, TQM, KM and organizational innovation.

Figure 1: Proposed KM-Related Conceptual Model



### Conclusion and Contributions to HRD

Previous studies have tended to examine organizational learning, TQM and KM individually. This study, in contrast, develops the KM concept from organizational learning and TQM perspectives. This study also proposed a model to describe these concepts. However, this model develops the KM concept from organizational learning and TQM perspectives and then its impact to organizational innovation. The impacts of organizational learning and TQM to KM and then to Organizational Innovation are developed. The contributions of organizational learning and TQM to KM are described through a literature review, three major propositions are developed. First, organizational KM initiatives positively influence the organizational innovation performance. Second, organizational learning positively influences organizational KM initiatives and organizational innovation performance. Third, the major concepts of TQM positively influence organizational KM initiatives and organizational innovation performance.

This study is important to HRD for several reasons. First, it contributes to the body of knowledge in KM, and provides a conceptual model with an initial glimpse of what may be a valuable linkage between organizational learning, TQM concept, KM initiative, and innovation. Second, the study links these four constructs that have generated a lot of interest in the HRD and management literature. Finally, in order to fully understand the proposed model, further investigation is still needed to know the strength of relationships among variables in the model.

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