

Introduction

“Thinking for a Living.” More and more of us are paid to think.

Men and women always think and have had thoughts.

Until now, few had the luxury of being paid to think.

This book is mostly about work. This particular kind of work requires thinking. So, a few words at the beginning about thought and what it is will put us on the road to understanding knowledge work.

Thinking involves language. One of the main functions of thinking is to articulate and make explicit what we take for granted. In knowledge management, what we take for granted is called tacit knowledge. Thinking for a living is done for a purpose – to get something done and to do work.

Knowledge and Management

This book is not only about work, but is also about knowledge and how it is managed. Therefore it is also a book on knowledge management. The term “knowledge management” is used by many different disciplines. When my colleagues in the information world first started talking about knowledge management twenty years ago, it made little sense to me. How can knowledge be managed? I can tell someone what I believe and share the evidence I have which justifies my belief that the knowledge is true. However, information alone does not give anyone knowledge. It is just information about what I believe. A knowledgeable person can also share with another person how to do something. In order for that person to know how to do something, however, he or she needs to be able to do it himself or herself.

Knowledge combines, in its very being, theory and practice. Without theory, what we produce is blind. Without practice, what we think is useless. Work, above all, is about creating useful things.

This understanding and definition of knowledge has a long tradition in philosophy. Information professionals have only recently begun to think about knowledge – what it is and how it is created, lives, and dies.

Information professionals generally agree that information is organized and structured data. Information is about something. It is not just raw data. Information makes sense because of its context, the community in which it was developed.

Philosophers and Knowledge

Philosophers have not reflected much on information – what it is, its character and how it relates to other, more studied terms and concepts such as experience, reason, faith, and wisdom.

For centuries, philosophers in the Western traditions thought about and wrote about knowledge and its nature. What is striking is that philosophers, by and large, have a fairly uniform idea of what knowledge involves even though they have great disagreements and sometimes confusion about the source and nature of knowledge.

For more than two thousand years, knowledge has been understood as “justified true belief”. Philosophers have a whole field called epistemology, the theory of knowledge. Even though there are many unresolved questions in that field, the definition and understanding of what knowledge is remains fairly constant.

“Managing” knowledge does not make much sense if we use the philosophical definition of knowledge because it is not possible to “manage” beliefs. Beliefs, unlike information, cannot be collected, stored and retrieved. We can have information about beliefs and manage that information, but beliefs themselves are not manageable. We should say that, “My knowledge is information for you.” This formulation enables us to see the relationship between knowledge and information. Information management has to do with making the content of a body of knowledge accessible for those who need it to do their work.

I use information to make knowledge. My judgments (knowledge) may be of interest for you in your work. For you it will be information, hopefully useful information.

Knowledge management is relevant today because more and more work consists of creating knowledge. Complex bodies of knowledge exist and are transmitted through various means to other members of relevant communities of practice. The emergence of information technologies enables us to assemble, store, retrieve, and analyze information in ways that were impossible only a few generations ago. These tools enable knowledge workers to have immediate access to the information they need to do their work. These technologies enable the automation that make great increases in efficiency in knowledge work. They are the tools that enable the coming age of knowledge work.

Knowledge is the result of the work of previous and current communities of scientific enquirers. Their conclusions are based on the best available evidence at the time they made their judgment. Knowledge resides in communities of practitioners who share a common set of beliefs.

Knowledge is the justified true belief that communities of practice settle on in their work. Making knowledge generally requires a plethora of information. Experience and reason are not enough for the production of knowledge. Knowledge is the product of work. Information is the raw material of that work.

Knowledge management means at least four different things to the growing number of professions trying to get a handle on the emerging new kind of work:

1. Information service professionals (librarians, records managers, and archivists) often equate information management and knowledge management.
2. Engineers and information technology professionals see knowledge management as technical “solutions” – software applications that “manage” knowledge.
3. Anthropologists and learning theorists see knowledge management as the way to acquire and pass on knowledge.
4. Management theorists emphasize the “management” part of knowledge management and use the term to refer to how to control and organize the work of an organization.

Each of these fields have their own literature and language. Each bring something to the discussion of knowledge management. In our discussions we need to take into account all of these various meanings and uses.

Librarians, Records Managers, and Archivists

Guy St. Clair has written extensively about the information service professions, which he calls “knowledge services.” His definition of information management is fairly standard. He says it is concerned with the “acquisition, arrangement, storage, retrieval and use of information to produce knowledge”. (St. Clair 2003, 97) I would point out that the acquisition, arrangement, storage, retrieval, and use of information does not “produce” knowledge. Knowledge is made by knowledge workers who use information to arrive at justified true beliefs.

Information management deals with managing data in a context, which focuses on the content of documents. The information service profession fields also understand the importance of a “body of knowledge”, which is the knowledge associated with a profession. A body of knowledge is a term used by settled sciences, such as physics and chemistry, as well as in professions, such as medicine and law.

The information professions, each in their own way, identify what is needed and not just what is wanted. The skill to identify needs and find ways to meet them is one of the most important attributes of a knowledge worker. The librarian

points readers to their book by conducting an interview. A reference interview with a skilled librarian finds and delivers information one needs and not just what the reader asks for or wants.

The librarian also collects and organizes information, but always with the user's needs foremost. The librarian follows the Laws of Library Science articulated by Ranganathan, the leading theorist in the field of library science.¹

While the librarian seeks to meet a current information need, the archivist has a longer view. The archivist identifies, collects, and preserves information that may be needed far in the future. The archivist looks at the whole human enterprise and attempts to determine what information is important enough to preserve and then how best to organize and preserve it so that it is available for users as far into the future as we can see. The archivist has faith that one day the things preserved will be valued. It is not easy to tell, however, what is important and what is not. It is even harder to tell what might be important in the future.

The records manager straddles the worlds of information management, business, and organizational operations. They determine what will be preserved, not just in the long run, but in the immediate future, based on functional, legal, and historical requirements. Records managers understand the importance of identifying what an organization needs to keep and what needs to be thrown away.

The records manager seeks to identify and preserve the best available evidence of actions. Records managers function in the world of business, governments and organizations. They seek to identify which information is of value for re-use.

Records managers were once essential and powerful players in governments. They were the people in the Emperor's and King's court who could read and often became the Chancellors who took the words of the sovereign and recorded and preserved them. Even more importantly, they authenticated information by putting the stamp of approval on the document, thereby making it a "record". Both in the East and the West, the records manager preserved the accomplishments of the government.

A record is evidence of a transaction. Its value often lies in the context in which it is created and maintained. Provenance² is particularly important for a records manager. The records manager disposes of the vast majority of material that accumulates which does not provide needed evidence. Without a records manager to authenticate the best available evidence, we are submerged with

¹ We will speak more about Ranganathan's laws later.

² As used in records manage, provenance is the origin of the record and its relationship to other records. The art world uses the term to the chronology of the ownership of an art object.

obsolete data and information. What we need are products of work that are of value to others.

Librarians, archivists, and records managers are the triumvirate of the information professions who all share a common focus on what information is needed. The concept of need is essential. Identifying need by sorting out what is useful and not useful requires skills that are too often not appreciated in our societies. Identifying, preserving, and making information available are honorable tasks. Information professionals are one kind of knowledge worker. Information professionals manage information not just for individuals, but also for societies, cultures, and institutions.

Engineers and Information Technology Professionals

Unlike librarians, archivists, and records managers, engineers and information technology professionals generally see knowledge management as a technology that develops and delivers knowledge management systems. These systems are technologies, generally software, that enable an organization to use information more extensively by data mining, and by using collaborative tools and telecommunications tools. Web technologies give us new and exciting ways to manage information more robustly. The information technologists focus on creating an integrated digital environment that makes full use of the advances in communications and computer technology to manage information.

These two groups, the information technology and the information service professionals, both recognize an important part of the picture. As far as they go, they are correct. However, in their literature and in their practice they make the mistake of using information technology and knowledge management more or less interchangeably and they see knowledge management as simply an extension of what they have been doing for years.

Managing information technology and managing knowledge are two distinctly different activities. Knowledge requires judgment. As we shall see, a knowledge statement is an answer to the question: “Is it a good idea to x or y or ...?” Knowledge management cannot be automated because it requires discernment, judgment, and decision-making. What are often now called “knowledge management” systems are increasingly efficient and robust information management systems. Managing knowledge is qualitatively different from managing information. However, information systems are important tools for knowledge management; making knowledge is not merely a technical process.

“Knowledge management”, as it is often used by information professionals and information technologists, is more appropriately called information manage-

ment. Finding patterns is an important part of information management, but patterns alone do not give us knowledge. Making knowledge requires thinking and coming to conclusions based on available evidence.

Anthropologists and Learning Theorists

This third group approaches the topic of knowledge management from a different perspective. They focus on learning how workers acquire knowledge. They focus on the community of practice,³ one of the key concepts that enables us to understand the nature of knowledge work. (Lave 1993) A related notion, that of the learning organization, focuses on the importance of on-going learning that replaces traditional training. (Senge 1990)

Those interested in learning view knowledge as a social product that is handed down from generation to generation. For them knowledge is often more about knowing how to do something than about managing information.

Knowledge work takes the knowledge and the common sense that a culture or society or profession has accumulated and uses it to create new products. Information is the key raw material used in creating knowledge management and refining and changing what has been taught by others. Learning theorists focus on the process by which people take in information and apply judgment to become knowledgeable.

The anthropologists and learning theorists contribute the important concept of a community of practice to our understanding of knowledge management.

Management Theorists

Management theorists emphasize the management part of the term and look at knowledge management from the world of management theory. Peter Drucker introduced the notion of the knowledge worker more than four decades ago. However, some of the best work on the impact on management is by Ijuitsu

3 Communities of practice are groups of people who work for a common purpose within an organization, or across organizational boundaries. These communities may be highly formal with settled and organized bodies of knowledge or they may be informal communities with little structured bodies of knowledge. Communities united by a common work and a body of knowledge.

Nonaka, the Japanese theorist who brought the term “Ba”⁴ to the discussion of business theory and practice. The business theorists speak of the importance of making the tacit knowledge of an organization explicit and developing ways to capture tacit knowledge of organizations.

An adequate understanding of knowledge management encompasses and integrates all of the various professions and disciplines that use the term. Each professions and disciplines bring new concepts such as integrated digital environment, knowledge work, and communities of practice, which help us understand and conceptualize the transformation in work that is underway.

Many people and disciplines observe, discuss, and advocate various kinds of transformation. Integration of a number of concepts from various disciplines and practices is the key to work transformation. As the familiar story goes, when a group of blind men touched various parts of the elephant, each described a very different “beast”. One said it was a smooth, pointed animal, another said it was a rough, pliable, thick-skinned one, a third said “no” it was a snake-like beast, long and slim, while another opined that it was massive, thick, and tough. Only a sighted-man’s provides the whole view of the elephant.

The works in anthropology, education, philosophy, business management, psychology, cybernetics, and information technology all contribute to our understanding of knowledge and work. It is the integration of these fields that provides the theory and practice of the new culture that supports knowledge work.

⁴ The Japanese term “Ba” goes beyond cooperation to collaboration. “Ba” describes the environment in which work takes place.