

Challenges and Benefits of Knowledge Management Systems

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ABSTRACT

The company's knowledge theory shows that knowledge is the organisational advantage that allows for a lasting competitive advantage in highly competitive circumstances. In today's businesses the emphasis on knowledge is founded on the notion that impediments to knowledge transfer and reproduction give it strategic significance. In order to facilitate the share and integration of knowledge, several organisations construct information systems explicitly. The Knowledge Management System is called such systems (KMS). Because of the recent appearance of KMS in companies, there are minimal research information and field data available to support the creation and implementation of these systems or the anticipation of their prospective advantages. This study analyses the existing practice and results of KMS and the nature of KMS in 50 organisations. The results indicate that KMS interests across a range of sectors are quite high. The technology underpinnings vary. The main concerns are that accurate knowledge and know-how are obtained in the right amount and type. The study findings draw on practical implications and suggestions for future research.

KEYWORDS: knowledge management, knowledge management systems, organisational learning.

1. INTRODUCTION

Early it has been developed to assist managers and professionals by processing and presenting huge volumes of information to organisational managers (MIS). Over several decades, systems have emerged to give the tools for ad hoc decision analysis for individual decision-makers (DSS) and systems to supply senior and middle managers with updated, frequently real-time and relevant information (EIS). They have contributed to different degrees of improvement, both individually and organizationally, and continue to be essential components of the IT investment of the company. A developing line of systems aims at professional as well as administrative actions in order not to "information" or "data," but to create, collect, organise and disseminate an organisation's "knowledge." These systems are known as systems for managing knowledge (KMS).

The concept of coding and knowledge transmission is not new to organisations: this function has been performed over many years by training and employee development programmers, organisational policies, routines, procedures, reports and manuals. For example, practically all management aspects, including food, cooking, nutrition, hygiene, marketing, food production and accounting, are included in the McDonalds

Restaurant Operations Manual. The company's collection, codification and diffusion minimises the required level of expertise for its management and improves the efficiency of its operations (Peters, 1994). In the field of knowledge management, the potential to organise, facilitate, and accelerate firmwide knowledge management is exciting and fresh (e.g., internet, IT, browsers, data warehouses, data filters and software agents).

The current working structure on KMS mainly comprises of broad and conceptual KMS concepts (Davenport, 1997b) and case studies of such systems in several organisations. Bellwether (Alavi, 1997; Baird, Henderson and Watts, 1997; Bartlett, 1996; Henderson and Sussman, 1997; Sensiper, 1997; Watts, Thomas and Henderson, 1997). KMS has only just begun to surface within companies, therefore little work and understanding exists to guide or shape expectations of benefits and expenses in the effective development and deployment of such systems. It is not yet obvious whether KMS will develop and deploy across a range of businesses in a broad way, or whether KMS will be high-profile systems that are quick to become desolate. The present field exploration effort intends to help people in companies with KMS as well as insider organisations without KMS to comprehend the perceptions of knowledge management and knowledge management systems. In particular, the study highlights the technologies utilised to develop KMS, which fields of knowledge are integrated in KMS, the advocates of KMS projects, the desired advantages and costs of KMS and the key issues relating to KMS.

2. KNOWLEDGE, KNOWLEDGE MANAGEMENT, AND KMS

In order to define KMS, knowledge management must first be defined. Knowledge is a wide and abstract concept that since classical Greek times shaped epistemological discussions in Western philosophy. Giving the following working definition of knowledge (based on the work of Nonaka (1994) and Huber), this article is based on the orientation (rather than theoretical or philosophical) (1991).

Knowledge is a legitimate personal belief that enhances the ability of an individual to act effectively.

Actions to this need to be physical (for example, tennis or carpentry), cognitive/intellectual (for example, problem solving), or both.

In addition, the definitions of knowledge in literature on information systems distinguish between knowledge, information and data. For example, Vance (1997) defines information as information that is evaluated in a meaningful context, whereas knowledge is authenticated and considered true. Maglitta (1996) suggests that data is rough numbers and facts, that data is processed, and "actualised information."

Although each conceptualisation introduces variations between the three categories, they are not able to easily distinguish when information becomes knowledge. The difficulty seems to be the assumption that a hierarchy of data, information and knowledge varies in some dimensions, such as context, utility or interpretability. The substance, structure, accuracy or usefulness of the information or knowledge we deem crucial to discriminate between information and knowledge successfully cannot be found in it. Instead, knowledge resides in an individual's mind: it is individual or subjective information concerning facts,

processes, concepts, interpretations, ideas, observations and judgments; (which may or may not be unique, useful, accurate, or structurable). In essence, we argue that knowledge is not a concept substantially distinct to data. It is that information becomes knowledge once it is processed by an individual's mind (tacit, in Polanyi's (1962) and Nonaka's (1994) terminology). This knowledge becomes information once it has been expressed or transmitted to others in the form of a text, computer output, spoken or written language and other ways (and what Nonaka refers to as 'explicit knowledge'). The recipient can then digest information cognitively and internalise it so that it becomes tacit knowledge. This reflects the conceptualisation of knowledge by Churchman (1972) and his affirmation that 'wisdom lies in the user and not in [the data] gathering.'

This idea highlights two main points:

1. Information must be transmitted in order that knowledge of one person is valuable to another person so that it is interpretable and available to the other person.
2. Knowledge gaps are of little value: only information that is actively processed in a person's mind via a process of reflection, illumination and learning may be valuable. Knowledge management therefore means a comprehensive and organisational process to acquire, organise and communicate both tacit and explicit employee knowledge to make the use of this in their work more efficient and productive.

The biggest issue of knowledge management is to create and integrate knowledge more easily (Grant, 1996; Davenport, 1997a). In fact, the value of knowledge is restricted if it is not shared. It is crucial for a company to build and maintain competitive advantage that the knowledge of its organisation's organisations be integrated and applied (Grant, 1996).

Knowledge generation and transmission has traditionally taken place via many ways, including person-to-person (planned or ad hoc) contacts, mentoring, work rotations and staffing development. However, with markets and organisations more worldwide and moving into virtual forms, these old ways could become too slow and less efficient and require more efficient electronic resources to augment them. On the other hand, the information will not necessarily go on to the wide market, as Brown and Duguid (1991) noted, just because technology is there to assist this circulation.

Studies on technology such as Lotus Notes have not demonstrated any change in the sharing of information and the patterns of communication. In fact, the regular and frequent communication of organisational members without Lotus Notes was frequent and frequent, and the members who communicated less regularly and less frequently before the implementation of Notes continued to communicate less frequently, less frequently and less regularly (Vandenbosch and Ginzberg, 1997). So computer systems that improve communications and information exchange at best have a random effect in the absence of an intentional plan for improving knowledge creation and integration in the business. As a result, organisations are starting to adopt information systems built especially to help codify, gather, integrate and disseminate

corporate knowledge (Alavi, 1997; Bartlett, 1996; Sensiper, 1997). This applies especially to companies competing on the basis of services and expertise (e.g., management consulting and professional services firms). The Knowledge Management Systems are referred to as such systems.

The popular claims for the results of KMS include businesses' capacity to be flexible and to respond more rapidly to changing markets and innovative decision-makers and efficiency improvement (Stata, 1997; Harris, 1996). We have undertaken descriptive study of KMS views and practices in 50 organisations from various industries to understand existing practices and outcomes in knowledge management and how and how KMS is evolved in businesses. The outcomes of this study are hopeful that they will help guide early KMS projects in businesses and avoid failures and false beginnings. We also expect the data will assist guide subsequent research efforts in the burgeoning KMS area.

3. PERSPECTIVES ON KNOWLEDGE MANAGEMENT

One of the study's aims was to determine the significance of the knowledge management concept for managers. Three perspectives have emerged: a perspective based on information, a technology-based perspective and a perspective based on culture.

From an information point of view, managers indicated that knowledge management deals with information's properties, such as readily accessible information, real-time data, and operating information. Some people spoke about free texts and notions as the basis of knowledge management information. Several managers have pointed out that knowledge management is focused with decreasing the excessive amount of information by "filtering the gems from the pebbles." The huge volume of information was evidently a problem that can now simply be collected and shared through IT. Managers voiced the wish that information itself would bring competitive advantage (as opposed to associating competitive advantage with any particular information technology). Finally, some managers regarded knowledge management to be very particularly a 'corporate yellow page' or a 'informative people' archive.' In other words, they saw the management of knowledge as a means of tracking not so much the knowledge, but who owned it and how.

Information or data were not distinguished from knowledge. Instead, the words have obviously been used interchangeably. The management made implicit differences between the words, though. For instance, one manager said that the "knowledge of one individual" is "data of another." The notion that the knowledge resides in the individual is consistent with this approach, and that the two constructions do not have an intrinsic "objective" attribute.

In terms of technology, the managers related the administration of knowledge with several other systems (including data storage, company wide systems, executive information systems, expert systems and the Intranet) and other tools (e.g., search engines, multi-media, and decision making tools). Participants often connected knowledge management with infrastructure of information technology and more specifically, cross-functional systems integration throughout the world. A clear view of a new form of knowledge management technology did not develop. In fact, this is compatible with the fact that knowledge management

systems can be implemented with multiple technologies, which will probably most effectively depend on an organisation's size and existing technical facilities.

Finally, under the perspective of knowledge management from a cultural perspective, the management of knowledge related to learning (mostly from an organisational viewpoint), communication, and intellectual property cultivation. Some stated that just 20% of the concept was used to handle information and technology, but most of the issues were cultural and management concerns. Nebulous, however, were the reactions to specific cultural implications, indicating maybe an underlying concern for how to deal with it, without precise ideas.

The answers were analysed on the basis that the respondent was or was not from an organisation with a KMS. Nevertheless, the views of KMS between the two groups seemed not to change much except that personnel from organisations without KMS tend to provide a more frequent technological response than people from businesses with KMS.

4. KNOWLEDGE MANAGEMENT CAPABILITIES NEEDED

The managers also tended to offer three perspectives when asked about their knowledge management capacity. They proposed that customer information, customer information, competition information and product/market information were required for information purposes. These data are completely external and were not provided traditionally by most computer systems. A number of fields of internal knowledge, including activity costing, information on human resources and up-to-date financial status, was also wanted. The required technological skills included broader bandwidth, consistent email and web-based goods, search engines, smart agents, navigational aids, the overall IT infrastructure, interoperability and speedy recovery of current data systems. Finally, the managers reported the need for practical instructions on how knowledge management systems might be developed and implemented and organisational transformation promoted for the exchange of knowledge.

5. CONCLUSIONS

The report gives an overview of emerging knowledge management systems concerns and techniques. While the participants were not taken from a random sample of organisations, industries and a relatively small number of participants, their opinions represent a number of industries, organisational levels and nationalities. The study was not designed to create or test theory, but rather to provide insights into necessary and appropriate KMS research.

An exploration into KMS culture fit is a good topic of inquiry. There was a large amount of technology-structure alignment yet, as indicated by the concerns of our participants to have knowledge sharing accepted within their organisation, the KMS success can relate to organisational culture rather than organisational structure.

Methods to make users active contributors to KMS are another valuable avenue of research. The basic

label of "user," as users are both contributors and recipients of the system, is incorrect in the context of KMS. Users are not sufficient to participate in the design: they must participate in KMS' continual upkeep.

The decision-making process for deciding what knowledge to include in KMS is revealing a third possible research line proposed by our investigation. Since too much information has been avoided by our respondents' biggest concern, knowledge should be considered at what point, rather than improving performance.

Finally, the question of KMS benefits will be examined via an important study line. Due to the mainly external focus of information contained in KMS, there are likely to be increased contacts with external entities such as customers and business partners for experienced results. The real benefits of KMS could be illustrated through studies that integrate the viewpoints of external organisations.

Research on these subjects (determining the important fields of knowledge and achieving business benefits from KMS) might benefit from the possible ties between knowledge and a strategy of the company and an explicit review of competitiveness from the perspective of knowledge resources.

They should be turned to practical knowledge in order to make information resources profitable. Such a process presents obstacles in creating, capturing, sharing and maintaining information. Our study implies that only firms who are technologically capable will gain from wisdom management but which engage long-term in bringing together the cultural, managerial and organisational elements of knowledge management.

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