

## Chapter 7.5

# Examining the Varying Influence of Social and Technological Aspects on Adoption and Usage of Knowledge Management Systems

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### **ABSTRACT**

Knowledge management strives for effective capture and application of organizational knowledge, a resource imperative in sustaining organizations. To better achieve knowledge management initiatives, examination of factors influencing adoption and usage of knowledge management systems (KMS) are of great interest. Implementation of technological solutions considered organizational innovation is subject to potential problems of resistance, implying analysis of social factors equally important to technological factors. With Innovation Diffusion Theory as a foundation, this research examines factors influencing adoption and usage of KMS. The model is extended to

include Reciprocity Expectation, an important factor affecting knowledge management processes. Results indicate that some factors are important in determining adoption while others are important for continued usage. This research emphasizes careful consideration and re-evaluation of both social and technological factors throughout all stages of technology implementation; more specifically, Reciprocity Expectation may be an important factor affecting length of adoption, but insignificant in determining continued usage.

### **INTRODUCTION**

The latest trend in technology involves systems and applications encompassing higher levels of social interaction and collaboration. With globalization

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of organizations also gaining in popularity, the ability to work more effectively and efficiently with the aid of technology provides considerable benefit including quick and easy access to information at any time and any place. Even before information technology became prevalent in the work environment, organizations were faced with an on-going challenge to balance management of a variety of resources including both physical resources and human resources. Today's organizations are faced with the additional obstacle of managing technological resources.

As organizations strive to maximize resource acquisition and utilization, one of the most valuable resources is intellectual capital, comprised of organizational knowledge residing in either individuals or in collective actions of a group. The importance of intellectual capital has motivated the field of knowledge management, which has in turn facilitated development of a wide variety of knowledge management systems (KMS). While the content of a KMS is the knowledge itself, an overall KMS also includes processes, goals, strategies and culture (King, 2007). KMS provide a technological solution to support processes of knowledge capture and knowledge application. Nonetheless, the human component and subsequent social aspects are also important to successful knowledge management.

Despite development of systems allowing for increased capabilities to support organizational knowledge processes, adoption of KMS remains enigmatic (Wagner & Bolloju, 2005). Even when KMS are in place, studies show that the majority of knowledge relevant to an organization is not represented in systems (Frappaolo & Capshaw, 1999). With capture of organizational knowledge continuing to be a problem for current KMS, new solutions need to be analyzed (Wagner, 2006). While the stream of research on adoption of IS is extensive, newer technologies facilitating collaborative processes are in need of further examination. Furthermore, collaboration is imperative to successful KMS utilization, war-

ranting specialized technologies of great interest. The aim of this research is to examine both social and technological factors affecting adoption and usage of KMS. We seek to investigate the importance of social factors compared to technological factors and the possible difference among these factors impacting length of adoption compared to extensiveness of usage. The model proposed by this research is based on Innovation Diffusion Theory (IDT) (Moore & Benbasat, 1991), and is comprised of independent variables measuring social factors (Voluntariness, Visibility, Image) and technological factors (Ease of Use, Trialability, Relative Advantage, Result Demonstrability), with dependent variables of Adoption and Usage. In order to focus on processes more specific to knowledge management, the model is extended to include another socially influenced independent variable, Reciprocity Expectation. As KMS users need to both contribute and acquire knowledge from other users, perceptions of Reciprocity Expectation may provide further insight into the specific case of KMS adoption and usage.

## **Conceptual Framework**

When viewed as intellectual capital, knowledge is a crucial element of today's organizations. A recent study found that four factors influenced short-term alignment: shared domain knowledge, IT implementation success, communication between IT and business executives, and connections between IT and business planning (Reich & Benbasat, 2000). Of these factors, only one was found to influence long-term alignment: shared domain knowledge. A direct, positive relationship exists between communication and knowledge sharing (Joshi, Sarker, & Sarker, 2007). Creating an environment allowing members of the organization to engage in various forms of communicating, socializing and collaboration may foster increased knowledge sharing. Subsequently, an improved knowledge sharing environment may be characterized by increased perceptions of Reciprocity Expectation.

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