

## Chapter 7.8

# The Role of Fit in Knowledge Management Systems: Tentative Propositions of the KMS Design

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### ABSTRACT

While most organizations have deployed knowledge management systems (KMS), only a handful have been able to leverage these investments. Existing knowledge management (KM) research offered valuable insights on how to introduce KMS in a sense of innovation-diffusion, yet little guidance has been offered to KMS developers who need to decide on functionalities of a tool they are to introduce in a particular organizational setting. The goal of this paper is to propose theoretical background for design of IS that successfully support and enable decision making, which is seen as the ultimate form of knowledge creation and utilization. By using principles of the design science, design profiles proposed build upon works from organization and IS sciences, primarily the evolutionary information-processing theory of knowledge creation (Li & Kettinger, 2006) and the task technology fit theory (Zigurs & Buckland, 1998), the latter being amended for particularities of the KM environment. Proposed fit profiles suggest that one-size-fits-all approaches

do not work and that organizations must take, in contrast with suggestions of extant literature, a segmented approach to KM activities and fitting IT support.

### INTRODUCTION

The practice of KM has become pervasive and ubiquitous across business environments as successfully utilizing existing and creating new knowledge improves decision making, accelerates learning, improves innovation assimilation, increases productivity, and minimizes reinvention and duplication (see e.g., Wing & Chua, 2005).

Even though the ability of organization to create and utilize its knowledge depends heavily on social factors, many researchers and practitioners (e.g., Alavi & Leidner, 2001; Fahey & Prusak, 1998; Vance & Eynon, 1998; Zack, 1999b) are convinced that KMS (e.g., document management systems, content management system, groupware, knowledge maps, etc.) can be an important enabler and facilitator of KM.

Some companies, such as Ford, Chevron, and Texas Instruments estimate that their KMS have saved them millions of dollars (Bose, 2004). Meanwhile other articles report that 70% of all KMS fail to meet the KM objectives originally established for the system (Ambrosio, 2000; Malhotra, 2005; Rigby, Reichheld, & Schefter, 2002). However the question still remains why so many technology-enabled initiatives have failed to deliver on the benefits of KM (Chua & Lam, 2005; Davenport & Glaser, 2002; Desouza, 2006; Desouza & Awazu, 2005; Stewart, 2002; Wing & Chua, 2005). The answer might very well be captured in this quote (Desouza, 2006):

*Technology solutions to KM problems take a cookie cutter or standardized approach to the problem. This is quite similar to using a hammer to hit a nail and also to swat a fly. The technology is used indiscriminately, especially without regard to the type of knowledge being managed or the nature of work being conducted by the knowledge worker. This just will not work and benefits will remain elusive.* (Chief Knowledge Officer, Financial Services Organization)

Another example from a large financial UK institution, where KM practices in corporate credit risk analysis have been observed (Mondale, Scott, & Venters, 2006), shows that implementation of the KMS failed because its design was influenced by the theory of finance, which states that credit officers use standard financial models to focus on quantitative credit risk management mechanisms in attempt to eliminate complexity and uncertainty. In practice, credit officers balance their use financial data, models, and systems with less formal processes of meaning making within a community of practice (Mondale et al., 2006). In other words, design of KMS failed to include facilities for enabling or supporting collaboration, as they implemented “what they thought they were doing” instead of “what they actually were doing” (p. 13).

Leaving project management and cultural issues aside and focusing on the core of IS innovation adoption, literature highlights the misfit of KMS that does not satisfy users’ needs which originate in the business context (working practices) as one of the fundamental reasons for KMS failures (Cooper, 2003; Stenmark & Lindgren, 2004; Wing & Chua, 2005). Clearly, there is a need for a KMS design theory that would further knowledge applicable to productive application of IT in supporting and enabling activities that result in improved utilization of existing and creation of new knowledge. The goal of this paper is to propose a theoretical background for design of KMS.

Findings presented here are based on existing understanding of KMS design (from the literature) and amended with first-hand experience gained from several research and consulting projects in the area of IT support for knowledge-rich processes (e.g., Awazu et al., 2006; Baloh, Sitar, & Vasić, 2005; Wecht & Baloh, 2006).

## **THEORETICAL FOUNDATIONS**

### **KM Implementation Guidelines: KM Strategies**

New knowledge creation and existing knowledge utilization are enabled and supported by *KM strategies* which *define* activities, organizational structure, and *IT support* for implementing KM (Hansen, Nohria, & Tierney, 1999; Zack, 1999a). Setting up such a KM strategy that successfully leverages knowledge assets in a company has been a widely discussed issue both in theory and in practice. Lacking a firm advice on how companies should go about injecting KM activities into existing work, we cannot expect that technology, which should leverage knowledge, will be designed and deployed successfully.

Many researchers and management consultants developed various frameworks and models

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