Chapter XXVI
Technology Trends in Knowledge Management Tools

Gilles Balmisse
KnowledgeConsult, France

Denis Meingan
KnowledgeConsult, France

Katia 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 paper, 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 paper 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,

Table 1. Knowledge and context relationships

Relationships		Definitions	Examples
K= I x U where	K= Knowledge I = Information U = Use	**Knowledge** *(Interiorized information put to action)* ⇑	I am in Paris today (*user context*) ⇓ I am going to wear a coat.
I = D x C where	I = Information D = Data C = Context	**Information** *(Data in context)* ⇑	The temperature is 10^0 Celsius today in Paris
		Data *(Raw facts)*	10^0 Celsius

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 paper 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 operationa 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

Related Content

Research on Hybrid Immune Algorithm for Solving the Location-Routing Problem With Simultaneous Pickup and Delivery
Xiaowei Wang (2022). *Journal of Cases on Information Technology (pp. 1-17).*
www.irma-international.org/article/research-hybrid-immune-algorithm-solving/295253

Planning and Managing ICT Change
S.C. Lenny Kohand Stuart Maguire (2009). *Information and Communication Technologies Management in Turbulent Business Environments (pp. 79-95).*
www.irma-international.org/chapter/planning-managing-ict-change/22541

Impediments to the Successful Implementation of ICT
S.C. Lenny Kohand Stuart Maguire (2009). *Information and Communication Technologies Management in Turbulent Business Environments (pp. 157-175).*
www.irma-international.org/chapter/impediments-successful-implementation-ict/22546

Intellectual Property Protection in Software Enterprises
Juha Kettunen (2010). *Information Resources Management: Concepts, Methodologies, Tools and Applications (pp. 2018-2025).*
www.irma-international.org/chapter/intellectual-property-protection-software-enterprises/54584

An Examination of the Correlates of Burnout in Information Systems Professionals
Vikram Sethi, Tonya Barrierand Ruth C. King (1999). *Information Resources Management Journal (pp. 5-13).*
www.irma-international.org/article/examination-correlates-burnout-information-systems/51067