



The effect of reducing risk and improving personal motivation on the adoption of knowledge repository system

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ABSTRACT

The role of Knowledge Repository Systems (KRSs) is to provide the exchanging intermediaries of explicit knowledge between knowledge contributors and knowledge seekers to assist knowledge sharing of employees in the organization. However, there is still a lack of deep understanding of how to reduce perceived risk and improve personal motivation on the adoption of KRSs in previous research. The paper presents social–psychological–technical perspectives to integrate social factors of reduced perceived risk (trust and organizational support) into Motivation Model (MM) and develop a comprehensive framework for assessing and analyzing the interaction of technology with the social, psychological, and behavioral aspects in KRSs. The proposed framework is validated with 528 respondents from teaching hospitals located in Taiwan, which shows that social factors of reduced perceived risk, personal motivation factors, and technology quality factors are three key factors affecting the acceptance of the KRSs. In other words, technological, social, psychological aspects will affect simultaneously behavioral intention in KRSs. Moreover, the psychological aspects are important mediators among technological, social, and behavioral aspects. The findings may be used as theoretical base for future research and offer empirical foresight to managers of organizations in assessing and evaluating the performance of the KRSs.

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1. Introduction

Knowledge Management (KM) has become a hot issue of business management in the super-competitive age. KM is widely recognized by both academics and practitioners for its increasing importance in gaining organizational competitive advantage [1]. Knowledge is considered as an extension of information in that knowledge is embedded with context [2]. The knowledge is embedded and carried through multiple entities including organizational culture and identity, routines, policies, systems, and documents, as well as individual employees. Because knowledge-based resources are usually difficult to imitate and socially complex, these knowledge assets may produce long-term sustainable competitive advantage [3]. The key issue for KM is to capture intellectual assets and help employees better perform their work for the benefit of the organization. Therefore, IT-enabled knowledge management systems can play a key role in helping organizations manage knowledge in a more effective and efficient way.

According to Alavi and Leidner [3], Knowledge Management Systems (KMSs) refer to a class of information systems applied to manage organizational knowledge. That is, they are IT-based systems developed to support and enhance the organizational processes

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of knowledge creation, storage/retrieval, transfer, and application. KMSs could be seen as intermediaries between knowledge contributors and knowledge seekers when people engage in knowledge sharing via KMSs [4]. Hence, KMSs play an important role in KM initiatives. Recently, more and more organizations invest human resources and financial budgets to develop KMSs.

Many KMSs take the form of what has been referred to as knowledge repository systems [5]. Knowledge Repository Systems (KRSs) allow employees in an organization to exchange experience, working methods, improvement ideas and market hints by posting documents onto a database that is accessible to all members of a group [6]. Therefore, KRSs are special instances of KMSs, which provide the exchanging intermediaries (or platforms) of explicit documents, information, and knowledge between knowledge contributors and knowledge seekers in the organization. Because KRSs can be considered as one of easily accessible knowledge channels (e.g., internal documents, operational routines, meeting records, FAQs, rules, and regulations), previous research reports that 80% of KM initiatives involve the use of KRSs [5].

As Davenport and Prusak [5] suggest that the creation of KMSs is not equivalent to the success of KM activities, some researchers also argue that the creation of KRSs cannot guarantee the occurrence of knowledge sharing [7]. Sambamurthy and Subramani [1] indicate that technical and social processes may interact in complementarities to shape KM efforts. Structuring people, technology and knowledge content is required for KM projects or initiatives to achieve organizational objectives [8]. On the one hand, organizations must take social context factors into consideration to ensure the success when designing and implementing KMSs. For example, Alavi and Leidner [3] raise the research question on how trust can be developed to enhance individual's use of knowledge in KMSs. A competitive advantage exists when an organization has culture that people trust each other and the KMSs. The climate can inspire more and more employees to devote and provide better ideas, products and services. Meanwhile, it can also reduce risk aversive behavior of employees and encourage employees to sustain innovative behavior.

In addition, organizational support also plays a very important role in the use of KMSs. Organizational support can effectively motivate employees and induce feeling of inner reward and enjoyment [6]. Also, if there exists strong organization support, the contributors of KMSs should feel less opportunistic risk of others misusing shared knowledge. Accordingly, by reducing perceived risk, organizational support can enhance employees' willingness to do more, that is, sharing their own knowledge to others.

On the other hand, personal motivation factors also play an important role in employees' knowledge sharing behavior. Information technology alone cannot get an employee who isn't interested in seeking knowledge hop onto a keyboard and start searching or browsing [5]. Factors associated with social context and personal motivation and their effects on the intention of using KMSs have been examined by researchers in recent years [9–12]. However, there is a lack of an integrative model which considers simultaneously the joint effects of social context, personal motivation, and technology quality on determining the usage of KRSs. These important issues have not been fully explored and examined in relevant KRS research.

The healthcare industry is knowledge intensive by nature because a large proportion of employees in healthcare organizations are knowledge workers, such as physicians, nurses, pharmacists, radiologists, physical therapists etc. According to Shams and Farishta [13], health care data can be classified into four categories: patient-centric data which is related directly to patients; aggregate data which is based on performance and utilization/resources management data; transformed-based data which is used for planning, clinical, and management decision support; and comparative data that incorporates health services research, outcome measurement, and epidemiology. By using available knowledge effectively, healthcare knowledge workers can make more precise decisions and minimize potential medical losses by providing patients with higher quality of medical treatment. With such tremendous benefits, KMSs have been applied in many hospitals in Taiwan to compete in the increasingly cost-conscious and patient-centered health context.

TAM (Technology Acceptance Model) is a well-accepted intention model for predicting and explaining IT usage [14]. TAM identifies that an individual's system usage depends on two beliefs: perceived ease of use and perceived usefulness. Compared with some alternative models, such as the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), TAM has been found more favorable in many studies [15]. Because TAM is a well-defined model, the proposed model of the study is based on the Motivation Model (MM), an extended model of TAM [16].

Prior research adopted some theories such as the Theory of Planned Behavior [17] and the Theory of Task-Technology Fit [18] to explain the usage of KRSs [7]. Another study focuses on the cost, extrinsic benefits, and intrinsic benefit factors of knowledge contribution [12]. However, these studies paid little or no attention to exploring the interaction of social context factors, personal motivation factors, and technology quality factors. We therefore decide to explore the usage of KRSs from a social–psychological–technical perspective. In sum, the current research has three major objectives.

First, the study integrates social context factors (trust and organizational support), personal motivation factors (perceived usefulness, perceived enjoyment, and subjective norm), technology quality factors (perceived ease of use and output quality), and Davis et al.'s Motivation Model (MM) [16] to formulate a social–psychological–technical model.

Second, using samples of hospitals in Taiwan, the study empirically tests the social–psychological–technical model to explore the relationship among social context factors, personal motivation factors, and technology quality factors and the determinants of intention to use knowledge repository systems.

Third, according to the findings, the study will provide managers of health institutions with foresights and insights of relevant designing and planning initiatives before launching KRSs.

2. Literature review

Knowledge is at the center stage of KM activities. Knowledge can be viewed as information combined with experience, context, interpretation and reflection [8], or as personalized information related to facts, procedures, concepts, interpretations, ideas,

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