KNOWLEDGE MANAGEMENT: A CASE OF "SEARCH AND REPLACE MARKETING" OR AN EMERGING FIELD OF MANAGEMENT

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ABSTRACT

This paper critically examines the term "knowledge management" (KM), its components, and the initiatives of a number of organizations that parade as knowledge management pioneers and catalysts, as well as the concept of tacit knowledge. The concept of knowledge management is examined in the web sites of consultancy firms, information practitioners, and other firms that claim to have benefited immensely by implementing knowledge management solutions. In addition a pool of experienced academicians was interviewed to get their views on knowledge management and to furnish information on the knowledge management initiatives in their department/unit etc. The observation made is that the firms are either managing information under the knowledge management nomenclature or managing work practices by instituting an information sharing culture. It is concluded that information management (IM) has been searched and replaced with KM. There is no value added to warrant KM to be an emerging field of management, even the ontology and epistemology of KM at best is ill-defined. In fact KM has no intrinsic meaning.

INTRODUCTION

The year 1997 showed an exponential explode of the term knowledge management even though its first use was witnessed in 1986 (Wilson 2002). The distinction between KM and IM is far from being well-articulated in the KM literature and this is compounded by the confusion around the concepts of knowledge and information. Koenig (1997) asserted that there is no consensus regarding the claim that KM is a new field with its own research base, since much of the terminology and techniques used, such as knowledge mapping, seem to have been borrowed from both IM and librarianship. The discrepancy has ranged from authors (e.g., Gourlay 2000; Beckman 1999) who see KM as an emerging discipline, to others, (such as Broadbent 1998; Streatfield & Wilson 1999) who claim that firms and information professionals have been practicing KM-related activities for years, and to those (e.g., Ndubisi 2003; Wilson 2002) who insist that there is no such thing as KM. As Beckman insisted that the

expression was coined for the first time in 1986 by Dr. Karl Wiig who wrote one of the first books on the topic, *Knowledge Management Foundations*, published in 1993. Streatfield and Wilson seriously questioned the attempt to manage what people have in their minds arguing that the concept of knowledge is over-simplified in the KM literature. Nevertheless, there is a real interest and enthusiasm in KM as revealed by the increasing number of publications relating to the topic since 1995 (Mahdjoubi & Harmon 2001). In addition, the library and information press has suggested for a number of years that it is a burgeoning field of great interest to information professionals, since they possess the necessary skills to work in the field (Abram 1997; Chase 1998; Hanczel 2001; Oxbrow & Abell 2002). Wilson (2002) found that from 1986 to 1996, there were only a few occurrences in each year, but from 1997 to date, the growth has been exponential.

In the business community, there is also a strong interest in KM. A survey conducted in 1997 of 200 large US firms revealed that 80% of corporations had KM initiative (KPGA 2000). Technological innovation has been cited as a major reason for the current interest in KM (Covin & Stivers 1997). In the high-tech sector, as well as consulting firms, the stakes are particularly high because knowledge is considered as "the only meaningful economic resource" (Choo 1998: 2). Private sector organizations are not the only ones embracing KM. The systematic sharing of knowledge is assuming a larger role in all kinds of organization around the world (Luen & Al-Hawamdeh 2001). Some of the recent KM initiatives in the United Kingdom include the creation of the post of knowledge officer at the British Council and the appointment of a Chief Knowledge Officer at NatWest Markets (Skok 2000). MacMorrow (2001) reported claims of the potential benefits of KM ranging from improving productivity, decision-making, customer service and innovation.

Although many KM initiatives are documented in the business literature (Davenport & Prusak 1998), what is actually entailed in these initiatives remains vague and ambiguous because there are many interpretations of KM. A recent review by Hlupic et al. (2002) identified 18 different definitions of KM. Many attempts have been made to define KM from a theoretical perspective (Choo 1998; Srikantaiah & Koeing 1999; Oluic-Vukovic 2001; Mac Morrow 2001) and to identify the various types of organizational knowledge (Nonaka & Takeuchi 1995; Boisot 1998; Brown & Duguid 1998). These attempts hardly addressed the relationships between KM and IM.

The lack of a clear distinction between information and knowledge has been recognized as a major issue with the KM literature (Martensson 2000; Kakabadse et al. 2000). In this article, an attempt is made to understand the basis of KM, its components, and its distinction with IM by examining the KM initiatives of

organizations that claim to have successful KM practices, as well as firms that vend KM solutions.

Knowledge Management and Information Management

There have been attempts to distinguish KM and IM. Place and Hyslop (1982) argue that IM focuses on the plans and activities that need to be performed to control an organization's records. For Wilson (1989), IM is the management of the information resources of an organization and involves the management of information technology (IT), while Choo (1998b) sees IM as a key for sustaining knowledge creation and application in organizations and should lead to the intelligent organization. Cronin (1985) claimed that focus of IM initiatives is often to control systematically recorded information and less on the use of these records.   Gourlay (2000) wrote that while IM places strong emphasis on information resources and technology, people management is the critical component of KM. Conversely, Eaton and Bawden (1991) have questioned the idea that information is a resource that could be easily managed. The same approach has been taken regarding KM as Yates-Merces and Bawden (2000) argue that these issues are even more applicable to the management of knowledge.

To differentiate the management of information from the management of knowledge, one must examine the distinctions drawn between the related concepts: data, information, and knowledge. Attempts to define these concepts are numerous and produce slightly different results, depending on which discipline is looking at them. Dictionaries define data as factual information (measurement or statistics) used as a basis for reasoning, discussion, or calculation; information as the communication or reception of knowledge or intelligence; knowledge as the condition of knowing something gained through experience or the condition of apprehending truth or fact through reasoning, and intelligence as the ability to understand and to apply knowledge. For Meadow et al. (2000: 35), data refer to a "string of elementary symbols, such as digits or letters". As they point out, information "has no universally accepted meaning, but generally it carries the connotation of evaluated, validated or useful data". Knowledge, on the other hand, involves "a higher degree of certainty or validity than information" and "has the characteristic of information shared and agreed upon within a community" (Meadow et al. 2000: 38). As can be seen, many conceptual overlaps exist between all these terms.

Wiig (1999) defines information as facts and data organized to characterize a particular situation and knowledge as a set of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how. Therefore, information can be seen as data made meaningful through a set of beliefs about

the causal relationships between actions and their probable consequences, gained through either inference or experience (Mitchell 2000). Knowledge differs from information in that it is predictive and can be used to guide action while information merely is data in context.

As demonstrated by the variety of definitions, it remains unclear what knowledge is and how it can be managed. The KM literature tends to subscribe to fairly inclusive definitions of knowledge and in practice concepts of knowledge and information are often used interchangeably (Kakabadse et al. 2001). One example of these definitions, by Davenport and Prusak (1998, p.5) describes "knowledge (as) a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information". Nonaka and Takeuchi (1995: 58) argue that "information is a flow of messages, while knowledge is created by that very flow of information anchored in the beliefs and commitments of its holder." These definitions are not very helpful to distinguish information from knowledge – information is basic to knowledge, the latter is more connected to values, belief, and action – and it is not obvious whether individual and organizational knowledge are similar or different. A clearer distinction from Wilson states: "Knowledge is defined as what is known: knowledge involves the mental processes of comprehension, understanding and learning that go in the mind and only in the mind. Everything outside the mind that can be manipulated in any way, can be defined as data, if it consists of simple facts, or as information, if the data are embedded in a context of relevance to the recipient" (Wilson 2002). Wilson shows that knowledge is tacit.

Tacit knowledge seems to be the primary concern of KM writers and has been a great deal of discussion in the literature about its nature. The term originates with Polanyi – a science philosopher, who described it as follows: "tacit knowing achieves comprehension by indwelling, and all knowledge consists of or is rooted in such acts of comprehension" (Polanyi 1958). Barbiero (n.d.) describe it as knowledge that enters into the production of behaviors and/or the constitution of mental states but is not ordinarily accessible to consciousness. For Polanyi, tacit knowledge cannot be expressed because "we know more than we can tell". Therefore we cannot articulate what we know with words because we are not fully conscious of all the knowledge we possess. It resides and remains in the human mind. Polanyi (1962) illustrates this with the example of a medical student learning how to read X-ray picture by listening to experts reading them. Exposure to empirical material and specialized language combined with the learning of medical knowledge will enable the student to become an expert, but tacit knowledge remains tacit.

Other definitions of tacit knowledge or interpretations of Polanyi's definition have emerged since (see for example, Nonaka & Takeuchi 1995; Choo 1998a). Nonaka and Takeuchi (1995) defined tacit knowledge as action-based, entrained in practice, and therefore cannot be easily explained or described, but is considered to be the fundamental type of knowledge on which organizational knowledge is built. For Nonaka and Takeuchi, tacit knowledge can be transmitted through social interactions or socialization, and made explicit through externalization although they agree with the idea that tacit knowledge is somewhat hidden. They described four knowledge conversion processes: socialization, externalization, combination, and internalization. Each process involves converting one form of knowledge (tacit or explicit) to another form of knowledge (tacit or explicit). Although most KM writers cite Polanyi (1962), who drew a distinction between tacit and explicit knowledge, they often overlook a part of his writings emphasizing the personal character of knowledge and knowing.

Tsoukas and Vladimirou (2000: 4) argue, however, that "tacit knowledge is not something that can be converted into explicit knowledge", as claimed by Nonaka and Takeuchi (1995) and other authors. The different perspectives of Polanyi and Nonaka reflect their different backgrounds: Polanyi is a philosopher concerned with individual knowledge while Nonaka and Takeuchi are organizational theorists interested in how knowledge circulates in organizations. The result of Nonaka's view is the notion that tacit knowledge can be captured, codified, and even stored in organizational non-human memory. Hence, the cradle and proliferation of entrepreneurships offering knowledge management solutions.

Explicit knowledge, unlike tacit knowledge, is defined as knowledge that can be codified and therefore more easily communicated and shared. KM writers view explicit knowledge as structured and conscious and therefore it can be stored in information technology (Martensson 2000). This type of knowledge is often equated with information, providing the argument that KM is simply another terminology for IM.

Considering that the concepts of both information and knowledge are unsatisfactorily defined and that the notion that tacit knowledge can be transformed into explicit knowledge is troublesome, some authors have suggested that the expression "knowledge management" is perhaps misleading. Gourlay (2000), for instance, argues that knowledge itself cannot be managed and it is "knowledge representations" that are the actual focus of KM. Abram (1997) wrote that the knowledge environment or the conditions of its use are the only dimensions that are manageable. Understanding the KM components in practicing organizations as well as in the academia will help to address the issue

of knowledge manageability as well as unveil the distinction/s (if any) between knowledge management and information management.

METHOD

The methodology consists of a review of KM initiatives of leading KM organizations and organizations that undertook KM projects (Bouthillier & Shearer 2002). A few cases were identified through a literature search of ABI Inform and the Internet. Each case was reviewed and details of each area of interest were extracted and recorded. The data were compared and analyzed. The list of organizations is not exhaustive nor the case studies an exhaustive examination of the KM activities of each organization.

Secondly, a field investigation of experienced academicians was conducted to understand their views on the subject. These consist of reputable academicians in their chosen field-from medical science, to social science, to management science, to information and computer science, to engineering, and education. Structured questions were used in the field investigation. In some cases the author was around to clarify any issue raised and also to observe any reactions or gestures over the term knowledge management, which respondents were unable to represent in words. In other cases especially with the very busy senior university administrators and officers, the questions were completed in the absence of the researcher. Some of the questions asked include: How would you define the term "knowledge"? What does knowledge management mean to you? Does your university/faculty/department have any knowledge management initiative/s? (For this question option of Yes/No/Unsure was provided). List the knowledge management initiatives of your university/faculty/department. The open-ended nature of the questions made it possible for the respondents to give an unrestricted view on the subject. Table 1 shows the summarized results of 20 responses. The list of responses included here is not exhaustive, but determined by space limitation. In the rest of the cases (not reported) the views are very similar to those of the reported cases.

RESULTS AND DISCUSSION

The results of the search of the web sites of leaders in knowledge management are discussed below.

Results From Benefited Companies

Hummingbird Ltd.

According to the Chief Marketing Officer and Senior Vice President of Hummingbird,

> *Key building blocks of KM are: B2E enterprise information portal, federated search, taxonomy, classification and indexing of information sources, document/information management systems (i.e., organization and archiving of documents, e-mails, files, illustrations, policies, procedures, records, audio and video files, etc.) collaborative e-commerce application environments and/or workspaces, and simultaneous collaboration.*

> (http://www.kmworld.com)

The company clearly either replaces information management with knowledge management or views them as synonyms since only information (not knowledge, i.e., "what we know") is dealt with.

Findlay

Findlay, an Ohio-based Cooper Tire & Rubber Co. has a KM initiative, albeit it has not figured out how to make KM work for its research and technology team. It laments that:

> *Systems that we heard about don't appear to fit what we think our needs are, we would like a system that doesn't require additional effort on the users' part, but instead sifts through the types of documentation and tools that we already use and then presents the information gleaned in an organized and accessible manner.*

For this company, KM initiative is unequivocally about collecting, filtering, and organizing information in a more manageable manner.

According to a report by PricewaterhouseCoopers and the Conference Board, BP Amoco and Ford Motor Co. each saved more than $600 million through KM programs. Other firms that have benefited from KM include Hewlett-Packard (Kulathuramaiyer & Hanani 2002), Monsanto and Accenture.

BP Amoco

KM goal and objective in BP Amoco is:

> *to connect individuals within the company and to avoid re-inventing the wheel.*

The methodology is:

> *to connect expert database where staff create their homepage outlining their expertise, affiliations, etc. Expert databases maps experts by identifying knowledge of each expert and providing a guide map to help employees find these experts. This methodology may involve discovery if performed by others and may just facilitate the sharing of tacit knowledge if, as in many cases, it is up to the employees to provide his/her own expert profile.*

<div align="right">(Bouthillier & Shearer 2002)</div>

Hewlett-Packard (HP)

Stated KM goals and objectives at HP are:

> *to improve knowledge sharing across units, facilitate knowledge sharing through informal networking, establish common language and management frameworks for KM, and summarize knowledge across one business units.*

The methodology used in HP include:

> *Trainer's trading post: discussion database for training topics; Connex: directory of experts with their profiles; Knowledge links: database of product development knowledge collected through interviews with experts; and HP Network News: a dial-up database for HP customers that contains frequently asked questions.*

<div align="right">(Bouthillier & Shearer 2002)</div>

Monsanto

Stated KM goals and objectives include:

> *create and enable a learning and sharing environment; connect people with other knowledgeable people; connect people with information; enable the conversion of information to knowledge; encapsulate knowledge to facilitate its transfer; and disseminate knowledge. Monsanto's methodology includes: communities of practice involving "knowledge stewards", "topic experts" and*

"cross-pollinators"; Web of knowledge teams that create and maintain a guide to the company's knowledge.

(Bouthillier & Shearer 2002)

Clearly, Amoco, HP, and Monsanto, have also fallen into the same confusion as the organizations analyzed earlier, that is, managing information, information sources and destinations with a KM nomenclature. The review of KM initiatives of these KM leaders clearly indicate that what is being managed is information, not knowledge. Knowledge is "digested" information. As long as it remains information it can be managed, but once it becomes knowledge (i.e., digested), the knower loses much control to be able to manage it. Management becomes possible again when it is expressed which automatically reverts to information.

IBM

The KM home page of IBM contains the following overview:

The knowledge management department focuses on information discovery issues whenever unstructured data (such as textual documents) is available, as well as in the computer-human interaction and cultural issues involved in deploying information discovery solutions. These issues are addressed by two groups within the department, respectively:

- *Information Retrieval (IR) Group, has developed a set of assets for information discovery on the Internet/Intranet as well as on Pervasive Devices such as PDAs and mobile phones.*

- *Collaboration Technologies Groups, is developing new methodologies for using and benefiting from information retrieval technologies in the day-to-day life of the knowledge worker.*

(Available at http://www.haifa.il.ibm.com/km/index.html)

Clearly, the KM department of IBM is concerned with information and information resource management.

Results from Information Practitioners and Consultants

SER Solutions, Inc.

SER Solutions Inc. (as profiled by KMWorld), with headquarters in Dulles, Virginia, is leading the world in *The Knowledge Age,* and also won many awards in catalyzing KM. SER Solution Inc.'s KM solution addresses the following:

(1) provide direct access to all your individual information repositories (including local hard-drive network-based file systems) and formats (including Microsoft office documents, e-mails, scanned document images,

(2) provide a centralized repository for group, departmental, site, and enterprise-wide sharing and dissemination of knowledge created from internal and external data sources, and

(3) enable external users and customers to access public information.

The right knowledge enablement tool should extent beyond the capabilities of traditional software technologies . . . Such a capability would then allow you to show the knowledge enablement tool examples of information that meet specific criteria or context, and have the tool deliver or act on the information it finds . . . Another must for a comprehensive knowledge enablement solution is a data acquisition component with ability to employ multiple crawl agents for gathering and storing information from multiple locations into a single knowledge base. Once information is in your virtual knowledge base, your knowledge enablement solutions should allow you to see the overall content according to your business perspective at any given time.

(http://www.kmworld.com)

These explain exactly information systems capabilities since it gathers and stores information (not knowledge).

Atos KPMG Consulting

Atos KPMG's beginning statement on one of its web pages, (http://www.kpmgconsulting.co.uk/research/reports/wf_feature2.html) reads:

Whatever you call it – data, information, or knowledge – there's no doubt that turning knowledge management into competitive advantage is a business imperative . . .

It then continues on the same page that:

A knowledge system is a system in the broadest sense, comprising culture, people, processes and content, and companies are quick to see its potential. Not only does it allow all employees to access the right information at the right time, in order to do their jobs at the best of their ability, it allows technology to deliver what it promises.

The page is concluded as follows:

This guide reflects the practical experience Atos KPMG Consulting has had in helping clients harness the power of their own knowledge base. It reveals the

significant risks if companies let knowledge walk out of door when employees leave.

It is alarming that a world-class management consultant is not definite about the differences between data, information, and knowledge. This confusion in the foundational distinction among the three concepts expectedly spills over to its explanation of the functions of a knowledge system. In KPMG, a knowledge system allows access to the right information (not knowledge). The question is, what then does an information system access? Yet KPMG has been helping clients harness their knowledge base power.

PricewaterhouseCoopers

The site previously devoted to the KM practices seems inexistent as search facility (www.pwcglobal.com) revealed nothing. However, a number of pages contain the two books written by its staff. An interview with the authors of one of the books, (Bukowitz & Williams) which appears in the web site of *CIO Enterprise Magazine* (1999) increases the confusion between KM and IM:

Some early KM theorists hoped that somehow if we instituted knowledge management repositories, places to capture information, we really wouldn't need that middle manager level.

(http://www.cio.com/archive/enterprise/101599_bool.html)

Accenture

The site (http://www.accenture.com) defines knowledge management as:

. . . ensuring that the right information is available in an easily digestible format to employees across the organization at the point of need so they can leverage experiences and make more effective business decisions.

Lotus Software is identified as a KM partner and described as follows:

This knowledge management solution provider enables workers to capture, manage and share information throughout their organizations.

(http://www.accenture.com)

which demonstrates the use of knowledge as a synonym for information. This is not surprising as Accenture is the former Andersen Consulting, which has for long been in the business of information technology management.

Ryder Systems Inc.

Ryder (http://www.ryder.com) contains the following:

> *Ryder turned to Accenture because of its track record as an innovative leader in knowledge management. The result is: a customized knowledge management system with multiple goals . . . The magic wall is a delivery vehicle for active knowledge management, which seeks to provide the right information to the right people at the right time and place ("Right4U"), pushing relevant information toward people in contexts in which information is typically available.*

The use of knowledge management as synonym for information management is clearly demonstrated above. If magic wall delivers information and yet is referred to as a vehicle for active knowledge management, the confusion between the terms is all the more exposed.

Results from the Not-for Profit Making Organizations

Office of Native American Programs (ONAP)

ONAP is another organization that has benefited from Accenture's knowledge management capabilities. In one of Accenture's web pages (www.accenture.com) are the following:

> *To help integrate its offices, ONAP officials turned to Accenture. The internationally respected management consulting organization had successfully developed information applications for ONAP . . . Drawing on its knowledge of ONAP's unique needs, Accenture's team of experts designed a knowledge management strategy . . .*

Another page contains the following:

> *. . . To cope with information overload and seize the day, our researchers have developed a wide range of knowledge management and collaboration tools . . . One of our primary areas of investigation is what is we called Active Knowledge Management (AKM); the central theme of our AKM tools – Magic Wall, . . . is to get the right knowledge to the right person at the right time and the right place. We also have a number of desktop applications – Pocket Xchange, KXUpdate and the Accenture Information Source – that provide awareness and access to knowledge capital in innovative ways.*

> (http://www.accenture.com/xd)

The same Accenture's Magic Wall that delivers information to the right people at the right time and place in Ryder Systems, Inc. delivers knowledge to the right people at the right time and place in ONAP. There is no better way to convince even a die-hard KM protagonist that KM is simply IM in a new cloak.

Even Yogesh Malhotra, founder, chairman and chief knowledge officer of the @ Brint Institute in Fort Lauderdale, and @ Brint LLC, a Web site devoted to knowledge management (www.brint.com) rebuffed the claims of Accenture, Ryder Systems, Inc., and ONAP that knowledge management technologies deliver the right information to the right person at the right time. On the Brint's page (http://www.brint.com) and on pages of *CIO Enterprise Magazine* (http://www.cio.com/archive/enterprise/091599_ic_content.html), Malhotra listed some myths surrounding the murky confluence of information technology and knowledge management. Pages 1 to 2 read:

> *MYTH: Knowledge management technologies deliver the right information to the right person at the right time. Malhotra says that this idea applies to an outdated business model. Information systems in the old industrial model mirror the notion that businesses will change incrementally in an inherently stable market, and executives can foresee change by examining the past. . . . Thus it is impossible to build a system that predicts who the right person at the right time even is, let alone what constitutes the right information.*

It appears that even the so-called KM gurus don't agree on what their KM solutions can or cannot deliver.

Young Presidents' Organization (YPO)

The page (http://www.kamoon.com/news/newsitem.asp?ID=48) begins like this:

> *Connecting people to people instead of to information is the key to expertise-sharing for the Young Presidents' Organization. . . . George Goldsmith, YPO's chairman of IT and member-to-member networking, says that outfitting the YPO with technology to support KM had to go beyond e-mail, document management and question and answers. . . . The goal says Goldsmith, was to implement expertise location software that could enhance the experience of membership by connecting people to one another rather than to static information . . .*

From the above excerpt it is clear that Goldsmith equates KM with expert systems for information on people and related technologies. He went on to say that:

> *"What is really exciting about YPO is that we're all about second generation KM." By second generation, Goldsmith is referring to the YPO's practice of*

connecting people with people as opposed to simply pointing people to information submitted by experts. "We are connecting people to people on the issues that matter to them and making tacit knowledge and experiential knowledge available to a diverse group of people." Unlike KM approaches that focus on putting information into the hands of people, there's an immediacy on second generation KM.

Goldsmith advertently or inadvertently admits that KM approaches focus on putting information (not knowledge) in the hands of people. He (i.e., the second generation) makes tacit knowledge and experiential knowledge available to diverse people, but how it does, it remains his gross failure to explain, except that it facilitates networking among members (which is more or less giving information about people to other people).

Results from the Academia

Table 1 shows the summarized results of some of the responses from the academicians who participated in the field survey.

TABLE 1
SUMMARIZED RESULTS FROM THE ACADEMIA

Case	Field of specialization	What K & KM means to me	Any KM initiative in my org./dept.	What are the KM initiatives
1	Education	K: Organized information. KM: Management of organized information.	Yes	R&D activities; organizing of conferences; training; teaching.
2	Education	K: An information. KM: Managing knowledge needed to be an effective leader.	No	Staff development; leadership; boss-subordinate interaction.
3	Medical Sciences	K: Information, the world's data bank, scientific and technological breakthrough . . . KM: Essentially how we manage information . . .	Unsure	Managing the workers in the development unit. Managing the university's entire assets.
4	Medical Sciences	K: Ability to use information in decision-making. KM: Manipulation or storage of data for future use to the best of ones ability.	Yes	Student's records–personal and academic. Expert check list. Storage and use of research data.

TABLE 1 *(continued)*

Case	Field of specialization	What K & KM means to me	Any KM initiative in my org./ dept.	What are the KM initiatives
5	Psychology	K: Any information that is worth knowing and enlightening. KM: To seek, classify, store and retrieve this body of information called knowledge.	Yes	Human development; counselling; social work; industrial organization.
6	Psychology	K: "that which is known". KM: Presumably some kind of systematic manipulation of the construct.	Unsure	N/A
7	Sociology/ Anthropology	K: Knowing, understanding, having organized and inter-related information. KM: Organizing and disseminating knowledge.	Yes	Disseminating knowledge (publications; conference/ seminars); research, etc.
8	Sociology/ Anthropology	K: All information that could be utilized for the betterment of human life and environ-ment. KM: Devising the system of imparting knowledge to the users effectively.	Yes	Research; publication; seminar; etc.
9	Ethnomusicology	K: Information, experience and understanding of mankind about himself and environment. KM: Acquisition, analysis categorization, conservation, and dissemination of infor-mation, experiences, and understanding about man-kind and the environment.	Yes	Establishment of resource holdings (resource room); research; publication; conferences; etc.
10	Ethnomusicology	K: Sum total of mankind's ex-perience and information . . . KM: Process of organizing and disseminating knowledge.	Yes	Research; publications; organizing and attending seminars.
11	Computer Science Engineering	K: What human being learn about what is useful in life. KM: Organization of various documents containing useful information . . .	Yes	Ordering subjects gradually; research supervision.

TABLE 1 *(continued)*

Case	Field of specialization	What K & KM means to me	Any KM initiative in my org./ dept.	What are the KM initiatives
12	Computer Science Engineering	K: A commodity that is translatable into useful activity for individual or national benefits. KM: Internal-classifying, memory, analysis, hearing, speaking. External-filing, papers, books, database, …	Yes	Papers; research; seminars; etc.
13	Computer Science Engineering	K: Accumulation of man's experience both empirical and ethereal. KM: Structured organization of the above.	Cannot answer this ambiguous question	Cannot answer this ambiguous question.
14	Computer Science Engineering	K: Information that we can use and apply for specific purpose. KM: Managing the information to gain the benefit.	Unsure	–
15	Computer Science Engineering	K: Receiving, organizing and assimilating useful information . . . KM: Recalling relevant appropriate knowledge from the storage area and applying it for the situation.	Yes	Equipping the laboratories; preparing M.Sc. coursework; etc.
16	Management Science	K: Basically encompasses all forms of learning experience. KM: How you file your data, categorizing your memory or information . . .	Unsure	–
17	Management Science	K: Something valuable with respect to know how; information; assured belief… KM: Controlling your valuable people and resources; motivating employees to maximize their potential and capabilities.	No	–
18	Management Science	K: Acquiring something of interest. KM: Means by which knowledge is acquired and enhanced.	Unsure	Use of computer technology; use of various pedagogy; training.

TABLE 1 *(continued)*

Case	Field of specialization	What K & KM means to me	Any KM initiative in my org./ dept.	What are the KM initiatives
19	Management Science	K: Things that we know about-anything really. KM: How to structure those things that you know into useful things, i.e. of use.	No	I don't think there is any.
20	Management Science	K: A set of facts and information available for personal advancement in the society. KM: Proper planning and organizing – cataloguing; transferring; propagating of knowledge among individuals in organizations.	Yes	Archiving all paper and other knowledge output by staff; training; listing of research areas, etc.

Note: K = knowledge; KM = knowledge management; N/A = not available

It is clear from Table 1 that information management is what is done in knowledge management nomenclature. All the definitions and initiatives of KM are about information, information resource, and information sharing. None really managed knowledge (tacit), which all KM literature claims to be the thrust of KM and KM solutions. To think that all knowledge is either tacit or tacitly rooted (Polanyi 1967), it is expected that KM initiatives and solutions should be about tacit knowledge. Unfortunately, what is dealt with is information not knowledge (i.e., what is known). The term "Knowledge Management" has no intrinsic meaning.

The disturbing aspect of the findings from the academia is that a vast body of pedagogical materials, research reports, seminar and conference presentations from this sector have contributed to the KM hype. Yet, many use knowledge management as a synonym for information management, or have knowledge management initiatives that handle information, or are confused between the terms. Why are academicians whose aim is to subject ideas to critical evaluation sold to an idea that they are at best confused about? The question raises a very important future research direction.

Developments

The more recent claims that KM is a "people" process and that knowledge is not simply an object has led to a major shift in emphasis for KM. As more evidence unfold that a lot of what we know cannot be captured, and that explicit knowledge is information, a number of KM researchers and practitioners use

different terms to distinguish between the types of knowledge of interest to KM. Conklin (1996) uses the terms formal and informal knowledge. He describes formal knowledge as that which is found in books, manuals and documents, and which can be easily shared in training courses, while informal knowledge is described as the knowledge that is applied in the process of creating formal knowledge. Rulke, Zaheer, and Anderson (1998) on the other hand focus on the knowledge of an organization, which they term transactive knowledge (the organization's self-knowledge – knowing what you know) and resource knowledge (knowing who knows what). Similarly Kogut and Zander (1992) differentiated between information and know-how, while Seely Brown and Duguid (1998) made a distinction between know-how (particular ability to put explicit knowledge into practice) and know-what (explicit knowledge which may be shared by several). Leonard and Sensiper (1998) describe knowledge as a continuum, which exists in a spectrum, at one extreme, where it is almost completely tacit (i.e., semiconscious and unconscious knowledge held in people's heads and bodies), and at the other extreme, knowledge is almost completely explicit or codified, structured and accessible to people other than the individuals originating it. Hildreth et al. (1999) adopted the terms "hard knowledge" and "soft knowledge" as working terms to describe the different kinds of knowledge that were being explored in the KM field. They regard hard knowledge as codifiable, while soft knowledge is less quantifiable and cannot be easily captured and stored. Winograd and Fores (1986) describe the latter as "lost in the unfathomable depths of obviousness".

Almost (if not) all the works in the KM field often site Polanyi (1958, 1962, 1967). It is therefore important to jog the memory that Polanyi proposed a concept of knowledge based on three main theses:

- First, true discovery cannot be accounted for by a set of articulated rules or algorithms.
- Second, knowledge is public but is also to a large extent personal (i.e., it is socially constructed).
- Third, the knowledge that underlies explicit knowledge is more fundamental; all knowledge is either tacit or rooted in tacit knowledge.

Thus for Polanyi, and many who share his views, tacit or implicit knowledge is that which is known but cannot be told. It is knowledge that cannot be articulated because it has become internalized in the unconscious mind. It represents a level of understanding that cannot be externalized because it is "inaccessible to consciousness". If the above description holds (and many scholars agree it does), and all knowledge is either tacit or rooted in tacit knowledge (Polanyi 1967), then knowledge management cannot be as simplistic as by the number of reports presented.

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CONCLUSION

The nature, scope, method, and validity of knowledge management are still so ill-defined and poorly understood that KM cannot be an emergent discipline. KM is, unfortunately, strongly connected in most literature with the productivity of intangible assets, yet this paper through a critical analysis of KM initiatives in the so-called leading KM firms, information practitioners, management consultants, and the academia finds that what is managed is information. KM is therefore, an untenable notion because what we know simply cannot be captured or managed, thus the term knowledge management at best is inappropriate.

Knowledge, in practice, is often defined as tacit knowledge. Information is the only element found in the so-called KM initiatives of the organizations analyzed above. None of the initiatives has attempted to manage tacit knowledge. There is no way an organization can manage what people know; even the knower does not know all that he/she knows.

Data and information may be managed, as well as information resources, but knowledge (i.e., what is known) can never be managed; not even by the individual knower who is imperfectly sure of what she/he knows. Often one is not sure of what she/he knows until such knowledge is required to accomplish a task. As Wilson (2002) put it, much of what we have learnt is apparently forgotten, but can emerge unexpectedly when needed, or even when not needed. Hence, we seem to have very little control over "what we know". How much less control others have over what we know, not to mention organizations with different kinds of people, knowing, and knowledge. Knowledge simply cannot be managed, therefore, knowledge management is intrinsically meaningless.

This analysis has very important significance to academicians and academic researchers. The KM hype has been fired by academicians many of whom, without any critical analysis joined the KM bandwagon set in place by management consultants and information practitioners as a way to elongate the product lifecycle of information management. For the two groups, repackaging IM into KM will attract higher premium (and it did) to their advantage, but for the academic community whose aim is to subject ideas to critical analysis and to teach it to students, it is unfortunate. No wonder Beckman (1989) lamented that universities world wide have changed from "temples" to "factories".

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