

Preface

Knowledge, being central for business agility and innovation, is a multifaceted phenomenon. It is bound to people as well as manifest in organizations. As such, it has to be considered from various perspectives. This volume tries to capture knowledge-management frameworks and techniques from educational, organizational, economic, technical, and social perspectives.

The contributions cover the following topics:

- Reframing knowledge management
- Enabling knowledge generation and organizational change
- Service and content engineering
- Exchange and sharing
- Analysis and evaluation

The book is organized according to the topics listed above.

Reframing knowledge management means to adapt its techniques to cultural issues and to revisit existing concepts and paradigms. Reframing also helps to find out whether recent advances are still consistent with initial assumptions in the field, such as the spiral processes changing the status of knowledge. The section on reframing comprises culture-specific approaches to knowledge management, e.g., how Chinese enterprises absorb knowledge from external sources, and how they developed culture to facilitate knowledge management processes. Knowledge absorption, application, creation, sharing and integration are vital to sustaining competitive advantage. It can be shown that knowledge management practices are also influenced by local cultures and institutions as well as interactions with the broader international community. Since in many cases knowledge management is closely linked to organizational roles and hierarchical positions in organizations, its techniques should also cope with power structures and power-related aspects, such as leadership and drivers of change. Finally, educational systems need to be revisited to ensure skilled knowledge managers based on holistic curricula.

Enabling knowledge generation and organizational change investigates the conditions to empower people in reflective thinking and to facilitate pre-sensing, both at the individual and the collective level. The paper collection reflects the situation in software development organizations, European approaches to knowledge-intense process and innovation design, Chinese B2B transactions targeting towards the explication of tacit knowledge, cross-organizational networking at the corporate level, and self-reinforcing processes facilitating learning. Each of these contribution describes essential ways of human intervention to enable the creation of collective knowledge. Humans build communities that transform organizations. They are faced with novel models of competition, such as inter-mediation, that require novel forms of market access and product development.

Service and content engineering subsumes structural and behavioural aspects of knowledge management in praxi. What type of structural support and which services do we need to create, keep, and explore knowledge? In line with the information perspective that drives knowledge management, the representation of content and corresponding processing schemes enabling intelligent data mining and warehousing have become crucial. Documents can be automatically checked for sound decision making, web sites can automatically propagate information to users in an organization, once the semantics can be covered accordingly. Markup languages are used in several business domains and various functional departments of

organizations, such as Human Resource Management. They enable the specification of ontologies that increasingly become intertwined to represent information in a context-sensitive way. As a consequence, processing those specifications facilitates automated reasoning and decision making. However, the usability of interactive applications, as e.g., provided by the Semantic Web, is still a hot topic of research, since interactive content management is linked to presentation of information, and the navigation in virtual information spaces.

Exchange and sharing are those activities that characterise knowledge-driven collectives. They facilitate the development of common understanding and enable the co-construction of novel products and services. Technical enablers need to integrate traditional content and communication elements with proactive, personalised features. Our success stories stem from service providers and software developers. If collaboration should support knowledge sharing, as the case study of a long-term development team suggests, both, individual's cognitive modes during a complex task, and team aspects of knowledge management for effective exchange have to be taken into account.

Analysis and evaluation deal with various aspects of critically reflecting knowledge management activities in organizations or social systems. As productivity is a major factor for economic success a multi-step analysis helps to assess the work potential of organizations. Referring to a variety of factors, such as knowledge intensity of tasks and the capability to adapt at the organizational level, standards of productive knowledge work can be developed. Crucial to techniques for analysis and evaluation seems to be the capability to determine and measure different types of knowledge as well as the processes of mutual conversion. The various types are part of established routines, structures and processes involved in creating and diffusing knowledge. In particular, knowledge-intensive organizations have to be understood as networks of experts in and beyond the organization. By means of social network analysis for intra- and inter-organizational networks existing and potential external knowledge networks of an organization can be explored. Building ontologies with respect to network competencies can help to cluster information relevant to knowledge acquisition, diffusion, exploration, and distribution automatically. However, practitioners are still challenged to reflect tools, in particular the concepts of knowledge management they implement, since their use is likely to impact business decisions.

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