

**The Development and Investigation of a
Conceptual Model to Understand Knowledge
Management**

By

SATYENDRA SINGH

ABSTRACT

The realization that knowledge constitutes a key organizational resource and therefore must be managed effectively gave rise to the field of knowledge management (KM). Since then, the field has experienced tremendous growth as measured by the number of research papers, books, conferences, consulting services as well as a plethora of information technology (IT) products all purported to be “KM tools.” Lacking a unifying conceptual framework, however, has resulted in rather chaotic growth and a proliferation of KM definitions and models. This has ultimately stymied the development of a cumulative tradition in KM research. This research represents an attempt to address this shortcoming by developing and investigating an integrative conceptual model for knowledge management.

The focus of the research is threefold. First, a conceptual model is developed that combines tenets of evolutionary theory, organizational learning and organizational memory (OM) into a single integrated model. The model proposes that organizational knowledge evolves through four stages chained in a recursive knowledge cycle. At each stage, a process is required to manage the evolving knowledge: a knowledge scanning process to scan for new knowledge; a knowledge evaluation process to evaluate the new knowledge; a knowledge transfer process to transfer the new knowledge; and a knowledge integration process to apply the knowledge. Collectively, these four processes are referred to as knowledge processes. The model further proposes that as it evolves, knowledge is enabled by and embedded in five OM infrastructures: individuals, who store knowledge in their memories and beliefs; culture, which stores knowledge in language and stories; roles, which store the organization’s expectations of its members; business logic, which stores operational rules to perform tasks; and artifacts, which store knowledge in the physical objects (e.g. facilities, products, layout, databases) of the organization. Thus, in this research, KM is understood to be “the collection of knowledge processes and OM infrastructures engaged in by an organization to manage its knowledge.”

Second, the conceptual model is then examined within an organizational setting to gain an understanding of how each of the knowledge processes and OM infrastructures function inter-dependently to contribute to the management of knowledge. Using a multiple case study methodology, an in-depth investigation is conducted within the context of new service development (NSD) in three different lines of business (LOB) of a major logistics company. The results of the study indicate that the two LOBs that have effectively deployed KM focus their attention equally across all knowledge processes and OM infrastructures, have well-defined knowledge processes and OM infrastructures for each stage, and use mechanisms to align knowledge processes and OM infrastructures with their overall business strategy.

The final goal of the research was to examine the specific role of IT in supporting the management of knowledge. The results show that the impact of IT is much broader than commonly assumed in the literature. In addition to the expected role

and impact of the IT infrastructure (i.e. the “tool” view of IT), human IT skills and IT-enabled processes are also found to be critical IT enablers of KM. Thus, this research provides a holistic view of IT’s role in supporting KM.