System Support for Knowledge Work: Bridging the Knowing-Doing Gap

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ABSTRACT

Many researchers argue that information systems (IS) can play an important role in supporting organizational knowledge application. However, recent IS research indicates that knowledge management systems (KMS) often fail when implemented in the knowledge work practice of contemporary organizations. While KMS maintenance has been recognized as an important IS research area, imbalance between the desire for accurate content and the workload required to achieve this still appears to be a critical issue, resulting in systems of little use for organizations in their knowledge application processes. Driven by the ambition to contribute recommendations for how to integrate KMS with everyday knowledge work, we use general lessons learned from development of groupware applications as a theoretical lens to analyze empirical experiences from three implemented and evaluated KMS. Targeting the KMS maintenance challenge, our recommendations extend earlier IS research on the implementation and use of knowledge work support systems. On a practical level, our recommendations assist KMS developers in attempts to bridge the knowing-doing gap in organizations where individual members do not know or know of each other and the organization as a whole does not know what it knows.

Keywords: group support systems; knowledge management; MIS implementation; user participation

INTRODUCTION

Over the last 10 years there has been much debate in academic literature about concepts such as knowledge-based organizations, knowledge-creating companies, knowledge work, and organizational knowledge (Blackler, 1995; Nonaka, 1994; Schultz, 2000; Spender, 1996). Consistent with this debate, knowledge management (KM) has been promoted as an important approach for organizations trying to achieve competitive advantage (Hedlund, 1994). Knowledge management is often regarded as the generation, representation, storage, transfer, transformation, application, embedding, and protecting of organizational knowledge (Schultz & Leidner, 2002). While processes of knowledge generation, storage, and transfer do not necessarily result in im-
proved organizational performance, effective knowledge application does (Alavi & Leidner, 2001).

According to the knowledge-based theory of the firm, the source of competitive advantage resides in the ability of an organization to turn knowledge into action and less on knowledge itself (Grant, 1996). Integration of knowledge, either explicitly or implicitly, of many different people to facilitate knowledge application, Grant argues, is the motivation for organizations comprised of multiple individuals. Recognizing that integration of knowledge of organizational members is exceptionally difficult, Grant advocates that a key challenge for organizations to achieve effective knowledge application is to establish a mode of interaction facilitating that people's specialist knowledge is integrated.

As noted by academics such as Davenport and Prusak (1998), there are several reasons for knowledge workers not to apply their knowledge. Chief amongst these are social factors such as distrusting the source of knowledge or lack of time or opportunity to apply knowledge (Alavi & Leidner, 2001). Observing that organizations tend to have a gap between what they know and what they do (Pfeffer & Sutton, 2000), many IS researchers suggest that information technology can have a positive influence on knowledge application (e.g., Alavi & Leidner, 2001). For example, information systems can enhance knowledge application by facilitating the capture, updating, and accessibility of organizational information and knowledge (Mao & Benbasat, 1998). Also, information systems can increase the size of knowledge workers' internal social networks by allowing for organizational knowledge to be applied across time and space (Kock & McQueen, 1998).

However, while contemporary organizations typically expect knowledge management systems (KMS) to become major innovations in terms of the ways in which business can be organized and be conducted, recent IS research indicates that such systems often fail when implemented in everyday knowledge work (Schultze & Boland, 2000). Despite the fact that KMS maintenance has been acknowledged as an important issue (Hahn & Subramani, 2000; Holthouse, 1998), imbalance between the desire for accurate content and the workload required to achieve this still appears to be a critical problem, leading to systems of little use for organizations in their knowledge application processes (Lindgren & Stenmark, 2002). Following this, an important area of KMS research is the development of systems with the potential to bridge the knowledge application gap (Alavi & Leidner, 2001). In this context, a significant challenge is to develop design principles intended to keep KMS alive — updated, current, maintained — by encouraging use (Markus, Majchrzak, & Gasser, 2002).

The problems KMS are facing today, for example, the fact that systems remain unused in day-to-day practice despite good theoretical reasons why they should work, show great resemblance to the difficulties experienced when introducing groupware applications in the 1980s. Being one of the first to study the challenges faced by groupware developers, Grudin observed that when groupware started to emerge as a new market, many of the early application developers were people who previously had focused exclusively on single-user applications. The maturing single-user application domain forced these developers to explore new territories and pushed them into areas in which they had little knowledge. The problems they ran into they had never experienced when supporting individuals, and they were thus completely unprepared (Grudin, 1994). We believe that Grudin’s observations are analogous to what we now witness in the knowledge management arena, where software vendors are being accused of re-labeling their old information systems to KMS (King, 1999), and that his influential work within the field of computer-supported cooperative work (CSCW) (Grudin, 1987; 1988; 1994) can prove helpful to KMS developers.

Despite these similarities and although KMS as organizational-wide technologies has been discussed in terms of groupware (for example, Alavi and Leidner, 2001; Robertson,
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