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DIMENSIONS AND PERSPECTIVES FOR KNOWLEDGE MANAGEMENT AND INFORMATION

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Abstract: *Knowledge Management (KM) comprises a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizational processes or practice. Though literature on information and knowledge management is vast, there is much confusion concerning the meaning of these terms. According to the literature review, technology-oriented information management includes data management, information technology management and strategic information technology management. The reading of the literature on knowledge management reveals that this term is either used synonymously for information management or for the management of work practices with the goal of improving the generation of new knowledge and the sharing of existing knowledge.*

Keywords: *information, knowledge management, data management*

1. The major aspects of information and knowledge management (KM)

In the new economy, knowledge management is the key resource for organizations to become competitive. An established discipline since 1991, KM includes courses taught in the fields of business administration, information systems, management, and library and information sciences. More recently, other fields have started contributing to KM research; these include information and media, computer science, public health, and public policy.

No there is a clear consensus on how this discipline can be defined but in general it can be seen as responsible for the design and implementing a system that aims to identify, capture and the systematic sharing of knowledge within an enterprise so that can be converted into value for it. Broadly, knowledge becomes an enterprise value when it contributes positively to the objectives pursued by the company itself. It is not hard to see that knowledge management shows importance in business. Since the early nineties, a significant number of businesses throughout the world, especially Multinational companies were involved in this field considering knowledge management as a measure to improve performance.

Knowledge Management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization. KM efforts overlap with organizational learning, and may be distinguished from that by a greater focus on the management of knowledge as a strategic asset and a focus on encouraging the sharing of knowledge.

Knowledge management has also a strong link to business strategy, in that its proponents claim that it should enable an organization to cope effectively with rapid environmental change and to attain some form of competitive advantage.

More recently, with the advent of the Web 2.0, the concept of Knowledge Management has evolved towards a vision more based on people participation. This line of evolution is termed Enterprise 2.0. However, there is an ongoing debate and discussions as to whether Enterprise 2.0

is just a fad that does not bring anything new or useful or whether it is, indeed, the future of knowledge management.

Table 1, summarizes the major aspects of information and knowledge management. It is mainly intended to serve as an orientation aid for the vast literature on this topic. Furthermore it should give a rough assessment of which disciplines (and professions) are engaged in which aspects of information and knowledge management. Accordingly, information systems and business informatics can be attributed to the management of information technology. Organizational and management sciences deal primarily with knowledge management (in a narrow sense). The management of (codified) information and the study of information use are the domains of records management and library and information science.

Objects		Terms		Disciplines
		Narrower terms	Broader terms	
information technology	data (structure)	data management	IT management (technology-oriented information management)	information systems business informatics
	information system	information systems management		
	information infrastructure	management of information infrastructure		
(codified) information	internal	records management	(content-oriented) information management	records management library and information science
	external	provision of external information		
work practices that relate to knowledge generation and sharing			knowledge management	organizational sciences management sciences
intellectual assets		intellectual capital management		

Table 1: Majors Aspects of information and knowledge management.

2. The main dimensions and major approaches of information and knowledge management

Though literature on information and knowledge management is expansive, there is much confusion concerning the meaning of these terms. This is the starting point of this article the aim of which is to identify the main dimensions and major approaches of information and knowledge

management. This should also give answers to the question, 'Does the concept of knowledge management add anything and, if so, what is it?'

Information management has been around for more than two decades. Many authors date its beginning back to the Paperwork Reduction Act of 1980 in which U.S. federal agencies were forced to introduce information resource management. Regardless of its exact origins, there was a substantial growth in literature dealing with this topic at the beginning of the eighties. In the second half of the nineties, the term knowledge management became more popular.

By means of an author co-citation analysis of data from Science Citation Index and Social Science Citation Index, the intellectual structure of information management was mapped (see Figure 1).

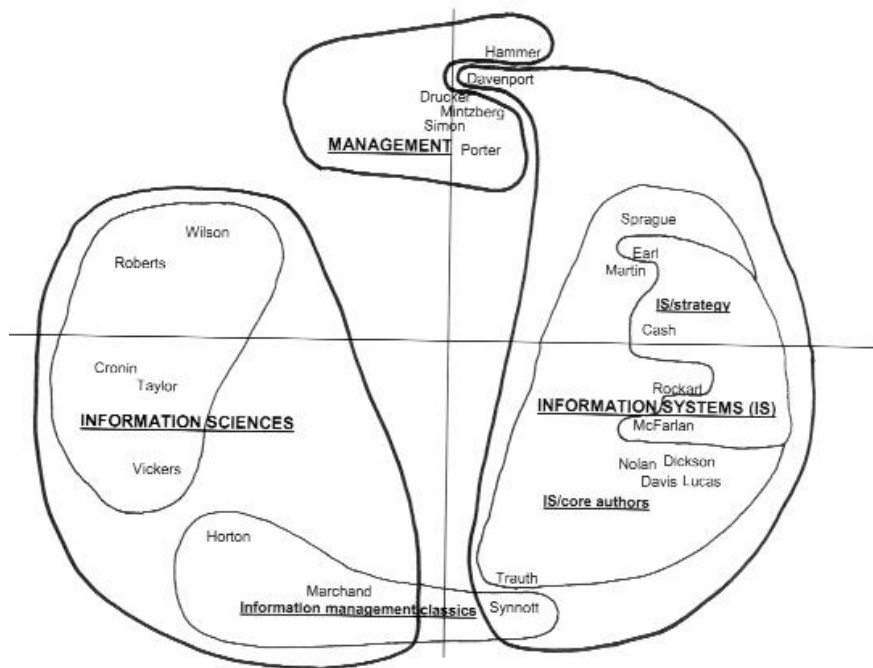


Figure 1: Map of information management (source: Schlögl 2005)

Authors on the left can be assigned to the information sciences. Their research interest lies in information and its use. On the right, there are those authors whose research topic is the efficient and effective use of information technology (IT). The related disciplines are information systems and business informatics.

Interestingly, no authors were placed in the centre of the map. This might suggest that information management is not an interdisciplinary but (only) a multidisciplinary topic, especially as there is no collaboration between researchers from information systems and those from information sciences. According to these interpretations, a distinction can be made between content-oriented and technology-oriented information management. In the following sections, various approaches will be discussed for each of these two dimensions of information management. Then the concept of knowledge management will be investigated, in particular its relationship to information management. In KM process, can be distinguished the following aspects:

- 1) *data management,*
- 2) *IT management,*
- 3) *Strategic use of IT and KM technologies.*

In a broader sense, data management can be defined as all organizational and technical tasks concerning the planning, storage, and provision of data, both for computer personnel and end-users. Data administration primarily serves a planning and analysis function. It may be responsible for data planning, accountability, policy development, standards setting, and support. One of the major tasks includes the design of the data architecture of an organization. Database administration provides a framework for managing the data on an operational level. Its role may include performance monitoring, troubleshooting, security monitoring, physical database design, and data backup.

The management of hardware, software, and IT personnel must be included as well. The emphasis here is on the technological aspects of electronic data processing. One well-structured example for these approaches was suggested by fig. 2. We can distinguish three levels: the management of information use (upper level), the management of information systems (middle level), and the management of the information infrastructure (lower level).

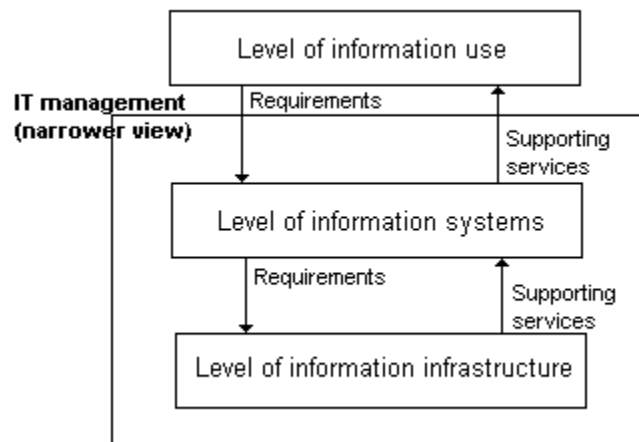


Figure 2: Three-level model of information management

Information infrastructures provide means for all possible types of data processing open to different use (e.g., computers, networks). They constitute the basis for the information systems that, in contrast, support specific tasks of an organization. The information systems provide, in particular, the means for information use and exchange. The main role of information systems management is the management of the development and operation of an organization's information systems. Information management from this view can be defined as the planning, organization, and control of information use, information systems, and information infrastructure in an organization.

The use of information technology as a strategic resource has attracted much attention especially in Anglo-American countries in the past. Early KM technologies included online corporate yellow pages as expertise locators and document management systems. Combined with the early development of collaborative technologies (in particular Lotus Notes), KM technologies expanded in the mid-1990s. Subsequent KM efforts leveraged semantic technologies for search and retrieval and the development of e-learning tools for communities of practice. More recently,

development of social computing tools (such as bookmarks, blogs, and wikis) have allowed more unstructured, self-governing or ecosystem approaches to the transfer, capture and creation of knowledge, including the development of new forms of communities, networks, or matrixes organizations. However such tools for the most part are still based on text and code, and thus represent explicit knowledge transfer. These tools face challenges in distilling meaningful reusable knowledge and ensuring that their content is transmissible through diverse channels.

Software tools in knowledge management are a collection of technologies and are not necessarily acquired as a single software solution. Furthermore, these knowledge management software tools have the advantage of using the organization existing information technology infrastructure. Organizations and business decision makers spend a great deal of resources and make significant investments in the latest technology, systems and infrastructure to support knowledge management. It is imperative that these investments are validated properly, made wisely and that the most appropriate technologies and software tools are selected or combined to facilitate knowledge management.

Knowledge management has also become a cornerstone in emerging business strategies such as Service Lifecycle Management (SLM) with companies increasingly turning to software vendors to enhance their efficiency in industries including, but not limited to, the aviation industry.

Conclusions

Since the mid-nineties the label *knowledge management* has attracted much attention while information management has been used less. As with information management, there is no agreement on what constitutes knowledge management.

This article has identified three major categories in the literature on information and knowledge management. They were referred to as technology-oriented information management, content-oriented information management, and knowledge management.

From a narrow point of view, data management is equated with information management. Even though information management is perceived as more comprehensive by nearly all authors, data management is one essential component of technology-oriented information management.

IT management comprises of the planning, organization, and control of those tasks that are necessary for the provision and use of the information infrastructure as well as the (computer-based) information systems that are the basis for the information exchange in an organization. If possible the competitiveness of a company should be improved or at least its deterioration be prevented.

If one does not consider its synonymous use for information management, knowledge management means the management of those work practices that aim at improving the generation of new and the sharing of existing knowledge. Some aspects of knowledge management were already partly dealt with by some authors of content-oriented approaches. However, the presented concepts were much less elaborated in this respect and mainly focused on behavioral aspects of information use. Knowledge management has a wider perspective working toward raising the creativity of the organization's staff. A few authors even developed some models for measuring the intellectual capital of an organization.

As already mentioned, the terms *information management* and *knowledge management* are used very inconsistently in theory and in practice. This is due to ignorance and *tactical* reasons.

In a scientometric analysis, we can prove how much business informatics suffers from emerging fashions that often go along with unnecessary changes of terms. For instance, this applies to issues like know-how databases and business intelligence which are investigated once again within the scope of knowledge management. Such scholarly behavior could threaten a continuous accumulation of knowledge in the particular field in the long run.

In this sense, the author hopes that this article will not only contribute to more terminological clarity but have further positive implications.

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