# Chapter 1.11
# Knowledge Management

**Petter Gottschalk**
*Norwegian School of Management BI, Norway*

Knowledge is an important organizational resource. Unlike other inert organizational resources, the application of existing knowledge has the potential to generate new knowledge. Not only can knowledge be replenished in use, it can also be combined and recombined to generate new knowledge. Once created, knowledge can be articulated, shared, stored, and re-contextualized to yield options for the future. For all of these reasons, knowledge has the potential to be applied across time and space to yield increasing returns (Garud & Kumaraswamy, 2005).

The strategic management of organizational knowledge is a key factor that can help organizations to sustain competitive advantage in volatile environments. Organizations are turning to knowledge management initiatives and technologies to leverage their knowledge resources. Knowledge management can be defined as a systemic and organizationally specified process for acquiring, organizing, and communicating knowledge of employees so that other employees may make use of it to be more effective and productive in their work (Kankanhalli, Tan, & Wei, 2005).

Knowledge management is also important in interorganizational relationships. Interorganizational relationships have been recognized to provide two distinct potential benefits: short-term operational efficiency and longer-term new knowledge creation. For example, the need for continual value innovation is driving supply chains to evolve from a pure transactional focus to leveraging interorganizational partnerships for sharing information and, ultimately, market knowledge creation. Supply chain partners are engaging in interlinked processes that enable rich (broad-ranging, high-quality, and privileged) information sharing, and building information technology infrastructures that allow them to process information obtained from their partners to create new knowledge (Malhotra, Gosain, & El Sawy, 2005).

## CHARACTERISTICS OF KNOWLEDGE

Knowledge is a renewable, reusable, and accumulating resource of value to the organization when applied in the production of products and services. Knowledge cannot, as such, be stored in computers: it can only be stored in the human brain. Knowledge is what a knower knows; there is no knowledge without someone knowing it.

The need for a knower in knowledge existence raises the question as to how knowledge can exist outside the heads of individuals. Although knowledge cannot originate outside the heads of individuals, it can be argued that knowledge can be represented in and often embedded in organizational processes, routines, and networks, and sometimes in document repositories. However, knowledge is seldom complete outside of an individual.

In this book, knowledge is defined as information combined with experience, context, interpretation, reflection, intuition, and creativity. Information becomes knowledge once it is processed in the mind of an individual. This knowledge then becomes information again once it is articulated or communicated to others in the form of text, computer output, spoken or written words, or other means. Six characteristics of knowledge can distinguish it from information: knowledge is a human act, knowledge is the residue of thinking, knowledge is created in the present moment, knowledge belongs to communities, knowledge circulates through communities in many ways, and new knowledge is created at the boundaries of old. This definition and these characteristics of knowledge are based on current research (e.g., Poston & Speier, 2005; Ryu, Kim, Chaudhury, & Rao, 2005; Sambamurthy & Subramani, 2005; Tanriverdi, 2005; Wasko & Faraj, 2005).

Today, any discussion of knowledge quickly leads to the issue of how knowledge is defined. A pragmatic definition defines the topic as the most valuable form of content in a continuum starting at data, encompassing information, and ending at knowledge. Typically, data is classified, summarized, transferred, or corrected in order to add value, and become information within a certain context. This conversion is relatively mechanical and has long been facilitated by storage, processing, and communication technologies. These technologies add place, time, and form utility to the data. In doing so, the information serves to inform or reduce uncertainty within the problem domain. Therefore, information is united with the context, that is, it only has utility within the context (Grover & Davenport, 2001).

Knowledge has the highest value, the most human contribution, the greatest relevance to decisions and actions, and the greatest dependence on a specific situation or context. It is also the most difficult of content types to manage, because it originates and is applied in the minds of human beings. People who are knowledgeable not only have information, but also have the ability to integrate and frame the information within the context of their experience, expertise, and judgment. In doing so, they can create new information that expands the state of possibilities, and in turn allows for further interaction with experience, expertise, and judgment. Therefore, in an organizational context, all new knowledge stems from people. Some knowledge is incorporated in organizational artifacts like processes, structures, and technology. However, institutionalized knowledge often inhibits competition in a dynamic context, unless adaptability of people and processes (higher order learning) is built into the institutional mechanisms themselves.

Our concern with distinctions between information and knowledge is based on real differences as well as technology implications. Real differences between information and knowledge do exist, although for most practical purposes these differences are of no interest at all. Information technology implications are concerned with the argument that computers can only manipulate electronic information, not electronic knowledge.