



Interrelationship between document management, information management and knowledge management

X.H. Chen

Government Communication and Information System
Pretoria
cathyc@gcis.gov.za

M.M.M. Snyman

Department of Information Science
University of Pretoria
Pretoria
msnyman@postino.up.ac.za

N. Sewdass

Department of Information Science
University of Pretoria
Pretoria
nsewdass@postino.up.ac.za

Contents

1. [Introduction](#)
 2. [Methodology](#)
 3. [Document, information and knowledge](#)
 - 3.1. [Document](#)
 - 3.2. [Information](#)
 - 3.3. [Knowledge](#)
 - 3.4. [Relationship between document, information and knowledge](#)
 4. [Document management, information management and knowledge management](#)
 - 4.1. [Document management](#)
 - 4.2. [Information management](#)
 - 4.3. [Knowledge management](#)
 - 4.4. [Interrelationship between document management, information management and knowledge management](#)
 5. [Conclusion and recommendation](#)
 6. [Notes](#)
 7. [References](#)
-

Key words: Document, document management, information, information management, knowledge, knowledge management

1 Introduction

Documents are the natural by-products of the activities of an organization. Document management (DM) has generated great interest in the business world recently. It allows organizations to exert greater control over the production, storage and distribution of documents, yielding greater efficiencies in the ability to reuse information.

In today's fast-paced business world, success is dependent on how efficiently and effectively an organization can employ and manage its information. The concept of information management (IM) has been used and discussed for many years. The information age has resulted in major structural changes on the economic and social front. Global trends have resulted in the shift towards a knowledge-based economy, necessitating knowledge management. Knowledge management (KM) encompasses both the management of information and the management of people. Knowledge cannot be managed directly – only the information about the knowledge possessed by people in organizations can be managed. Good information management is seen as the essential prerequisite for knowledge management. There is a close relationship between information management and knowledge management

To be successful in today's competitive economic environment, organizations must be able to minimize the time it takes to leverage enterprise information assets so they can streamline business-critical processes. To help speed up time-to-decision, ensure document currency and simplify access to business knowledge on an enterprise basis, organizations need a system – the document management system – that enables them to ensure and securely manage, organize and share documents. This shows that a document management system should be in place to effectively manage information and knowledge. In fact, an electronic document management system (EDMS) is one of the tools used to manage information and knowledge.

Document management, information management and knowledge management have been three phrases in the vocabulary of management for some time now. Although these three phrases have been used and discussed exhaustively, there is still some ambiguity about what they really mean (there are numerous definitions for each phrase), confusion between them and little consensus on how to execute them (there are thousands of tools on the market). For example, in many cases, KM is being used simply as a synonym for IM; some organizations have been under the impression that they were implementing KM, whereas they were actually implementing DM or IM. It is clearly necessary to distinguish these three related phrases.

The aim of this research was to illustrate the interrelationship between document management, information management and knowledge management by examining their nature. To identify the interrelationship, it is necessary to clarify the fundamental concepts *documents*, *information* and *knowledge*. The interrelationship between them illustrates how DM, IM and KM influence each other. This information will help organizations that are considering the use of DM, IM, or KM to accomplish their business objectives and implement DM, IM and KM correctly.

2 Methodology

The research undertaken for this article was theoretical. To give clarity to anyone who wishes to understand what each term (DM, IM and KM) means and their interrelationship, a qualitative research approach was followed. The qualitative study was based on a literature review of the three fields. The literature review provided the necessary background in order to be able to address the identified main problem: What is the interrelationship between DM, IM and KM?

The scope of the literature study included management literature, articles and books specifically on document management, information management and knowledge management, as well as dictionaries and glossaries.

[top](#)

3 Documents, information and knowledge

Fundamental change in today's business environment has made information and knowledge core ingredients that help to keep an organization on target to meet its ultimate vision. All organizations need information to perform their activities, and documents are the natural by-products of the activities of an organization. Information is often found in documents. In fact, 80% of corporate information resides in documents (Cleveland 1995). Knowledge is generally agreed to be information that is being stored and retrieved. The individual then puts the information into context, thus generating knowledge. Therefore there is a close relationship between documents, information and knowledge. Although these three related concepts have been used daily by most knowledge workers, there is ambiguity about them and it is therefore necessary to clarify them.

3.1 Documents

Traditionally, documents were denoted as textual and text-like records (e.g. names and numbers) (Buckland 1997; Liu 2004). This was the prevailing view of documents before the age of digital documents. In recent years, documents and their supporting technologies (e.g. computing, networking and scanning technologies) have been experiencing a tremendous growth. These technologies have expanded document boundaries and extended the traditional definition of documents.

Owing to the incredible growth in technologies, more and more electronic documents are produced. However, paper is still the principal medium of information exchange in organizations since people prefer to read on paper. In many cases, people print out the document and make notes on the paper-based document. This means many documents actually exist in two forms: electronic and paper. People like to write notes on paper, and sometimes the notes are the most important information. However, paper takes up space, is labour-intensive to handle, likely to be mis-filed and lost, and is heavy.

A modern definition of documents should address paper documents as well as electronic documents with their distinctive characteristics. There are many proposed definitions (Cleveland 1995; *SAJIM* Editorial 2003; Wiggins 2000) to reveal characteristics of modern documents from different perspectives. The authors propose the following definition of a document in the organizational sense:

A document is a container of written information that the organization needs to track. It is created or received by an individual or an organization in the course of undertaking a business action. It is structured for multiple information users,

and the information in the document has been assembled for human understanding. It can be stored in various formats such as paper and electronic, and media such as faxes, letters, computer hard drives or optical disks.

3.2 Information

Information is what people or systems need to be able to perform work practices. It is an essential but elusive concept. Generally speaking, everything that is psychological begins with information. At the very fundamental level information affects one's perceptions about the world and thereby influences attitudes, emotions and actions.

The central significance of information has led many authors to seek to define the concept *information*. In fact, there has been much research on the concept. However, no commonly accepted operational definition has been produced. It is worth exploring the literature to identify the nature of information. Information has many definitions from different perspectives. Faced with the variety of meanings of *information*, six principal uses of the word *information* have been identified based on the literature review:

- Information as a resource or commodity (Kaye 1995; Kirk 1999; Madden 2000; McCreadie and Rice 1999)
- Information as useful data or a thing (Boon 1990 and Buckland 1991)
- Information as a representation of knowledge (Belkin 1978; Madden 2000; McCreadie and Rice 1999)
- Information as part of the communication process (Buckland 1991; Madden 2000; McCreadie and Rice 1999)
- Information as a constitutive force in society (Kirk 1999)
- Information as understanding (Introna 1997).

In this article, the first three notions of information are discussed in more detail. In addition information resources are also covered.

3.2.1 Information as a resource or commodity

Information is a critical organizational resource. It is the life-blood of an organization. An organization needs internally generated information to manage and control its business; it also needs externally sourced information to plan and make strategic decisions. Information, as a resource or commodity, can be produced, purchased, replicated, distributed, manipulated, passed along, controlled, traded and sold. In this conceptualization, information is regarded as social and economic goods with value, costs and benefits. It can certainly be reused and created by anyone. It can be recycled and modified or incorporated into other things, and many people can use the same information simultaneously for different purposes.

3.2.2 Information as useful data, or things

Information is meaningful and useful data. Information has a recipient or user; the recipient must experience that using information is meaningful or of value. Information as useful data, or things, is of special interest in the study of information systems. Information systems deal directly with information as things. For example, libraries deal with books; computer-based information systems handle data in the form of physical bits and bytes; museums deal directly with objects (Buckland 1991:352). Books, physical bits and bytes, and museum objects are things. A key characteristic of 'information-as-thing' is that it is tangible and one can measure it.

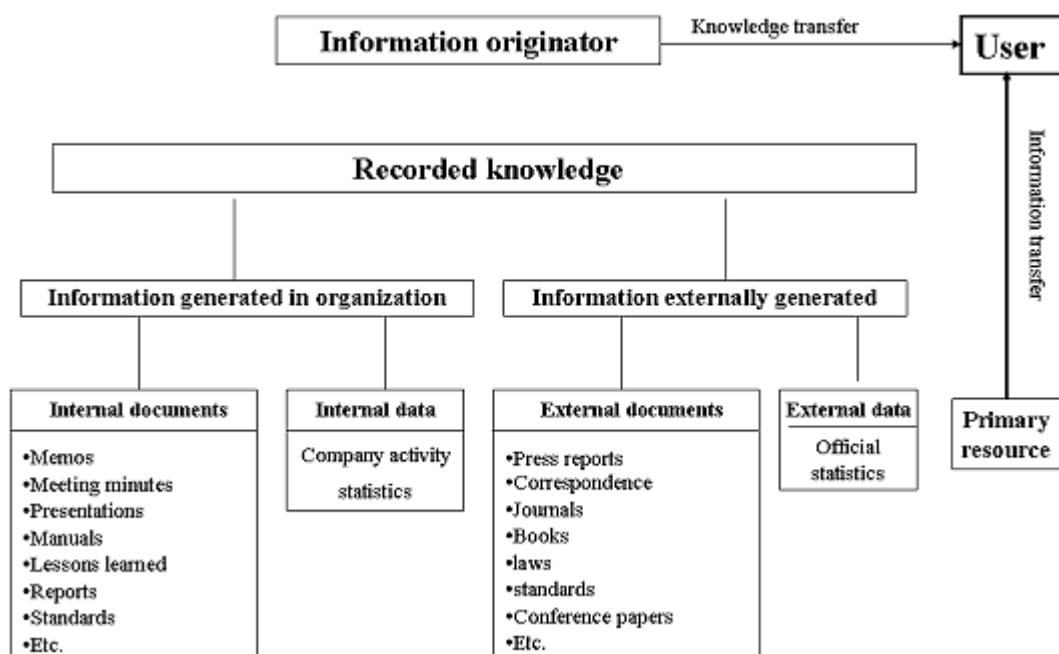
3.2.3 Information as a representation of knowledge

Some authors view information as a representation or surrogate of knowledge (Belkin 1978; Madden 2000; McCreddie and Rice 1999). The tradition of library catalogues and scientific information is a clear example of this notion. Card catalogues or scientific documents illustrate an abstraction of a representation of knowledge, providing information about where and how to track a representation of knowledge, such as in documents and books. Based on this view of information, traditionally the printed document is the primary representation of knowledge; in recent years representations of knowledge are becoming more available in different forms of electronic media such as videotape, videodisc, CD-ROM, the Internet and corporate intranets.

3.2.4 Information resources

Access to information affects one's life in many ways. To get access to information, one must know where to obtain the right information. Information comes in a variety of formats. Wiggins (2000:150) provides an overview of the types of information sources. Here only the primary sources are included, as shown in Figure 1. Note that the information may be stored in or on any media such as paper, electronic or microfilm, and the user may access it via any suitable mechanism, such as physically on a library shelf or via the Internet or an intranet.

Figure 1 Primary sources of information – a general outline



3.3 Knowledge

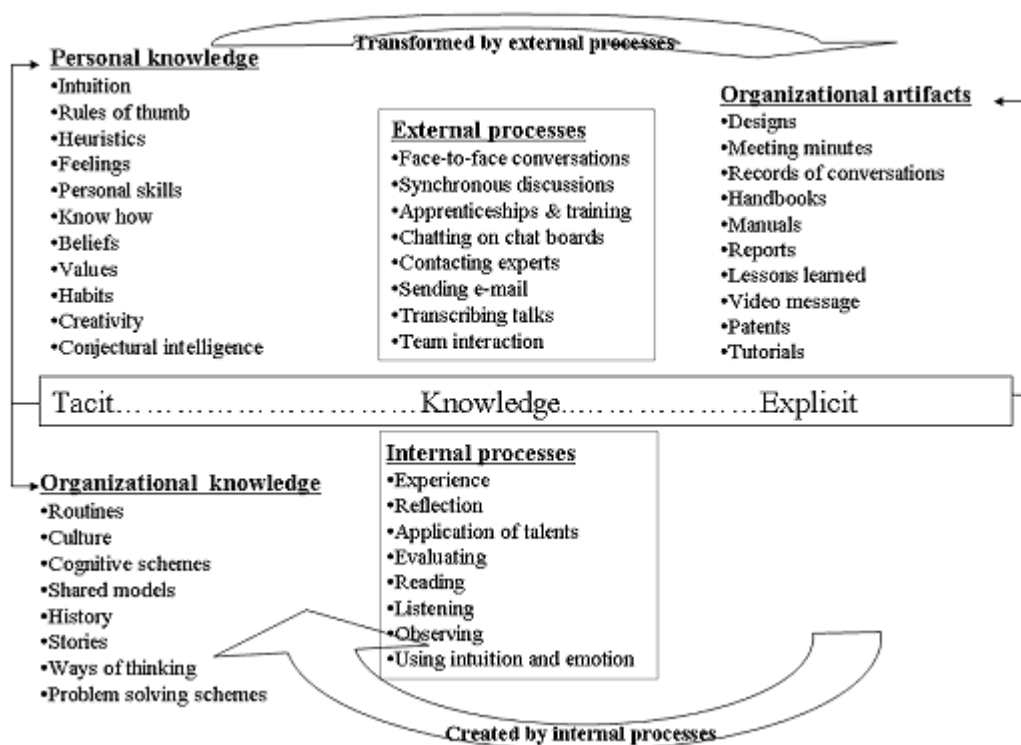
Although many researchers have attempted to define the term *knowledge*, no commonly accepted operational definition has been produced. Buckland (1991:351) indicates that knowledge is personal, subjective and conceptual. According to McInerney (2002:1009), knowledge is the awareness of what one knows through study, reasoning, experience or association, or through various other types of learning. A few authors (Broadbent 1998; Rumizen 2002) view knowledge as information and indicate an interrelationship between information and knowledge; this view shows how information and knowledge are closely associated to each other. Some authors indicate that knowledge is more complex than information – knowledge is the combination of information, context, and experience (Davenport and Prusak 1998; Ponelis and Fairer-Wessels 1998).

In fact, defining knowledge is difficult, as it includes many intangibles such as experience, intuition, judgement, skill and lessons learned which have the potential to create business value by informing decisions and improving actions. What is knowledge for one person can be information for the other. Some of knowledge is explicit; it can be expressive, captured, stored and accessed for reuse. However, much of knowledge is tacit knowledge and is never communicated until the need to reuse it occurs. Although it is difficult to define knowledge, a definition of knowledge could be formulated as follows:

Knowledge is a combination of contextual information and the individual awareness and understanding of facts, truths or information acquired through reasoning, experience and learning. In organizations, knowledge often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. Knowledge can be obtained from individuals, groups of knowers, and sometimes in organizational routines and processes. It is delivered through structured media such as documents, and person-to-person connections. New knowledge is created/acquired through experience, interacting and learning.

The distinction between explicit and tacit knowledge is critical in defining the scope of knowledge management and how it differs from information and document management. The process of dynamic knowledge creation occurs during socializations when internal (tacit) knowledge is made external (explicit). The spiral that operates between tacit and explicit knowledge continually effecting new knowledge among workgroups creates the energy and innovation that characterizes an active knowledge-intensive and knowledge-creating organization. Figure 2 illustrates how tacit knowledge and explicit knowledge interact through internal and external processes within and among people in an organization. Figure 2 illustrates a continued movement between two very different types of knowledge.

Figure 2 Tacit-explicit knowledge continuum



3.4 Relationships between documents, information and knowledge

The literature review reported in section 3.1, 3.2 and 3.3 indicates that documents, information and knowledge are interrelated concepts. It is definitely worth investigating the relationships between these three fundamental concepts since a better understanding of the relationships between documents, information and knowledge enables one to choose or develop appropriate approaches to generate, access, transfer and disseminate documents, information and knowledge within an organization.

To identify the relationships between a document, information and knowledge, it is necessary to determine whether there are any differences and/or similarities between them. If so, what are the differences and/or similarities?

To answer these questions, the three fundamental concepts were compared based on the research reported in the previous three sections. The comparison is summarized in Table 1. From Table 1, it is clear that there are significant differences between documents, information and knowledge, but also some similarities between them.

Table 1 Comparison of a document, information and knowledge

	Document	Information	Knowledge
Definitions	<p>A container of information.</p> <p>By-product of the activities of an organization</p>	<p>Organizational resource.</p> <p>Meaningful and useful data.</p> <p>A representation of knowledge</p>	<p>A combination of contextual information, and the individual awareness and understanding of facts, truths or information acquired through reasoning, experience and learning</p>
Characteristics	<ul style="list-style-type: none"> • Created or received by an individual or an organization for undertaking a business action • Provides a record or evidence of a business event • Structured for multiple information users • The information in a document has been assembled for human understanding • Stored in various formats such as paper and electronic, and media such as faxes, letters and 	<ul style="list-style-type: none"> • Generated internally by an individual or an organization from undertaking a business action, or acquired from an external published source • It is the lifeblood of the organization with internally generated information for management and control of the business, and externally sourced information for planning and strategic decision-making • Can be given away and retained at the same time • Can be used simultaneously by many people for different purposes 	<ul style="list-style-type: none"> • Created through experiencing, interacting and learning • Formulated and applied in the minds of individuals as they do their jobs • Organizational knowledge embedded in documents or repositories as well as in organizational routines, processes, practices and norms • Two types of knowledge: explicit and tacit with different characteristics • Shared between groups and communities through

	<p>computer hard drives</p> <ul style="list-style-type: none"> • Used to be static, but became more dynamic objects and their data content more accessible for further processing with the increased use of Web technologies 	<ul style="list-style-type: none"> • Its usefulness, relevance or value can vary with time, user and purpose • Must be meaningful to the recipient in such a way that it leads to greater understanding and knowledge acquisition • Information, as a thing, is tangible and one can measure it • Comes in a variety of formats such as internal documents, data, books and journals 	<p>the transfer of tacit and explicit knowledge</p> <ul style="list-style-type: none"> • Delivered through structured media such as documents • Highly subjective • Authoritative • Dynamic • Context-dependent • Requires knowers
--	---	--	--

3.4.1 Differences between documents, information and knowledge

The following differences between documents, information and knowledge were identified:

- *Degree of objective nature.* Information can be held in data or documents, and in computers or on paper – it is objective. Documents that contain information are also objective. Knowledge is subjective.
- *Degree of dynamics.* Documents are physically stored somewhere and information is usually held in databases or documents, whereas knowledge is based on personal experience. It is constantly changing through experience and learning. Therefore, documents and information are more static than knowledge.
- *Degree of abstraction.* A document is a record or evidence of a business event, so it must include the details of the business event. Information must be meaningful to the recipient in such a way that it leads to greater understanding and acquiring knowledge. It is not necessarily as detailed as a document, but it must have some degree of detail to help the recipient understand it. Knowledge is the most abstract concept. It has to be represented in information to communicate it.
- *Degree of difficulty to acquire.* It is easy to acquire a document since it exists somewhere physically. It takes time to acquire a piece of information, since the recipient must understand the information. Knowledge is formulated in the minds of individuals through experience, it is shared between groups and communities. To obtain the particular knowledge, trust must exist between the knower and the person who needs the knowledge – to build such a relationship may take time.

3.4.2 Similarities between documents, information and knowledge

Documents, information and knowledge are similar in the following aspects:

- *It requires people to undertake actions* to create a document, generate a piece of information, or create new knowledge.
- *A document, information and knowledge are structured.* A document is structured for multiple information users. Different types of documents can be structured in different layouts. Information is stored in a variety of formats, such as internal documents, data, books and journals, and all of these formats have some structure. Knowledge is delivered through structured media such as documents.

- *A document, information and knowledge must have reasons to exist.* Both a document and information have a life cycle. If the document and information no longer have any business value, they should be destroyed. Knowledge is formulated and applied by individuals as they do their jobs.
- *The same document, information and knowledge can be used by many people.* A document is often structured for multiple users. The same information can be used simultaneously by many people for different purposes. The same knowledge can also be applied by many people.
- *A document, information and knowledge must be stored somewhere.* A document can be stored in a computer, a file, a cabinet or a bookshelf. Explicit knowledge (information) can be stored in internal documents, books or databases. Tacit knowledge originates and resides in people's minds.

Although there are significant differences between a document, information and knowledge, they are interrelated concepts. A document is the container of written information, and people create a document by putting information in the document together with their knowledge. Information affects knowledge and *vice versa*. As discussed in section 3.3, the spiral that operates between tacit and explicit knowledge (information) continually effecting new knowledge among work groups creates the energy and innovation that characterizes an active knowledge-intensive and knowledge-creation organization. Tacit knowledge and information interact between each other through internal and external processes within and among people in an organization. As mentioned in section 3.2, information is a representation of knowledge. Knowledge is expressed, described or represented in some physical way as a document. Any such expression, description, or representation is information.

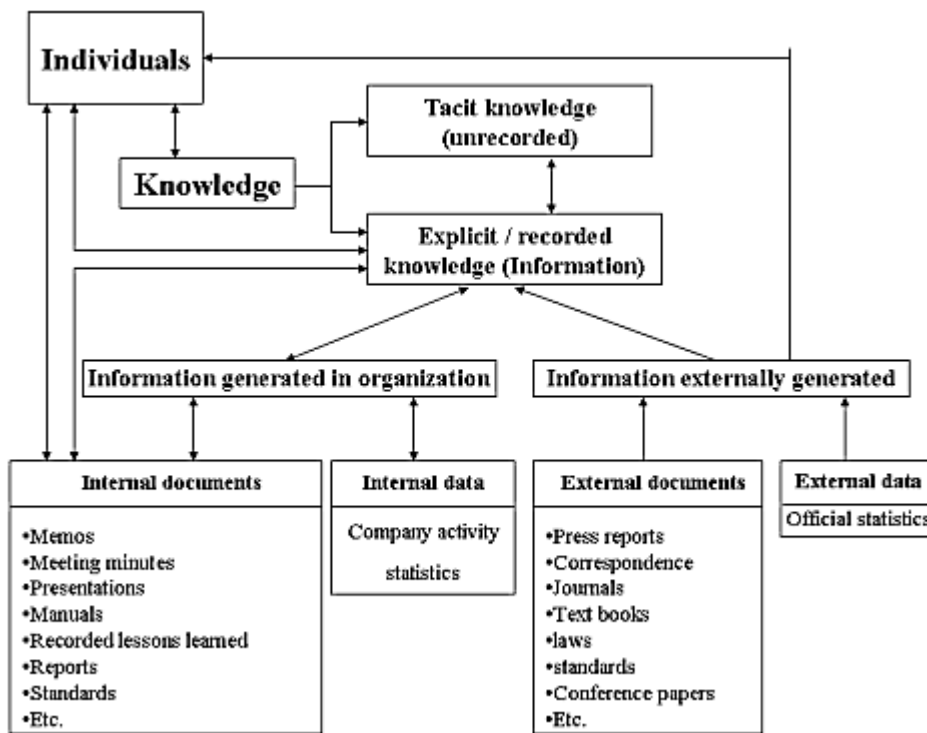
Based on the above discussion and analysis of primary sources of information (see Figure 1) and the process of tacit-explicit knowledge conversion (see Figure 2), the relationships between documents, information and knowledge are illustrated in Figure 3.

Cleveland (1995) indicates that 80% of corporate information resides in documents. Documents are the main containers of organizational information. An organization uses two kinds of information, namely internal and external. Information generated in an organization is mainly stored in internal documents; information externally generated comes from external documents such as books and journals. Knowledge includes two types of knowledge: explicit knowledge (information) and tacit knowledge. Explicit knowledge (information) is delivered through structured media such as documents.

Knowledge is of no organizational value as long as it remains inactive. One action, often seen in an organizational context, is the creation of information repositories such as documents. The organization can learn where certain kinds of knowledge reside and thereby leverage the tacit knowledge of its members. Individuals benefit both by being able to find knowledgeable colleagues and by being identified as knowledgeable themselves. Here, individuals are the 'glue' that links a document, information and knowledge to benefit the organization and themselves.

Figure 3 illustrates that the relationships between internal documents, information and knowledge are reciprocal rather than one-way. As discussed in section 3.3, the interaction between tacit knowledge and information is ongoing through internal and external processes within and among people in an organization.

Figure 3 Relationships between documents, information and knowledge



[top](#)

4 Document management, information management and knowledge management

4.1 Document management

Every organization produces documents for internal and external usage. Documents are the natural by-product of the activities of an organization. Efficient management of documents is crucial to the success of any organization. The need for greater efficiencies in handling the increasing number of documents to gain an edge on the competition has fuelled the rapid development of document management systems over the last few years.

In the broadest sense, document management is not new – it goes on all the time in any organization. A simple example of document management is a paper-based filing system. However, digital technologies have brought new meaning to document management. Wiggins (2000:2) considers document management as just one component of information or knowledge management or of business process re-engineering. Thus when managing documents it is important to understand the wider issues of information or knowledge management within the organization. Some definitions of document management (Computer Desktop Encyclopedia [Online]; Raynes 2002) are confined to the management of electronic documents and assume that all paper documents can be converted to an electronic format (e.g. an image).

A definition of document management should address both electronic and paper documents through their life cycle. The authors propose a definition of document management as follows:

Document management is the process of managing paper and electronic documents through their life cycle from inception through creation, review, storage and dissemination all the way to their deletion by using an electronic document management system and skilled information worker. The aim of document management is to effectively handle business documents to gain an

edge on the competition for the organization.

4.2 Information management

The amount of information obtained increases on a daily basis, and for many people and most organizations the mass of available information has become overwhelming. A conscious management process is needed to determine what information is of value and how to manage available information effectively.

Information management is increasingly applied to the task of overseeing the integration of computer-based and paper-based, internally and externally derived information, from a wide range of sources, to support the functions of the business. In the literature, information management is often used as a synonym for information resource management, information systems, information technology, data management and system engineering (Boon 1990; Dias 2001). In fact, information management is much broader than that. Modern information management uses information technology, concepts of information and computer science, cybernetics, systems engineering, office automation, management information systems and business and management principles to plan, manage and control information for an organization.

Information management has been discussed mainly from within an organizational context. Information is usually implemented for the benefit of the organization on various organizational levels such as corporate strategic, organizational, operational and personal levels. The idea underlying information management is that just as an organization purposefully and systematically manages information similar to other assets such as human resources and financial assets (Choo 2004). A definition of the term information management can be formulated as follows:

Information management involves a few different subject fields such as information systems, information science, computer science/informatics and management. It builds on the knowledge of these fields and addresses the problem of information as an essential resource. It uses technology and techniques to effectively manage internal and external information resources throughout the information life cycle.

4.3 Knowledge management

Knowledge management is emerging as a key concern of organizations. Both business and academic communities believe that an organization can sustain its long-term competitive advantage by leveraging knowledge. The intention of knowledge management is to manage knowledge practically and effectively to reach broad strategic and operational objectives.

Knowledge management involves a variety of disciplines, it is often integrated with a range of business and academic disciplines including human resource management, organizational learning, strategic planning, communications, business management, change management, information management, document management, information technology, philosophy and sociology (Standards Australia 2003:5).

Knowledge management has been discussed mainly from management and process perspectives within an organizational context, and is usually implemented for the benefit of the organization (McInerney 2002; Ponelis and Fairer-Wessels 1998; Rowley 1999). A definition of knowledge management is formulated as follows:

Knowledge management is a multi-disciplined approach to accomplishing

organizational objectives by making knowledge accessible to the people in the organization through the structuring of people, technology and knowledge content. It encompasses both the management of information (explicit knowledge) and management of individuals with specific abilities (people with tacit knowledge).

4.4 Interrelationships between document management, information management and knowledge management

The literature review reported in the previous sections shows that document management, information management and knowledge management are interrelated concepts within an organization. The interrelationship depends on the definitions of these core constructs and even more fundamentally on documents, information and knowledge. To identify the interrelationship between document management, information management and knowledge management, it is necessary to determine whether there are any differences and/or similarities between them. If so, what are these differences and/or similarities? The answer to these questions can be found by comparing the three core constructs. The comparison is summarized in Table 2.

As indicated in Table 2, there are significant differences between document management, information management and knowledge management, but also some similarities between them.

Table 2 Comparison of document management, information management and knowledge management

	Document management	Information management	Knowledge management
Definition	Process of managing paper and electronic documents through their life cycle by using an electronic or a manual system and skilled information worker	Addresses the problem of information as an essential resource which must be effectively and efficiently managed at different organizational levels by using information technology and techniques to effectively manage internal and external information resources through the information life cycle	A multidisciplinary approach to accomplishing organizational objectives by making knowledge accessible to the people in the organization through the structuring of people, technology and knowledge content
Business objective(s) served	<ul style="list-style-type: none"> • To leverage the information in documents for optimal return on investment • To ensure accessibility to information at all times 	<ul style="list-style-type: none"> • To cost-effectively manage and use information resources and technologies • To avoid duplicated information and to consolidate and manage information overload problems 	<ul style="list-style-type: none"> • To improve overall business performance • Sharing of best practice • To accomplish organizational objectives

	<ul style="list-style-type: none"> • To accomplish organizational objectives 	<ul style="list-style-type: none"> • To accomplish organizational objectives 	
Functions	<ul style="list-style-type: none"> • Managing paperwork by tracking its movement into, within and beyond the organization and its integration with other information media and information systems • Effectively managing documents in electronic form 	<ul style="list-style-type: none"> • The functions of information management are dependent on the level. Only one function is given here for each different level • Corporate strategic level: Determining strategic information needs • Organizational level: determining organizational information and marketing needs, information processes and information flow • Operational level: generating information • Personal level: arranging, making accessible, protecting and storing information 	<ul style="list-style-type: none"> • Capturing tacit knowledge and making it available as explicit knowledge in documents or repositories • Providing access to knowledge and facilitating its transfer among individuals • Creating a knowledge environment conducive to more effective knowledge creation, transfer and use • Managing knowledge as an asset and recognizing the value of knowledge to an organization
Focus	The use of recorded information as coherent records of information meaningful to their relevant users	Cost-effective management of information technologies and of both manual and automated information	Organizational development, intellectual capital management and competence management
Relevant disciplines	Information technologies such as image storage and retrieval, workflow management, compound document management and document presentation technologies	Communication theory, information science, information systems, cognitive science, organizational science and document management	Human resource management, organizational learning, strategic planning, communication science, business management, change management, information management, document management, information technology, philosophy, sociology and psychology
Organiza-	Operational level and personal level	All organizational levels	Initially corporate strategic level,

ational level		eventually all organizational levels
---------------	--	---

4.4.1 Differences between document management, information management and knowledge management

The following differences between document management, information management, and knowledge management have been identified:

- *Provide different functions.* Document management is the process of managing paper and electronic documents through their life cycle. Information management addresses the problem of managing internal and external information effectively through the information life cycle. Knowledge management is a multi-disciplined approach to make knowledge accessible to the people.
- *Focus on different areas.* Document management focuses more on the use of recorded information. Its focus of attention includes administrative control, physical storage, file classification and retention. Information management has its primary focus on cost-effective management of information technologies in organizations. It also focuses on both manual and automated information processes. The focus of knowledge management has shifted towards organizational development, intellectual capital management, and competence management.
- *Involve different disciplines.* Document management only involves making it possible to effectively track documents. Information management involves disciplines such as communication, information science, information systems, cognitive science, organizational science and document management. Although information management forms a large component of knowledge management, knowledge management goes beyond information management in several ways such as knowledge creation, knowledge application and use, and human element.
- *Different organizational levels involved.* Document management deals with how to effectively track documents in organizations. It stops at the operational and personal levels, to use the available means to manage the internal and external documents. As shown in Table 2, different levels have different functions in information management. Knowledge is a critical asset for an organization, but its effective management requires investment. Knowledge management is expensive. It definitely requires top management support. To manage knowledge effectively, all levels should be involved.

4.4.2 Similarities between document management, information management and knowledge management

Document management, information management and knowledge management are similar in the following aspects:

- *All three approaches contribute to business efficiency and effectiveness.* Document management contributes to business efficiency and effectiveness through organising business information properly to promote faster and more effective retrieval of documents and information. Information management contributes to business efficiency and effectiveness by cost-effectively managing and using information resources and technologies. Knowledge management improves business efficiency and effectiveness through sharing of best practice and successful innovation.
- *All three approaches consider the processing of information in some ways.* Document management provides means to integrate information holding media and information systems to help the potential users effectively retrieve the information. Information management centres on recording and processing information. Knowledge management encompasses both the management of information (explicit knowledge)

- and management of individuals with specific abilities (tacit knowledge).
- *All three approaches use information technologies as enabler.* Document management involves the integration of new and existing information technologies to enable the potential users to achieve their business objectives. Again, the prime focus of information management is to cost-effectively manage and use information resources and technologies. Knowledge management involves information technologies and knowledge-based or information systems to enable people to capture, share and distribute their knowledge.
 - *All three approaches require skilled, knowledgeable workers.* Information technologies are just tools to enable people to manage their tasks more effectively. People are in charge of managing documents, information and knowledge. To manage documents, information and knowledge effectively and properly, knowledgeable workers are required. Knowledgeable workers must have strong critical thinking skills; in particular, they must have a well-developed ability to evaluate the validity and reliability of information obtained from unfamiliar sources.

The similarities between document management, information management and knowledge management show that there are overlaps between them.

Document management is seen as one of the contributors to business efficiency and effectiveness. It should take its place alongside other candidate information system investments having the same aim and be considered in the context of a broader information management strategy. Snowden (2002) indicates that organizations have increasingly discovered that a tacit and explicit distinction tends to focus on the containers, namely documents, rather than the thing contained.

Traditional, technology-driven approaches to knowledge management has focused on the capturing, storing and sharing of explicit knowledge (or information) presented in the form of documents. This is the area that intranet technology, document management and information management has traditionally focused on (Computerweekly 2000). This shows that traditional ways of document, information and knowledge management are shared activities.

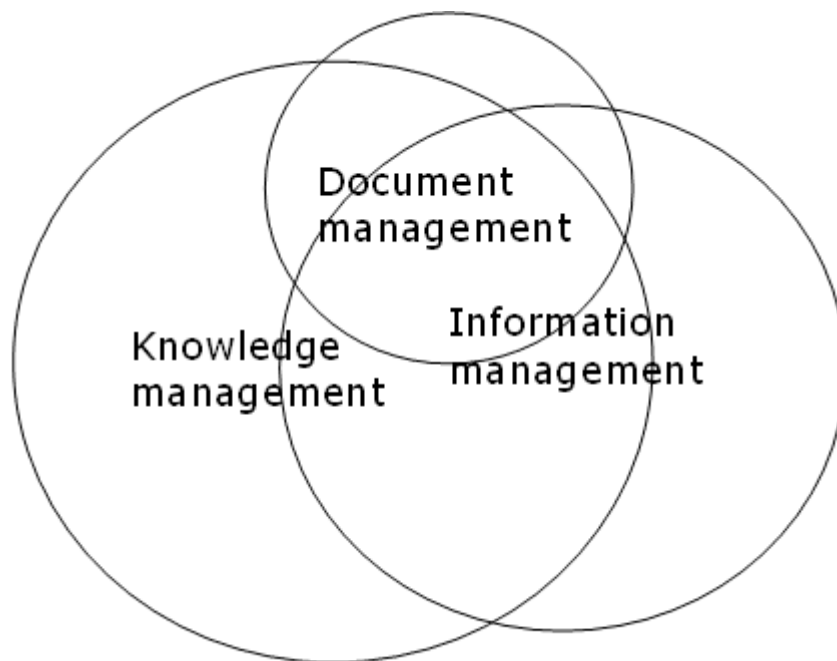
Ponelis and Fairer-Wessels (1998:3) indicate that information management is seen as a subdivision of knowledge management. Knowledge creation is the process of adding value to information. The activities for information and knowledge management can be expected to correlate. The absence of proper information management programmes and procedures will ensure the failure of knowledge management. Knowledge management is an added dimension, intensifying the need for the integration and management of all three (documents, information and knowledge) within the organization.

Davenport and Marchand (2000) argue that there is a large component of information management in knowledge management, and that much of what passes for the latter is really the former. They also point out that many knowledge management projects have a significant element of information management since people need information about where knowledge resides, and to share knowledge they need to transform it into more or less transient forms of information. In fact, good information management is seen as the essential prerequisite for knowledge management strategies. Knowledge management has two distinctive tasks: to facilitate the creation of knowledge and to manage the way people share and apply it.

Based on the above discussion, the interrelationships between document management, information management and knowledge management are illustrated in Figure 4. Figure 4 shows that document management, information management and knowledge management are not considered separate from each other in terms of their focus; rather, there are

significant overlaps between them.

Figure 4 Interrelationship between document management information management and knowledge management



[top](#)

5 Conclusion and recommendations

The aim of this research was to identify the interrelationship between document management, information management and knowledge management. To achieve this aim, a literature review on the three fields – document management, information management and knowledge management – was conducted in order to examine the nature of the three core constructs and their fundamental concepts, namely a document, information and knowledge. To determine the interrelationship between a document, information and knowledge together with document management, information management and knowledge management, the similarities, differences and overlaps were identified.

The following conclusion was reached from the research: there are significant overlaps and interrelationships between document management, information management and knowledge management.

The overlapping relationship between document management, information management and knowledge management implies that organizations that wish to use document management, information management or knowledge management to accomplish their business objectives should not separate them from each other but rather join them into an overlapping and holistic whole. The following procedures are recommended:

- Develop a filing plan and implement it consistently for electronic and paper-based documents to prepare the organization for implementing an electronic document management system (EDMS). A good EDMS can enable people to actively work together based on the information available to them, to facilitate the documentation of their experiences and, in the process, unlock organizational knowledge.
- Provide the information infrastructure to enable people to capture, store and share

explicit knowledge (information) presented in the form of documents; meanwhile provide an environment and infrastructure where knowledgeable individuals feel able to share their tacit knowledge with their colleagues.

- Train people to become knowledge workers and reward skilled knowledge workers for sharing their knowledge. Information technologies are just tools to enable people to manage their tasks more effectively. People are in charge of managing documents, information and knowledge. To manage documents, information and knowledge effectively, knowledge workers are required.

[top](#)

6 Note

The article is based on Xiang-Hua Cathy Chen's mini-dissertation for Master of Information Technology at the Department of Information Science, University of Pretoria.

[top](#)

7 References

Belkin, N.J. 1978. Information concepts for information science. *Journal of Documentation* 34(1):55-85.

Boon, J.A. 1990. Information management: an educational perspective. *South African Journal of Library and Information Science* 58(4):319-326.

Broadbent, M. 1998. The phenomenon of knowledge management: what does it mean to the information profession? *Information Outlook* 2(5):23-35.

Buckland, M.K. 1991. Information as thing. *Journal of the American Society for Information Science* 42(5):351-360.

Buckland, M.K. 1997. What is a 'document'? *Journal of the American Society for Information Science* 48(9):804-809.

Choo, C. 2004. *What is information management?* [Online]. Available WWW: <http://choo.fis.utoronto.ca/Imfaq/> (Accessed 26 August 2004).

Cleveland, G. 1995. Overview of document management Technology. In: *International Federation of Library Associations and Institutions Universal Dataflow and Telecommunications Core Programme Occasional Paper, June 1995*. Ottawa: National Library of Canada:1-5.

Computer Desktop Encyclopedia. [Online]. Available WWW: <http://www.computerlanguage.com> (Accessed 22 July 2004).

Computerweekly. 2000. *This is a management issue, not an IT one*. [Online]. Available WWW: <http://www.computerweekly.com/Article23830.htm> (Accessed 15 October 2004).

Davenport T.H. and Marchand, D.A. 2000. Is KM just good information management? In: Marchand, D.A., Davenport T.H. and Dickson, T. (eds.). *Financial Times mastering information management*. London: Financial Times/Prentice Hall:165-169.

Davenport, T.H. and Prusak, L. 1998. *Working knowledge: how organisations manage what*

they know. Boston: Harvard Business School Press.

Dias, C. 2001. Corporate portals: a literature review of a new concept in information management. *International Journal of Information Management* 21(4):269-287.

Introna, L.D. 1997. *Management, information and power: a narrative of the involved manager*. London: Macmillan.

Kaye, D. 1995. The nature of information. *Library Review* 44(8):37-48.

Kirk, J. 1999. Information in organisations: directions for information management. *Information Research* 4(3). [Online]. Available WWW: <http://www.shef.ac.uk/is/publications/infres/paper57.html> (Accessed 1 September 2004).

Liu, Z. 2004. The evolution of documents and its impacts. *Journal of Documentation* 60 (3):279-288.

Madden, A.D. 2000. A definition of information. *Aslib Proceedings* 52(9):343-349.

McCreadie, M. and Rice, R.E. 1999. Trends in analyzing access to information. Part I: Cross-disciplinary conceptualizations of access. *Information Processing and Management* 35 (1):45-76.

McInerney, C. 2002. Knowledge management and the dynamic nature of knowledge. *Journal of the American Society for Information Science and Technology* 53(12):1009-1018.

Ponelis, S. and Fairer-Wessels, F.A. 1998. Knowledge management: a literature overview. *South African Journal of Library and Information Science* 66(1):1-9.

Raynes, M. 2002. Document management: is the time now right? *Work Study* 51(6):303-308. Tonbridge Wells: MCB University Press.

Rowley, J. 1999. What is knowledge management? *Library Management* 20(8):416-419.

Rumizen, M.C. 2002. *The complete idiot's guide to knowledge management*. Madison: CWL Publishing Enterprises.

SAJIM Editorial. 2003. In need of document management competencies. *South African Journal of Information Management* 5(4):Editorial. [Online]. Available WWW: <http://www.sajim.co.za>.

Snowden, D. 2002. Complex acts of knowing: paradox and descriptive self-awareness. *Journal of Knowledge Management* 6(2):100-111.

Standards Australia. 2003. The interim Australian standard on knowledge management. *Australian standard AS 2037(Int)-2003*. Sydney: Standards Australia.

Wiggins, B. 2000. *Effective document management: unlocking corporate knowledge*. Aldershot, Hampshire: Gower Publishing.

Disclaimer

Articles published in SAJIM are the opinions of the authors and do not

necessarily reflect the opinion of the Editor, Board, Publisher, Webmaster or the Rand Afrikaans University. The user hereby waives any claim he/she/they may have or acquire against the publisher, its suppliers, licensees and sub licensees and indemnifies all said persons from any claims, lawsuits, proceedings, costs, special, incidental, consequential or indirect damages, including damages for loss of profits, loss of business or downtime arising out of or relating to the user's use of the Website.

[_top](#)



ISSN 1560-683X

Published by [InterWord Communications](#) for Department of Information and Knowledge Management,
University of Johannesburg