

Chapter XI

Technology Trends in Knowledge Management Tools

G. Balmissé

KnowledgeConsult, France

D. Meingan

Knowledge Consult, France

K. Passerini

New Jersey Institute of Technology, USA

ABSTRACT

A large number of tools are available in the software industry to support different aspects of knowledge management (KM). Some comprehensive applications and vendors try to offer global solutions to KM needs; other tools are highly specialized. In this chapter, state-of-the-art KM tools grouped by specific classification areas and functionalities are described. Trends and integration efforts are detailed with a focus on identifying current and future software and market evolution.

BACKGROUND AND DEFINITIONS: A FOCUS ON PEOPLE AND CONTEXT

This chapter focuses on presenting the variety of tools currently available to support KM initiatives and discusses trends in the vendors' arena. However, there are many definitions of knowledge (financial, human resources, information systems, organizational behavior, and

strategic management-based definitions) (Alavi & Leidner, 1999) that have resulted in equally many definitions of KM (Davenport & Prusak, 1998; Jennex, 2005). There are many definitions of knowledge (financial, human resources, information systems, organizational behavior, and strategic management-based definitions) (Alavi and Leidner, 1999) that have resulted in equally many definitions of knowledge management (KM) (Davenport and Prusak, 1998; Jennex, 2005). This

Table 1. Knowledge and context relationships

Relationships	Definitions	Examples
$K = I \times U$ where K = Knowledge I = Information U = Use	Knowledge <i>(Interiorized information put to action)</i> \uparrow	I am in Paris today (<i>user context</i>) \downarrow I am going to wear a coat.
$I = D \times C$ where I = Information D = Data C = Context	Information <i>(Data in context)</i> \uparrow	The temperature is 10 ⁰ Celsius today in Paris
	Data <i>(Raw facts)</i>	10 ⁰ Celsius

chapter focuses on presenting the variety of tools currently available to support KM initiatives and discusses trends in the vendors' arena. To place the discussion and classification of the tools within the specific framework and organizational view embraced by the authors, an operational definition of knowledge as *information accumulated and assimilated to implement a specific action* is used. Information is *data within a specific context* and data is the *raw facts, without context* (Binney, 2001; Cohen, 1998; Davenport & Harris, 2001). Table 1 summarizes the relationships among the definitions and provides a practical example to illustrate the link between data, information, and knowledge.

The example in Table 1 embeds a clear distinction: information is not transformed into knowledge unless it is accumulated, learned, and internalized by individuals. In addition, it needs to be translated into specific actions. The transformation of information into knowledge is mediated by the "individual actor," who adds value to information by creating knowledge (Davenport & De Long, 1998; Kwan & Cheung, 2006). Thus, knowledge is strictly linked and connected to the individual (or group) who creates it, which may cast doubts on the ability of information systems

tools to effectively support KM and perhaps explain some of the failures of the early tools (Biloslavo, 2005; Chua & Lam, 2005).

It follows that the "visible" part of knowledge—what the literature calls explicit as opposed to the tacit dimension of knowledge (Polanyi, 1966)—is only information regardless of the amount of other individual or project knowledge embedded into it. Therefore, the tools to collect, catalogue, organize, and share knowledge can only transfer information (the explicit knowledge) embedded in various forms and types of documents and media. When the transferred information is put back in the context of the individual recipient, its re-transformation occurs when the object of the transfer is put into action.

Figure 1 diagrams this distinction, giving to information systems a specific transfer or transportation role, rather than a substantial knowledge creation capability. Based on the definitions presented in Table 1, the roles of information management and KM are clearly distinct, even if interconnected. The tools for information management are focused on data and information transfer; the tools for KM are focused on assimilation, comprehension, and learning of the information by individuals who will, then, transform data and information into knowledge.

The key difference between information and KM is the role played by the individual actors

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/technology-trends-knowledge-management-tools/29783

Related Content

Expliciting Tacit Knowledge: Exploring an Uncharted Path for a Questionable Trip

George Leal Jamiland Ângela Do Carmo Carvalho Jamil (2017). *Handbook of Research on Tacit Knowledge Management for Organizational Success* (pp. 30-52).

www.irma-international.org/chapter/expliciting-tacit-knowledge/181344

Use of Organizational Memory Systems in a Police Organization

Denise de Cuffa, Rodrigo Kraemerand Andrea Valéria Steil (2018). *International Journal of Knowledge Management* (pp. 37-47).

www.irma-international.org/article/use-of-organizational-memory-systems-in-a-police-organization/210685

Sociofact Theory: The Social Dimension of Knowledge

Uwe V. Rissand Johannes Magenheim (2014). *International Journal of Knowledge-Based Organizations* (pp. 1-16).

www.irma-international.org/article/sociofact-theory/109588

Visualizing Knowledge Networks and Flows to Enhance Organizational Metacognition in Virtual Organizations

Mark E. Nissen (2009). *Connectivity and Knowledge Management in Virtual Organizations: Networking and Developing Interactive Communications* (pp. 74-88).

www.irma-international.org/chapter/visualizing-knowledge-networks-flows-enhance/6947

Technology Transfer and Innovation Management: The Brazilian TTOs Challenges

Luan Carlos Santos Silva, Silvia Gaia, Carla Schwengber ten Catenand Renata Tilemann Facó (2017). *International Journal of Knowledge Management* (pp. 49-64).

www.irma-international.org/article/technology-transfer-and-innovation-management/185764