Chapter 2.9
Internet Support for Knowledge Management Systems

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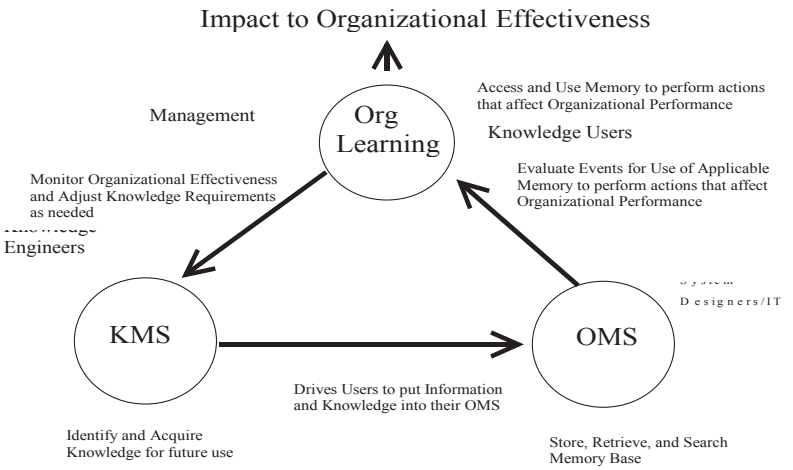
INTRODUCTION

Organizations are building and maintaining systems for managing organizational knowledge and memory. Users of these systems may not be at the same location; in many cases they are distributed across large geographical distances and multiple offices. Key to this task is developing an infrastructure that facilitates distributed access and utilization of the retained knowledge and memory. Connectivity and easy to use interfaces are main concerns. Jennex (2000) found that using the Internet as a common communications platform (either as an Intranet or an Extranet) and Web browsers as an interface is a viable, low cost solution. Newell, et al. (1999) found that Intranets not only supported distributed knowledge processes but also enhanced users' abilities to capture and control knowledge. Stenmark (2002) proposes that using a multiple perspective of the Internet— information, awareness, and communication—allows developers to build successful Internet-based knowledge management systems, KMS. This article discusses how the Internet can be effectively used as an infrastructure for knowledge management/organizational memory systems, KMS/OMS.

BACKGROUND

The OMS consists of the processes and information system components used to capture, store, search, retrieve, display, and manipulate knowledge. The KMS consists of the tools and processes used by knowledge workers to interface with the knowledge contained in the OMS. Knowledge is managed and used through a combination of the KMS and OMS. Jennex and Olfman (2002) identified the KMS-OMS model in Figure 1 as a representation of the relationships between the OMS, KMS, and organizational learning. Organizational learning, OL, is identified as a quantifiable improvement in activities, increased available knowledge for decision-making, or sustainable competitive advantage (Cavaleri, 1994; Dodgson, 1993; Easterby-Smith, 1997; Miller, 1996).

Figure 1. The Jennex-Olfman KMS-OMS model



There are two approaches to building a KMS as discussed by Hansen et al. (1999), Morrison and Weiser (1996), and Stenmark (2002). These can be described as a process/task approach and the infrastructure/generic approach. The process/task approach focuses on the use of knowledge/OM by participants in a process, task or project in order to improve the effectiveness of that process, task or project. This approach identifies the information and knowledge needs of the process, where they are located, and who needs them. This approach requires the KMS to capture less context, as users are assumed to understand the knowledge that is captured and used.

The infrastructure/generic approach focuses on building a system to capture and distribute knowledge/OM for use throughout the organization. Concern is with the capturing of context to explain the captured knowledge and the technical details needed to provide good mnemonic functions associated with the identification, retrieval, and use of knowledge/OM. The approach focuses on network capacity, database structure and organization, and knowledge/information classification.

Both approaches may be used to create a complete KMS. The process/task approach supports specific work activities, while the infrastructure/generic approach integrates organizational knowledge into a single system that can be leveraged over the total organization instead of just a process or project.

Jennex and Olfman (2001) developed a set of design recommendations for enabling KM/OM in systems. The recommendations, Table 1, are based on studies of KMS/OMS success factors. One recommendation calls for use of a common infrastructure. The Internet is suggested for this due to its widespread availability, open architecture, and developed interfaces. This also assists in standardizing software across the organization through the use of browsers and Web applications.

The Internet meets several of these recommendations. It provides a common network that is global. Use of common browsers aids in