3.5 Lessons Learned: Requirements for KM Success

Successful knowledge management practices are based on technology, organisation and people as illustrated in Figure 3.5-1.

Technology is needed for the support of KM processes. Organisational aspects lead to a company culture that focuses on the management of its knowledge as a crucial factor for competitiveness. People are the most important factor for KM initiatives – they must accept and 'live' knowledge management.

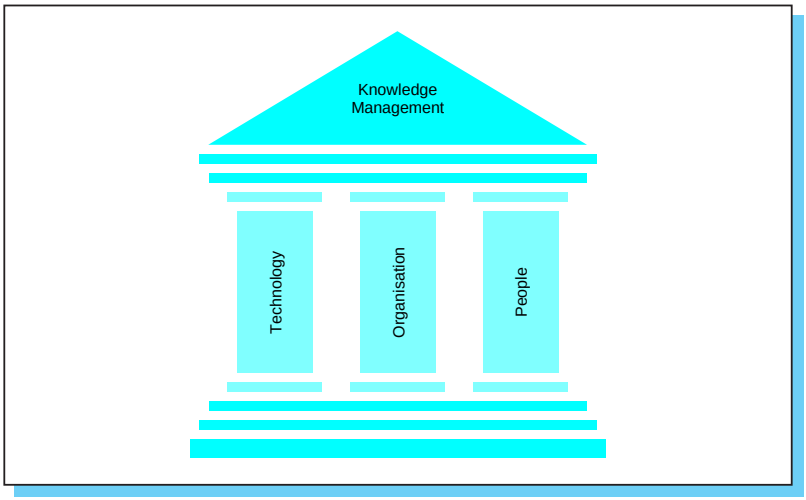

Figure 3.5-1 Basic Conditions of Knowledge Management [Wolf, 1999]

An over-estimation on technology and the negligence of people and processes are often reasons why KM initiatives fail [Grothe et al., 2003]. However, several companies implement KM initiatives primarily focused and based on IT tools as shown in Greenhalgh et al., 2004.

Top management involvement, KM leadership, and organisation culture are the driving factors for KM initiatives [Anantatmula & Kanungo, 2007]. A model of KM enablers and barriers is given in Figure 3.5-2. It should be understood as a summary of important points to be considered during the development and optimisation of KM activities.

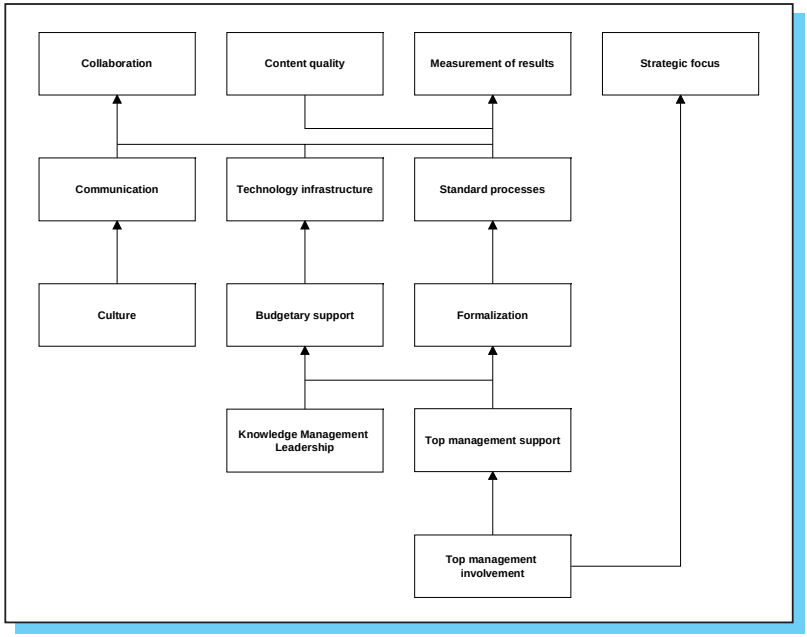

Figure 3.5-2 Model for KM Enablers and Barriers [Anantatmula & Kanungo, 2007]

The company culture must support employees by gathering, distributing and using knowledge. Members of the top management should advise employees to communicate their experiences and knowledge by motivating them [v. Guretzky, 2002].

On the technological side ontologies might be the "Silver Bullet for Knowledge Management and Electronic Commerce" [Fensel, 2003]. Technologies and standards to implement ontologies exist and the concept of Semantic Web enables the combined use of different ontologies. Semantic Web Services might be used as a middleware for interoperable distributed KM software solutions in the future [Fensel et al., 2007]. However, developing a perfect KMS, integrating all relevant IT systems of a company and providing a central point for accessing information, seems to be impossible as described in Section 2.3.1.

Knowledge Management based on Communication

The studies introduced in Section 3.1 show that the current trend goes from storage oriented to collaborative and communication oriented knowledge management.

I postulated the idea “ask somebody who knows it” in all papers (see Appendix A) since 2002. The knowledge broker network approach described in Chapter 4 bases on the principle of communication between humans.

Kuhlen, 2004 postulates a **paradigm shift** from a knowledge warehouse approach towards a communicative collaborative foundation of knowledge management. He labelled this approach the network, the communication or the collaborative paradigm.

The static view of KM in a knowledge warehouse assumes that single authors produce knowledge stored in information containers as books, journals, reports, hypertexts, web sites and other electronic forms. This knowledge is distributed to the interested parties or retrieved by the end-users. Only few people realise the role “author” – all other employees are consumers. [Kuhlen, 2004]

In the communication paradigm all employees produce information and exchange knowledge with other people directly. Special authors or professional media people are not involved in this process. Knowledge and information are in a very dynamic state. Ongoing growth and renewal are characterising the continual process of exchange and communication of knowledge. [Kuhlen, 2004]

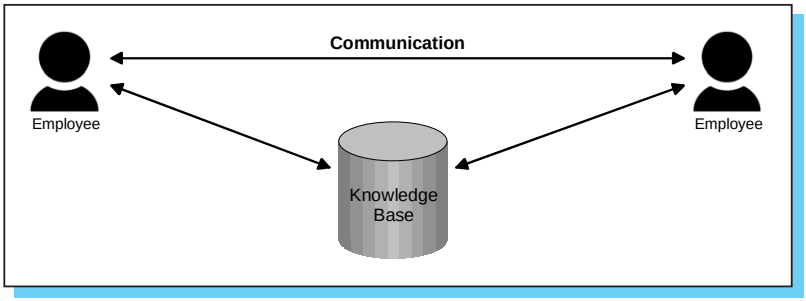

Figure 3.5-3 New Paradigm: Knowledge Communication

Knowledge, defined as an internal cognitive structure of human beings, cannot be managed – but in the communication paradigm exchange and use of knowledge may be supported. The knowledge needed in critical or innovative situations usually already exists. It is stored in knowledge bases or known by human experts. Bringing together the resources and the experts is the aim of cooperation and communication. They can relate existing knowledge to new contexts and to new problems. [Kuhlen, 2004]

While the life time of information is constantly decreasing, new knowledge is often considered to be out of date after a relative short time [Tsai et al., 2004]. By communicating directly with an employee that is an expert on a specific topic an information seeker is provided with up to date information – it does not matter whether information stored in the knowledge base is up to date or not.

In addition, people may discuss on the basis of information stored in a knowledge base, as illustrated in Figure 3.5-3. The same understanding of stored information requires the sharing of a certain knowledge base [Alavi & Leidner, 2001]. Direct communication ensures the same understanding of all people involved. Individuals construct their own reality [Alony et al., 2007] that is harmonised within a group during cooperation and communication. Alony et al., 2007 demonstrated that collaboration is a form of knowledge sharing.

Organisation culture that encourages open and transparent communication among the employees leads to increased collaboration and knowledge sharing [Anantatmula & Kanungo, 2007]. Social and cultural barriers and user resistance arise [Pan et al., 2007] when people work together. The risk of conflicts may be reduced by a sane communicative and cooperative culture [Southon et al., 2002]. In contrast to other statements in literature [Riege, 2005 / Weissenberger-Eibl & Kelm, 2005] employees' willingness to share knowledge in large organisations is not affected by their concerns about the loss of power or job insecurity [Han & Anantatmula, 2007] if they trust the company culture. Trust in colleagues and organisation culture may rise through communication [Southon et al., 2002]. Motivated individuals will perform better if they know that their actions are transmitted to the entire knowledge sharing network [Alony et al., 2007].

Teams and organisational units need effective collaboration and communication. Strong ties between employees are more beneficial for the sharing of tacit knowledge than weak ties [Hansen, 1999]. Stronger relationships among teams ease the process of sharing knowledge [Alony et al., 2007]. Groups generate special competence by day-to-day work. This brings competence of the individuals into action [Zucker & Schmitz, 2000].

Special groups with common interests and common knowledge are so-called "communities of practice" [Wenger, 1998]. Lave & Wenger, 1991 first introduced the concept of community of practice.

Communities of practice can be distinguished within teams and organisational units in companies. They exist in any organisation. [Wenger, 1998] Supporting communities of practice may be a powerful option to knowledge management initiatives: Stephan, 2006 argued that the number of innovations grows as a result of the interaction within communities of practice.

Using the Web 2.0 philosophy, content derived primarily by community contribution of "collective intelligence". This is seen as a driving force behind the evolution of the Internet. [Weiss, 2005] This also might be useful in companies' knowledge management.

The lessons learned concluded in this section lead to the main approach of this thesis, the "Knowledge Broker Network" presented in chapter 4. It implements the postulated paradigm shift towards a communicative collaborative foundation of knowledge management. The exchange of tacit knowledge will be supported by direct communication between people. On the basis of semantic technologies an ontology will be implemented and used for searching the people to communicate with. Communities are used as a basic concept of forming communicating groups of employees.

Nevertheless, the KBN concept is only supporting knowledge exchange and its success depends on the company culture of knowledge sharing and on every employee's willingness to cooperate with others.