The Evolving Concept and Practice of Knowledge Management: Seeking a Common Understanding and Definition

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ABSTRACT

This research traces the roots of knowledge management (KM) to assess how its origins relate to current variation in terminology, concepts, theory, and practice. The objective is to provide a framework for clarifying the relationships among these divergent views and move toward a more common understanding and definition of KM.

INTRODUCTION

The past two decades have witnessed the rapid evolution of knowledge management (KM) as a concept and as an area of study and practice. Some researchers suggest that KM has matured to a level to be recognized as an academic discipline in its own right (Jennex and Croasdell, 2005). However, the literature offers little agreement on a common definition of KM or its foundations and methods. In fact, almost every KM source offers its own unique definition.

The KM umbrella has, in fact, become very broad. It has introduced new concepts such as the knowledge worker, chief knowledge officer, knowledge economy, intellectual capital, and knowledge as a tangible asset. It has also evolved to encompass all or many of the following concepts, depending on the source: work flow, document control and distribution, e-mail, performance support, best practices, organizational learning, organizational memory, collaborative computing, data warehousing, data mining, and knowledge portals. Other sources also include Intranets, Extranets, e-business, customer relationship management, and business intelligence. All of these, and more, are discussed in various ways by different sources under the knowledge management umbrella.

The idea of the importance of knowledge is not new, of course. Yet as a concept and an organizational process, KM takes on an entirely different meaning, which has gained widespread attention on a global scale. At the same time, however, the concept has lacked unity, and its rapid popularization has made it difficult to sort out the hype from the reality. As often happens when a new concept becomes popular, there has been a rush to rename existing technologies or products to make them more marketable. As a result, systems that have been around for a long time, such as artificial intelligence, expert systems, workflow management, databases, document management systems, and most recently corporate Web portals, now are touted as KM systems.

This study hypothesizes that the lack of consensus around a common definition of KM relates to its divergent roots. The literature reveals that the origins of KM have not been well researched (Bertels, 1996; Sveiby, 2001). The purpose of this research, therefore, is to identify the various disciplines or threads in which KM has roots and to assess how these varying roots relate to the current variation in terminology, perspectives, and recommended approaches to KM. The objective is to provide a framework for clarifying the relationships among these divergent views and move toward a more common understanding and definition. This insight will be critical to defining KM as a discipline and clarifying its foundations, theories, and methods as well as validating its business value.

LITERATURE REVIEW

The literature provides a plethora of definitions for KM (Alavi & Leidner, 2001; Awad & Ghaziri, 2004; Ayerton, 1998; Gates, 1999; Grundstein, 2006; Konda & Steenkamp, 2004; Malhotra, 1999; Sveiby, 2001, Regan, 2007; Regan & O'Connor, 2002). The lack of agreement on a definition is problematic for an emerging discipline that traces its roots back at least two decades. Even the most recent textbooks spend an entire chapter just explaining what KM is and what it is not, and provide an entire page of definitions (Awad & Ghaziri, 2004; Regan & O'Connor, 2002).

Systematic analysis of the literature on knowledge management reveals at least seven distinct roots or disciplines related to the evolution of KM. While these different roots share common concepts, they also reflect sharp differences. The current status of KM appears to represent a convergence of these distinct roots—rather than a progression from any single discipline. The analysis suggests that this convergence of several different disciplines accounts, in large part, for both the disparity of viewpoints and what seems like an explosion of interest.* A very brief summary of each of these roots follows:

- *Best practice transfer*. One dominant theme of KM is the systematic transfer of best practices. According to a study conducted by the American Productivity and Quality Center (APQC, 1996), best practice management was the one strategy pursued by 100 percent of the firms implementing KM approaches. The use of benchmarking and best practices gained widespread industry acceptance in the early 1990s (O'Dell & Grayson, 1998). This perspective is represented in the O'Dell and Grayson book (1998), *If Only We Knew What We Know*, based on APQC's work with Fortune 500 firms.
- *Information and records(or resource) management (IRM)*. KM also has roots in document management, both paper and image. Both the Association of Information Image Management (AIIM) and ARMA, International, the former Association of Records Managers and Administrators, have a huge presence in the KM market. This approach reflects a strategic view of managing and safe guarding information resources from a corporate perspective. It also suggests the origins of the life cycle concept frequently applied to KM. IRM is the approach reflected in the book by Jan Duffy, *Harvesting Experience, Reaping the Benefits of Knowledge*.
- *Organizational learning and organizational memory*. The concept of the learning organization is generally associated with Peter Senge, author of *The Fifth Discipline*. It embodies the notion that organizations as well as individuals can learn from experience, and it emphasizes the need for information sharing and collaboration. Concepts such as organizational intelligence and self-organizing knowledge would fall within this tradition as well (Allee, 1997). Many researchers also consider *The Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation*, by Ikujiro Nonaka and H. Takeuchi (1995) to be a seminal work in the area of organizational learning.
- *Electronic performance support systems (EPSS)*. One of the early precursors of KM is electronic performance support, the concept of just-in-time delivery of online reference, training, and help. During the 1980's hundreds of firms focused on creating online performance support and computer based training using new computer authoring and reference systems. Another related concept was Information Mapping, a process for analysing, organizing, and presenting information for reference, which originated for paper documents and was then adapted for electronic presentation. The EPSS approach is described in books such as *Designing Electronic Performance Support Systems* by Gloria J. Gery and *Designing and Writing Online Documentation* by William K. Horton. Another widely recognized pioneer in this area is Dr. Ruth Clark, author

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of *Building Expertise: Cognitive Methods for Training and Performance*, and other books and articles on learning objects, online learning, workplace performance, and instructional design.

- *Technological methodologies*. Another perspective is based on technological methodologies related to data warehousing, data mining, and business intelligence. This thread has its foundation in information systems and technologies. It tends to focus more on knowledge taxonomies and to view knowledge more from the perspective of objects rather than process. One of the weaknesses of early data warehouses was that they tended "to create massive data and text archives of dubious value" (Sveiby, 2001, online). This approach is represented in works such as Thomas H. Davenport and Laurence Prusak, *Working Knowledge: How Organizations Manage What They Know* (1997)
- *The knowledge economy and knowledge as a corporate asset.* Another perspective is based on economic concepts related to productivity and measuring economic value in the new economy. Economists and business leaders today are concerned with whether traditional accounting and statistical models are capable of calculating the true productivity gains created by knowledge in the new economy. Intellectual capital, which has long been regarded as an intangible quality of individuals and organizations, is now gaining ground as a tangible line item on the corporate balance sheet. Recent works in this area include Paul A. Strassman, columnist on knowledge metrics for *Knowledge Management Magazine* and Thomas A. Stewart, author of Intellectual Capital: The New Wealth of Organizations (1997). Another example is found in Housel and Bell (2002), *Measuring and Managing Knowledge*.
- *Internet and Web Portals*. The Internet has created a common, relatively low cost networking platform that has opened access to information and greatly expanded the options for enterprises to share information both internally and externally. The influence of this approach has expanded more recently to include customer relationship management, business intelligence, and portal technologies. It is a major focus of *Knowledge Management Magazine*, subtitled Business Intelligence for Strategic Decision Makers, aimed at executives interested in organizational and technological knowledge-management strategies (Roberts-Witt, 1999).

We might also add the discipline of library and information sciences to this list, which is being transformed by digital technology and online access to information resources. Indeed some excellent practitioners in KM come from the library sciences. Astra Pharmaceuticals is among the documented case studies where enterprises made a decision to include people from the world of library and information sciences in key KM positions (Regan & O'Connor, 2002).

Sveiby (2001) seeks to explain the wide disparity in understanding KM concept s by analyzing what people in the field are doing—researchers, consultants, vendors, KM users, companies, and other practitioners. He suggests two difference tracks. An Information Technology (IT) KM Track that focuses on the Management of Information and a People KM Track that focuses on the Management of People. He suggests that researchers and practitioners in the IT KM Track tend to come from computer and information science backgrounds. They are involved in applications such as information management systems, reengineering, artificial intelligence, data warehouses, groupware, etc. To them knowledge equates to objects. On the other hand, researchers and practitioners in the People KM Track tend to come from business/management, psychology, philosophy, or sociology. They are primarily engaged around workplace performance, professional development, and organizational learning. To them knowledge equates to processes. Grundstein (2006, p1259) makes a similar distinction between two main approaches underlying KM: "(1) A Technological Approach that answers a demand of solutions based on the technologies of information and communication; (2) A Managerial Approach that integrates knowledge as resources contributing to the implementation of the strategic vision of the company."

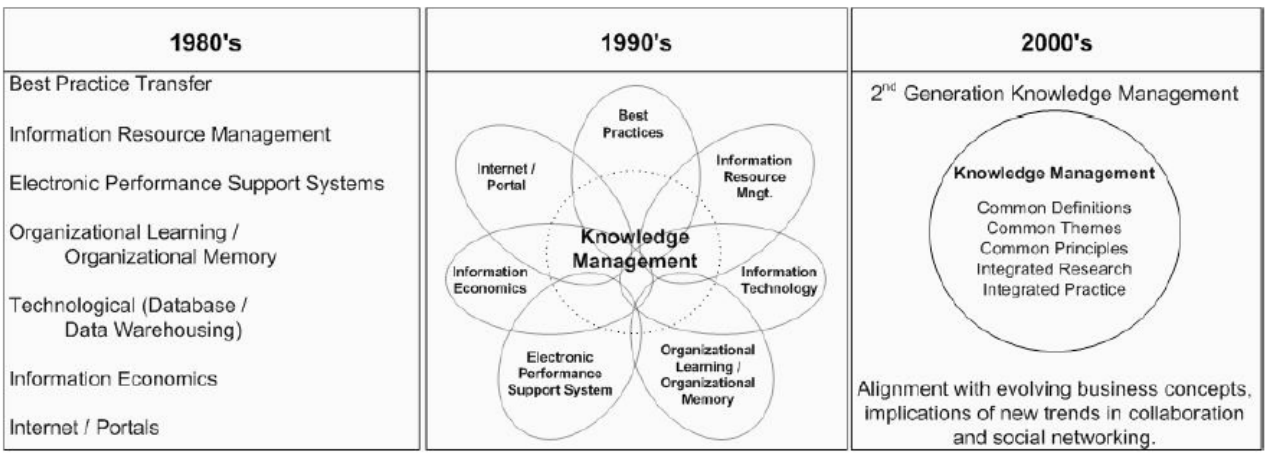
Consequently, according to Sveiby (2001, online), there are "paradigmatic differences in our understanding of what knowledge is." Researchers and practitioners who view knowledge as objects, tend to rely on concepts of information theory in their understanding of knowledge, whereas those who view knowledge as process tend to take their concepts from philosophy or sociology. "Because of their different origins, the two groups use different languages in their dialogues and thus tend to confuse each other when they meet" (Sveiby, online).

Konda and Steenkamp (2004) offer yet another approach to classifying the varying KM perspectives. These include the technological, organizational, process-based, product-centric (or asset-focused), and strategic perspectives. Researchers and practitioners have proposed several variations of knowledge life cycle models that emphasize one or more of these perspectives while neglecting others.

ANALYSIS

This legacy helps explain, at least in part, the contradictory views, inconsistencies, multiple perspectives, and plethora of definitions surrounding the concept and emerging discipline of knowledge management. Although the different threads share some common themes, they also reveal fundamental differences in our understanding of what KM is and is not. They represent different foundations and use different languages in their descriptions and approach to KM. They also differ in the types of applications and problems that they address and the approaches that they take to these problems. For example, technology approaches generally emphasize explicit knowledge and focus on how to create, store, retrieve, and use the explicit knowledge artefacts; whereas organizational learning approaches generally emphasize the importance of tacit knowledge and focus on personal, organizational, and inter-organizational learning and knowledge transfer. What is needed in practice is a more holistic or balanced approach that would ensure

Figure 1. Evolution of KM: A convergence NOT a progression from a single discipline (Source: Regan, 2007)



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an optimal integration of tacit and explicit knowledge to serve the needs of the business (Konda & Steenkamp, 2004).

The research provides little evidence of a shared awareness among the communities of practice and research associated with each of these threads or traditions (Jennex & Croasdell, 2005). This silo effect is evident from the apparent lack of cross-referencing of research and practice in the literature of these different traditions. This silo effect suggests that the current state of KM represents a convergence of these different traditions with little integration of theories or methods. Although common themes have emerged around the concept of knowledge management, wide disparities continue to exist in theory, terminology, and practice. Thus, as suggested by Figure 1, the current status of KM as a concept, represents a convergence of multiple disciplines and approaches, which has not yet truly coalesced into a discipline in its own right. Kondra and Steenkamp (2004, p1383) also argue the need for an integrated KM framework that comprehends all the perspectives of knowledge to present a holistic approach. They propose an Integrated Knowledge Management Framework (IKMF) based on five perspectives: strategy, organizational entity, knowledge process, knowledge asset, and information technology. They suggest that, "No treatise on KM is complete unless it addresses all the issues arising out of a comprehensive view of entire KM domain" (Kondra & Steenkamp, 2004, p1384).

CONCLUSIONS AND FUTURE RESEARCH

This research focuses on the variety of traditions from which KM has its roots to assess how they relate to the current variation in terminology, perspectives, definitions, and recommended approaches to KM. Current evidence shows little shared awareness among these different traditions. This research suggests a need to work toward development of a holistic KM model that recognizes the entire spectrum of research and practice. Future research also is needed to validate common themes and practices among these separate traditions. If researchers continue to work in their own silos, KM will continue to be characterized by a general lack of agreement and congruence. More importantly, the opportunities for richness and insight of a more holistic, multi-disciplinary perspective will be missed. To be viable, it would seem that any movement toward establishing KM as a discipline must be inclusive and recognize the full range of research and practice.

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ENDNOTE

* see especially Regan (2007) for a sampling of KM definitions representative of the 7 different KM roots.

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