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Creating Value through Knowledge Sharing in Inter-organizational Partnerships

**Cultural Pre-requisites for Knowledge Sharing
in Inter-organizational Project Teams**

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Abstract

Especially, SMEs cannot only rely on the knowledge and creativity of members due to their small size. Rather, they engage in inter-organizational project teams in order to satisfy their customers. Although SMEs are said not to implement knowledge management practices systematically, knowledge activities still take place. However, knowledge sharing is a delicate process, even more across organizational boundaries due to a lack of control and high risks. Therefore, favorable cultural antecedents are needed to positively influence the willingness and capability to share knowledge with project team members originating from different companies. Existing studies concerning knowledge cultures have discovered isolated cultural values favorable for individual knowledge sharing in intra-organizational contexts and large enterprises. However, studies taking cultural elements, boundary spanning knowledge sharing, and SMEs into consideration are still missing. To close this gap, a qualitative and inductive study has been conducted in five German SMEs. We researched cultural antecedents for knowledge sharing in inter-organizational project teams. The results provided by the analysis technique of GABEK® indicate that knowledge sharing between SMEs takes place and that several cultural elements foster knowledge sharing across boundaries. The discovered cultural pre-requisites only partly overlap with existing studies of knowledge cultures in intra-organizational contexts.

1. Introduction

For organizations, knowledge constitutes an important intangible asset. Consequently, they pay particular attention to knowledge processes and knowledge management as important enablers for company success and competitive advantage (see e.g., Grant, 1996; Spender, 1996). In the last decades, knowledge management has received considerable attention from both practitioners and researchers (see e.g., studies conducted by Serenko & Bontis, 2004; Matzler et al., 2005). Especially, knowledge sharing is a central process of managing knowledge because it is needed for innovation (e.g., Brown & Eisenhardt, 1995; Verona et al., 2006), organizational learning (Senge, 2006), and the development of capabilities and best practices (von Krogh, 1998; Argote et al., 2000). According to Nonaka and Takeuchi (1995) knowledge sharing is a prerequisite for converting general ideas and concepts into products and services. Consequently, companies capable of transferring knowledge successfully from one unit to another can be expected to perform better.

Especially in times of a highly competitive business setting, it is essential that companies continuously share knowledge in order to sustain the pace of innovation – resulting for example from fast changing technologies and customer needs (Badaracco, 1991; Drucker, 1993). Therefore, companies cannot only rely on the knowledge and creativity of members of the R&D or marketing department, but have to open the innovation process (Chesbrough, 2003). Large companies introduce interdisciplinary work groups where people are sharing their knowledge and expertise in order to cope with complex tasks in the workplaces (see Grant, 1996). However, small and medium sized enterprises (SMEs) do often not have the possibilities to exhibit all required experiences and expertise within their organizational

boundaries (Nunes et al., 2006). Therefore, inter-organizational collaboration is needed to satisfy customer needs (Panteli & Sockalingam, 2005).

Knowledge sharing is not easy between organizations. Even in intra-organizational settings knowledge sharing is seen as a fragile process comprising conflict of interest among the individuals involved (von Krogh et al., 1994; von Krogh, 1998). Numerous elements influence the decision whether to share or conceal knowledge (e.g. Cabrera & Cabrera, 2002; von Krogh, 2002). Maximizing individual pay-off may evoke an individual's reluctance to share knowledge. Also, personality and goal orientations influence knowledge sharing processes (Matzler et al., 2008; Müller & Matzler, 2008). Furthermore, knowledge is context specific, embedded in social and organizational practices and relationships, and constructed through complex processes of social negotiation and interpretation among the participants involved (Brown & Duguid, 1998; Lam, 2000; Wenger & Snyder, 2000; Tsoukas & Vladimirou, 2001; Swan et al., 2002; Elkjær, 2003; Gherardi, 2005). Thus, knowledge sharing depends on the characteristics of knowledge (Polanyi, 1966), the properties of managerial actions (Cabrera et al., 2006), the properties of the environment (e.g. corporate culture; Ipe, 2003; Alavi et al., 2005), and the properties of the companies (Argote et al., 2000).

Although the research agenda regarding knowledge management has already dealt with many and diverse issues (for an overview see e.g., Eisenhardt & Santos, 2002), there are still gaps. Especially regarding cultural antecedents, research has mainly dealt with intra-organizational knowledge sharing in large corporations (see e.g., Davenport et al., 1998; Gupta & Govindarajan, 2000a; Oliver & Kandadi, 2006) providing a rather homogeneous cultural setting (Trice & Beyer, 1984; Schein, 1996). Furthermore, knowledge sharing between companies is also mainly researched in large companies (Willem & Buelens, 2009). Insights

into cultural antecedents for inter-organizational knowledge sharing activities of SMEs are still missing.

This study aims at discovering cultural pre-requisites for knowledge sharing in inter-organizational project teams. Therefore, a qualitative study in five German SMEs operating in marketing and media was conducted. The marketing and media agency collaborates with a computer animation SME, a digital print SME, an audiovisual production SME and a broadcasting station in order to serve their customers. Using interviews, observations, discussions and additional company documents, we provide insights into cultural antecedents that foster inter-organizational knowledge sharing. Our results show that SMEs engage in inter-organizational knowledge sharing. These activities take place although there are no standardized procedures. Certain values and manifestations enable this inter-organizational knowledge sharing activities. Furthermore, our results show that introducing and living a knowledge culture is not only a responsibility of the management but of all employees.

In the following, we first provide the theoretical basis regarding knowledge sharing, especially across organizational boundaries and inter-organizational project teams. Second, we provide an overview of existing research about cultural pre-requisites for knowledge sharing. We then explain the design of our empirical study. The results are shown by means of figures derived from the analysis with the methodology of GABEK®, which will be discussed in detail. Finally, we summarize and discuss the results of our study providing theoretical and managerial implications.

2. Knowledge Sharing in Inter-organizational Contexts and SMEs

In the last decades, knowledge sharing has received considerable attention (Eisenhardt & Santos, 2002) because it is seen as the antecedent for innovation, organizational learning, development of new skills and capabilities, increase of the company's productivity, and maintenance of competitive advantages (Leonard-Barton, 1995; von Krogh, 1998; Mooradian et al., 2006; Senge, 2006; Chua & Pan, 2008). Thus, the ability of transferring knowledge from one person or unit to another significantly contributes to the organizational performance of firms (Argote et al., 2000). At first, research mainly dealt with knowledge transfer. Following the "computational paradigm", knowledge management focused on the explicit dimension of knowledge relying heavily on ICT for its diffusion and storage (Hazlett et al., 2005). However, with the shift towards action orientation and social construction of knowledge (Stehr, 1992; von Krogh et al., 1994), knowledge management now focuses more on the "organic paradigm" (Hazlett et al., 2005). This dynamic approach draws the attention to the tacit dimension of knowledge (Polanyi, 1966) and addresses people-centric problems, such as motivation, as well as situational and organizational factors (von Krogh et al., 1994), such as cultural issues. Consequently, knowledge sharing is more than transferring information, it is defined as „...*the provision or receipt of task information, know-how, and feedback regarding a product or procedure*” (Cummings, 2004), which implies that sharing knowledge is a social, interactive and complex process including tacit and explicit knowledge (Polanyi, 1966). Thus, knowledge sharing involves at least two persons: the sender, who is willing and able to share knowledge, and the receiver, who is willing and able to combine this new knowledge with his or her existing knowledge and use it.

Previous research mostly studied knowledge sharing within companies (Eisenhardt & Santos, 2002; van Wijk et al., 2007). Nevertheless, as knowledge is distributed not only within companies (Tsoukas, 1996) but also between companies, strategic alliances for knowledge sharing become more and more important (Panteli & Sockalingam, 2005; van Wijk et al.,

2007) requiring a network analysis of knowledge management (Powell et al., 1996; Dyer & Singh, 1998; Brown & Duguid, 2001). Independent companies engage in “*enduring transactions, flows, and linkages*” (Oliver, 1990) and networks in order to explore a market (Kasper-Fuehrer & Ashkanasy, 2001), to get access to a wider pool of knowledge, or to generate ideas and solve problems (Weck & Blomqvist, 2008). Therefore, partners in strategic alliances are expected to share their skills and knowledge (Alavi & Leidner, 2001; Panteli & Sockalingam, 2005), also by using collaborative tools (see virtual teams; Majchrzak et al., 2000). It is assumed that this inter-organizational knowledge sharing has positive effects on project performance (Ngai et al., 2008). However, inter-organizational collaboration also has disadvantages, like increased costs and risks due to a lack of control (Williams, 2005). Therefore, previous research suggests that many companies are reluctant to share knowledge because they view it as their property (Wood & Gray, 1991), are afraid of free-riding activities (Cabrera & Cabrera, 2002), and fear inefficient knowledge flows (Dyer & Nobeoka, 2000). Decisive factors for successful knowledge dissemination between companies are partner similarity (Darr & Kurtzberg, 2000), expectations and trust (Panteli & Sockalingam, 2005), tie strength (Hansen, 1999; Ngai et al., 2008), and interaction intensity (Ngai et al., 2008). Regarding the sharing of tacit knowledge, a shared system of meaning among the inter-organizational project team members is essential (Galunic & Rodan, 1998). Furthermore, structural dimensions (e.g. coordination, centralization, formalization and specialization) have an impact on knowledge sharing (Willem & Buelens, 2009). Also differences in national cultures influence how effectively knowledge can be shared (Kostova, 1999; Nissen, 2007). Regarding cultural values, trust, curiosity and respect for diversity have been discovered to be significant in inter-organizational knowledge dissemination (Hartley & Benington, 2006).

Despite this complex handling of inter-organizational knowledge transfer, many SMEs are engaging in cross-boundary knowledge sharing activities (Grotz & Braun, 1993). SMEs are characterized by a small size resulting in a lack of capabilities, market power and other resources that large enterprises have. They are deficient in knowledge, skills, funds, and people (Knight, 2000; Sawers et al., 2008). Therefore, they are trying to compensate these constraints and mobilize complementary resources and capabilities by effectively developing network relationships (Coviello et al., 1998). One possibility to establish alliances are inter-organizational project teams. These project teams are permanent or semi-permanent teams to which individuals originating from different companies are assigned. Group members interact regularly in order to achieve a certain goal before a certain deadline (Wenger & Snyder, 2000; Wang, 2001; Du Plessis & Hoole, 2006). If inter-organizational project teams work on different projects over a period of time, they are said to establish a set of goals and procedures to interact in a timely and effective manner (see also project partnering; Cowan et al., 1992).

Nevertheless, SMEs and SME-networks are still not in the focus of knowledge management research. As SMEs are attributed with a lack of formal approaches to knowledge transfer, storage, or evaluation, this area is underresearched (McAdam & Reid, 2001; Nunes et al., 2006). It is also assumed that SMEs do not take up systematic knowledge management practices because they do not expect immediate results and advantages from formal knowledge management initiatives (Kerste & Muizer, 2002). However, SMEs need knowledge and skills as much as any other company in a globalized world; perhaps even more because of the problems with few staff, the consequences of high staff turnover and tendencies of knowledge retention (Nunes et al., 2006). Thus, SMEs might be more willing to engage in inter-organizational cooperation and networks (Desouza & Awazu, 2006), such as inter-organizational project teams for knowledge sharing. However, as the participating companies have different corporate cultures (Chatman & Jehn, 1994) and knowledge sharing

depends on cultural characteristics (De Long & Fahey, 2000; Alavi et al., 2005; Ardichvili et al., 2006), knowledge sharing is a delicate process in this setting.

3. Cultural Pre-requisites for Knowledge Sharing

Corporate culture enables the understanding of patterns and orderliness of behavior. Consequently, cultural elements helps to comprehend why different initiatives succeed or fail in companies (Smircich, 1983; Denison, 1990). We define corporate culture according to the “dynamic perspective” (Sackmann, 1991; Hatch, 1993) as „... *the basic beliefs commonly-held and learned by a group, that govern the group member’s perception, thoughts, feelings and actions and that are typical for the group as a whole.*“ (Sackmann, 2003: 59). Thus, we regard corporate culture in a holistic way including manifestations, basic assumptions, and shared values. These cultural elements influence the thinking, behavior and feelings of employees (Sackmann, 1991; Schein, 1992), but the dynamic perspective of corporate culture also acknowledges that cultural elements are influenced by all company members (Martin et al., 1985; Golden, 1992; Alvesson, 2002). Due to these shared cultural values, coordination, internal control, focus on common goals, motivation, and identification can be gained, which might positively influence the company’s performance (Wilkins & Ouchi, 1983; Barney, 1986; Saffold, 1988).

The success of knowledge management initiatives is influenced by cultural perceptions in the company (Davenport et al., 1998). Consequently the terms “knowledge culture” (Oliver & Kandadi, 2006), “learning culture” (Schein, 1992), and “knowledge-friendly culture” (Davenport et al., 1998) were coined. Corporate values and manifestations influence if, how, and which kind of knowledge is shared (De Long & Fahey, 2000; McDermott & O'Dell, 2001; King, 2006). However, cultural perceptions are also influenced by actions if they have

proven successful. Therefore, good experiences with the introduction of a knowledge management system might change the values towards knowledge processes (Dixon, 2000). Previous research identified several corporate values and manifestations that influence knowledge management activities within companies (see also Figure 1). Favorable values are for example care (von Krogh, 1998; Zárraga & Bonache, 2005), trust (Levin & Cross, 2004; Renzl, 2008), team orientation (Alavi et al., 2005; Jones et al., 2006), autonomy (Jamrog et al., 2006), risk orientation (Park et al., 2004), fairness (Bock et al., 2005), long-term orientation (Jones et al., 2006), openness (Kayworth & Leidner, 2003), and learning orientation (Brachos et al., 2007). Favorable manifestations for knowledge sharing and creation are for example means for communication (Al-Alawi et al., 2007; Chen & Huang, 2007), incentive systems (Oliver & Kandadi, 2006), top management commitment (Gupta & Govindarajan, 2000b), a knowledge vision (Gold et al., 2001; McDermott & O'Dell, 2001), IT (Moffett et al., 2002; Oliver & Kandadi, 2006; Yeh et al., 2006; Al-Alawi et al., 2007), resources (Lin, 2006; Oliver & Kandadi, 2006), and processes (Oliver & Kandadi, 2006).

This study aims at discovering which cultural values and manifestations (positively and negatively) influence knowledge sharing processes in inter-organizational project teams. As no previous results are available in this business setting, a qualitative and inductive research design was applied (Eisenhardt, 1989; Yin, 2003; Maxwell, 2008). We identified a German marketing and media agency with six permanent employees (for promotion activities about 200 temporary employees are available). The company is specialized in ethno-marketing for German-Turkish advertising campaigns. They are conducting event-, print-, and multi-media-projects including project leadership, project management and customer services. This SME conducts its projects in cooperation with a computer animation company, a digital print company, an audiovisual production firm, and a broadcasting station forming inter-organizational project teams.

For data collection, we used interviews, observations, group discussions and documents (see method triangulation) (Eisenhardt, 1989; Yin, 2003; Maxwell, 2008). More precisely, we developed an interview guideline in order to examine the perception of cross-boundary knowledge sharing. We asked 17 interviewees (for an overview regarding their characteristics see also Table 1) questions about their inter-organizational project teams, how knowledge sharing within the inter-organizational project teams takes place, how it worked, which factors enabled/hindered knowledge sharing, and how they describe their company. We observed cultural manifestations using field notes and analyzed the companies’ mission statement and code of conduct (as far as available). After transcription and the first data analysis, group discussions were initiated to validate the results with the perceptions of the project teams.

Table 1. Characteristics of interviewees

Criteria	No. of Interviewees
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Male	7
Female	10
Project team member	12
Project team leader (CEOs)	5
Marketing and media agency	5
Cooperation partner 1 (computer animation)	4
Cooperation partner 2 (digital print)	1
Cooperation partner 3 (audiovisual production)	6
Cooperation partner 4 (broadcasting station)	1

For data analysis, we used GABEK® (“GAnzheitliche BEwältigung von Komplexität“ - Holistic Processing of Linguistic Complexity © Josef ZELGER, Innsbruck). GABEK® was developed by Zelger (2008), takes the theory of linguistic gestalten (“Wahrnehmungsgestalten” - perceptive appearances - by Stumpf, 1939) as its theoretical and methodological basis and is embedded in the software WinRelan® (Windows Relation Analysis) (Zelger & Oberprantacher, 2002). This method supports researchers with a number of analysis steps in order to systematize unordered linguistic texts. The aim is to identify potentially significant knowledge and to provide a transparent organization of contents. The advantage of WinRelan® in comparison to other qualitative data analysis software for content analysis of text data (CAQDAS) (Lewins & Silver, 2006) is that it goes beyond the administration, coding and categorization of data. GABEK® takes both syntax and semantics into account (Zelger, 2000) developing a rule-based network of data. WinRelan® integrates the methodical procedure as well as quantitative elements such as cluster analysis known from multivariate data analysis (Hair Jr. et al., 2006). The advantage of GABEK® is grounded in its accuracy generated through a rule-based framework. It allows for the elaboration of

individual problems as well as advancing to more abstract levels of analysis (Buber & Kraler, 2000). Figure 2 describes our research framework using GABEK®.

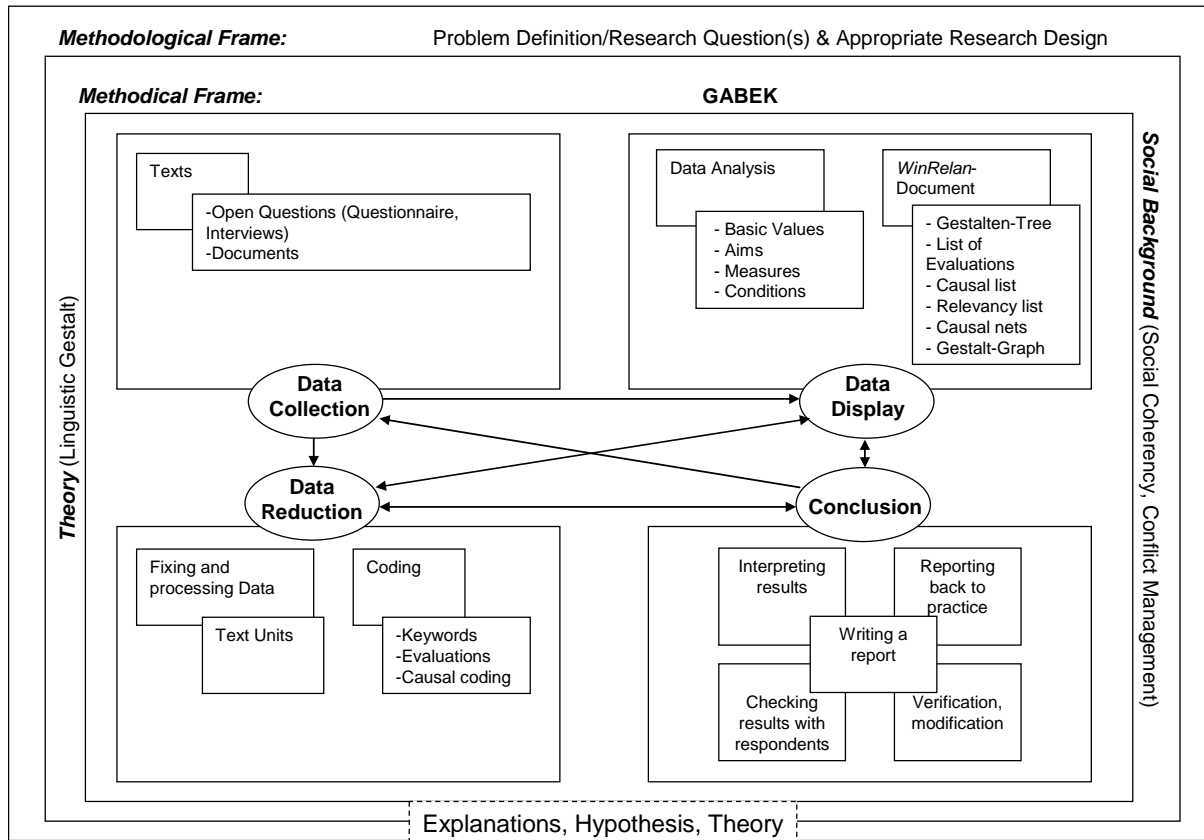


Figure 2. Research framework using GABEK® (Buber & Kraler, 2000)

Two persons conducted the coding of the interview, observation, group discussion, and document data individually. Therefore, we first reduced the collected data by dividing the texts into text units. The advantage is that we had smaller entities of text for the coding sessions. This division of text units is also rule based: the length of one text unit is determined by its meaningfulness and the number of concepts (keywords) included (for an overview of defining text units see Buber & Kraler, 2000). In total, we had 824 text units. The first coding was based on established concepts derived from the literature (Maxwell, 2008), such as characteristics of a knowledge culture. Following grounded theory, additional categories were inductively developed from the data (Glaser & Strauss, 1967). We coded all text units with

three to nine keywords. We continuously negotiated the meaning of the discovered concepts and checked with the primary texts in order to ensure inter-rater reliability and validity of the interpretation (Maxwell, 2008). Thus, the relevant topics regarding the research questions were identified and could be illustrated with linguistic nets. The nodes of the net are keywords; the connections between the keywords indicate sentences in which the referring pair of keywords occur. The *linguistic net* represents a map for orientation. In Figure 3, the most important concepts regarding inter-organizational knowledge sharing are shown (each line is substantiated by seven and more texts - see numbers along lines). Consequently, the CEOs, availability of contact persons, communication via phone and email, meetings, and misunderstanding are related with inter-organizational knowledge sharing. Furthermore, project and company success, idea generation, and cooperation are associated with the term.

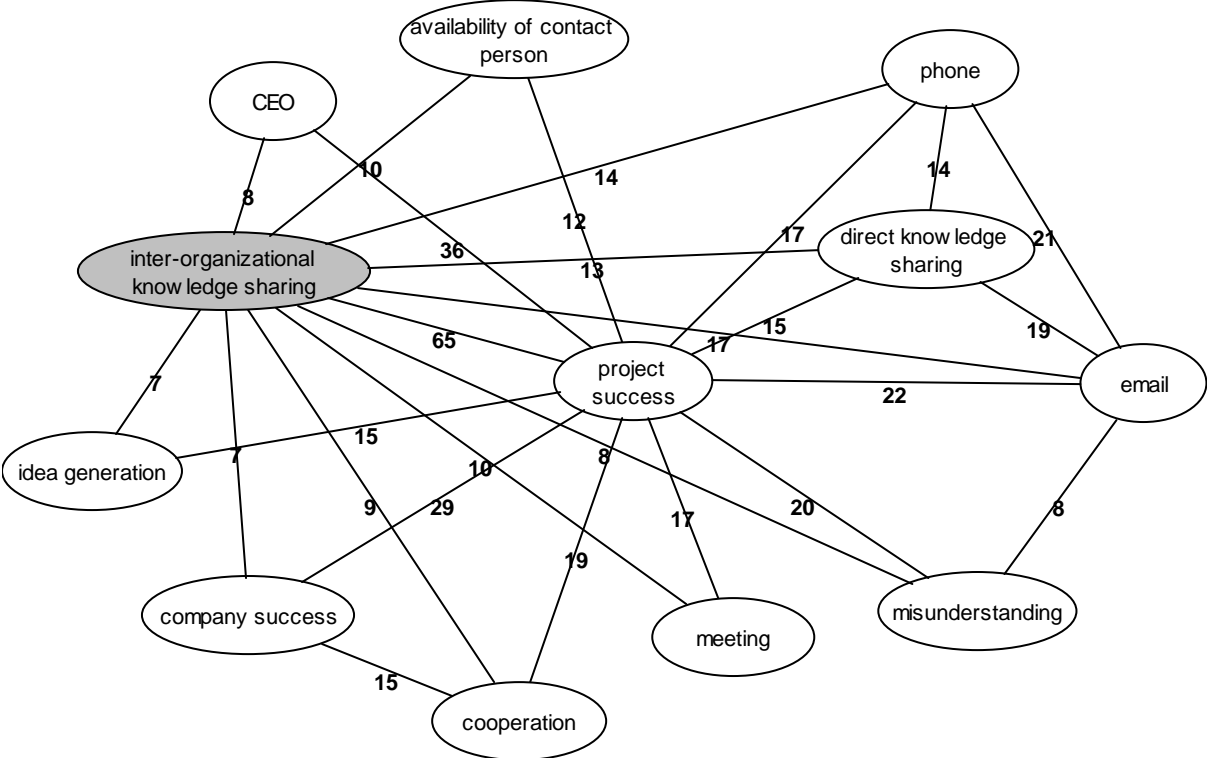
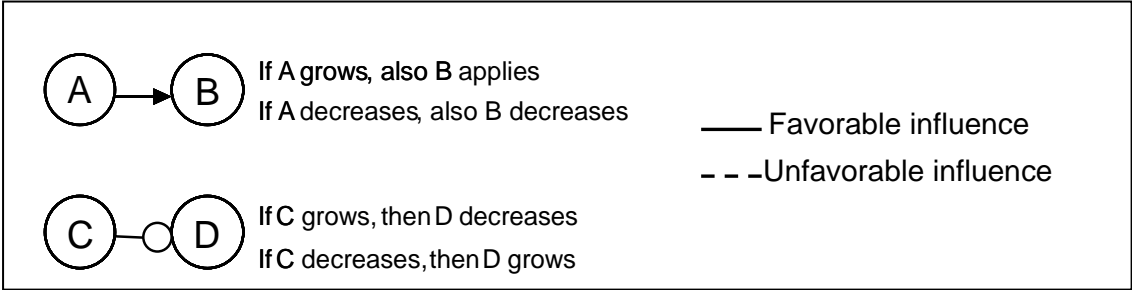


Figure 3. Linguistic net (extract), inter-organizational knowledge sharing, $n \geq 7$

By means of causal coding and derived causal nets (Zelger & Oberprantacher, 2002), an understanding of how the mentioned factors influence inter-organizational knowledge sharing can be shown. The different arrows show which kind of relationship exists between the items:



5. Results

Based on the method of GABEK®, we selected central issues regarding cultural pre-requisites for knowledge sharing in inter-organizational project teams. It is important why the companies under study engaged in inter-organizational cooperation, how knowledge sharing across companies takes place, and which cultural influence factors are decisive. We show our results by means of linguistic and causal nets as described above.

5.1 Reasons for inter-organizational cooperation

The companies under study cooperate because they are *small companies* with about three to ten employees (see also Figure 4). Thus, the companies are *missing competencies* they need for serving their customers *on schedule*, especially if the projects are rather complex. They chose these companies as cooperation partners because they like their partners (*sympathy*), share a common *understanding* regarding customer needs and conduct of project work, value the *openness* of their project partners regarding new ideas, and feel a kind of *proximity*, which

is also reflected in the direct and informal way they communicate with each other. As the companies *cooperate* for a *long* period of time, they have developed *trust* and know that their partners are *trustworthy*. Thus, they do not record all projects in *contracts*. Based on the long relationship and the importance of the exchange of *private knowledge*, *friendships* are established, which positively influence the cooperation. This cooperation is needed in order to achieve *project* and *company success*, which is influenced by the reasonable *division of project tasks*, the *availability of contact persons* to coordinate the different tasks, the *direct knowledge sharing*, and *idea generation* of the project partners. In the past, cooperation with other companies were ceased because they did not show initiatives to serve customer needs and stole ideas from their project partners.



Figure 4. Causal net, cooperation, $n \geq 3$

5.2 Inter-organizational knowledge sharing and its benefits

To communicate across organizational boundaries is essential because *project tasks are divided* according to project partners' expertise (see also Figure 5). Inter-organizational knowledge sharing mainly takes place via *email*, especially when *documentation* is needed. However, as written communication often creates *misunderstandings*, project partners share their knowledge using the *phone* and *meetings*. All interview partners confirmed that they prefer *direct knowledge sharing* because it is more efficient. If persons are able to ask questions and give feedback, a *common understanding* is detected more easily. If project partners are collocated in one room, they can solve problems together and *accomplish their tasks jointly*. Direct inter-organizational knowledge sharing does not solely include project relevant knowledge and information but also *private knowledge*.

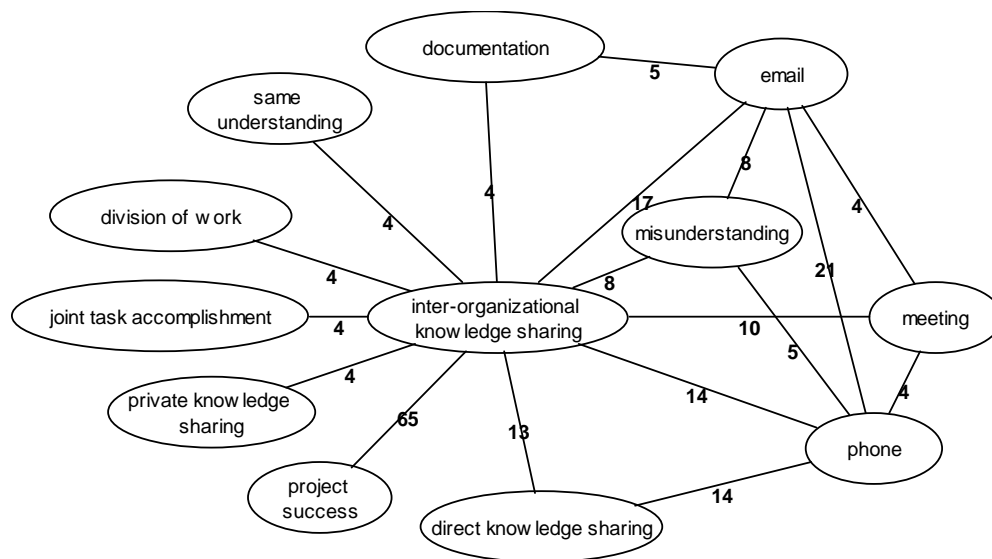


Figure 5. Linguistic net (extract), inter-organizational knowledge sharing, $n \geq 4$

As inter-organizational knowledge sharing establishes a common knowledge basis where everyone has the *same knowledge*, *communication is easy* because persons share a common understanding (see Figure 6). By means of knowledge sharing across organizational boundaries, project teams are able to define the *scale of the project*, *find solutions*, *avoid*

misunderstandings, discuss project details, and if necessary changes. Furthermore, regular meetings project team members enables them to *detect mistakes* and find solutions in order to *correct* them. This is also necessary to work *on schedule* and meet the requirements, which leads to project success. If projects were successful, employees are more *motivated* to engage in future project as well as in inter-organizational knowledge sharing.

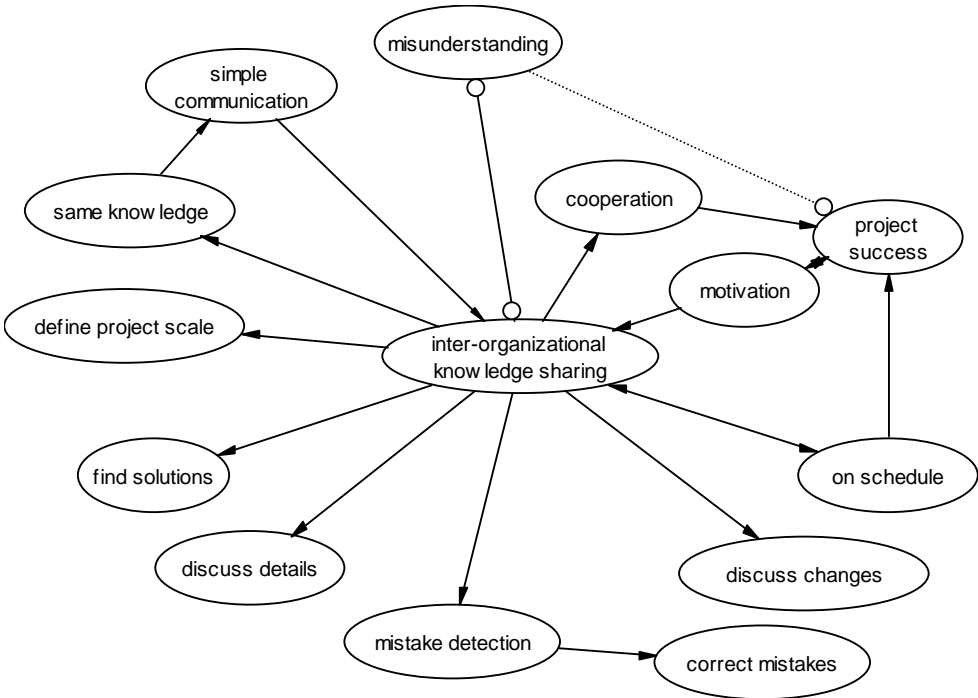


Figure 6. Causal net (extract), inter-organizational knowledge sharing, $n \geq 2$

5.3 Cultural pre-requisites for inter-organizational knowledge sharing

Corporate culture consists of manifestations and values. Therefore, we first present manifestations that influence inter-organizational knowledge sharing (as can be seen in Figure 7). The most important manifestation that leads to inter-organizational knowledge sharing is the size of the company. As the companies are rather *small*, they lack the required expertise and are thus *dependent* on the knowledge of other companies. Consequently, they *divide* the tasks of the project according to their expertise in order to work *on schedule*. *Meeting* face to face enhances inter-organizational knowledge transfer because the project team members are

able to *reflect on ideas* and diminish *misunderstandings* that might be caused by communication via *email*. However, inter-organizational knowledge sharing depends on the availability of contact persons. If contact persons are not available, e.g. by *phone*, they need to share information by *email*, which has a positive impact on the *documentation* of the projects' progress. Enabling factors for inter-organizational knowledge sharing are also the *project leader*, who mostly shares the generated knowledge with the contact persons in the other companies, *communication capabilities* of the persons involved, and *common events*, which allows for the creation of informal relationships also across organizational boundaries. Hindering factors are the *time pressure* project team members face, especially as they work in several projects at the same time and have daily work to do as well. Negatively for knowledge sharing is also the *waiting time* if their contact persons are not available.

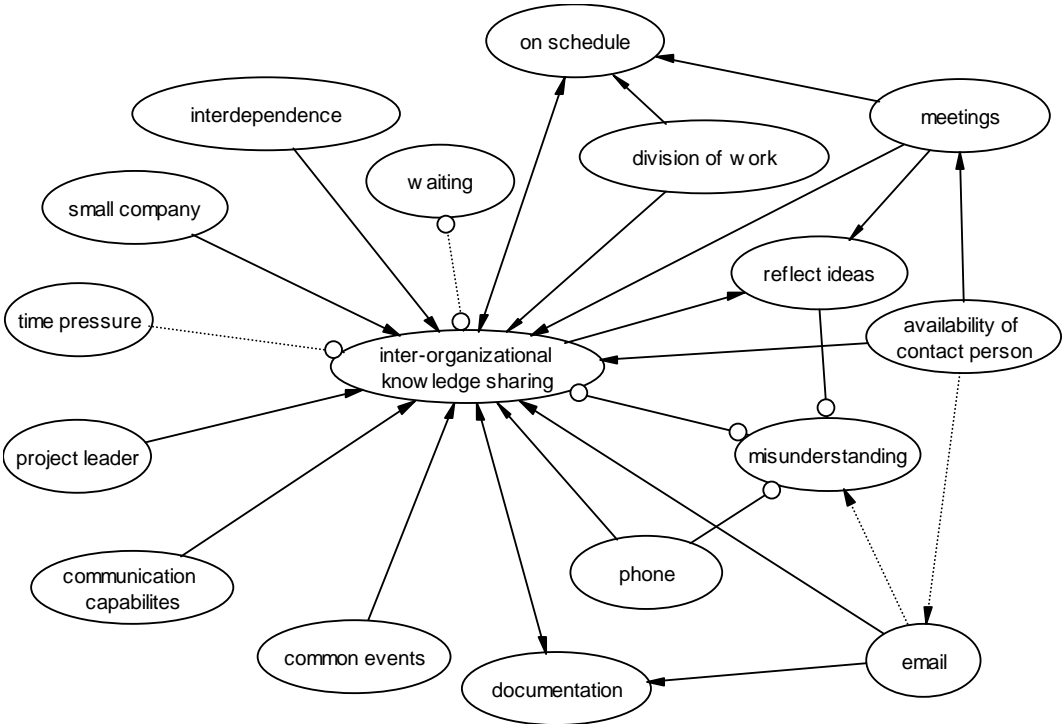


Figure 7. Causal net (extract), manifestations and inter-organizational knowledge sharing,

$$n \geq 3$$

Not only manifestations but also cultural values facilitate inter-organizational knowledge sharing. As project team members are not collocated in the same building, everybody has to *trust* each other that the project tasks are accomplished. The *relaxed atmosphere* and a good sense of *humor* are positive for knowledge sharing because everybody dares to say critical issues. Due to their informal relationships and *friendship*, the atmosphere is also *familial* and emotional which enhances the *commitment* and *trustworthiness* of employees. However, as there are no standardized rules for inter-organizational knowledge sharing, actions depend on the employees' *own initiatives* and their *creativity* to find ways to communicate. Employees have to *take responsibility* and initiate the knowledge sharing processes. Therefore, there a orientation to *help* others is crucial as well as a *learning orientation*, especially if mistakes have to be detected. The *openness* of and the *trust* in the project partners decreases the willingness to *retain knowledge* which is favorable for ongoing inter-organizational knowledge sharing processes. The only negative factor mentioned, which has been experienced in former partnerships, is *competitiveness*. If partners regard themselves as competitors and try to steal ideas, knowledge sharing across boundaries does not take place.

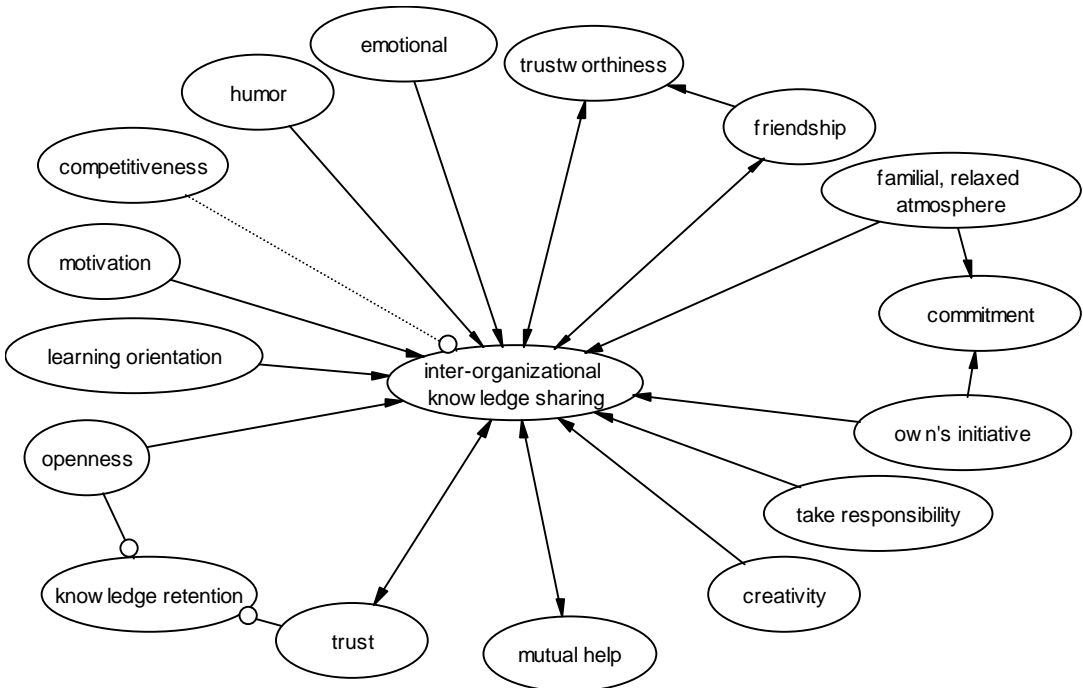


Figure 8. Causal net (extract), values and inter-organizational knowledge sharing,

$n \geq 3$

6. Discussion, Implications and Outlook

The results of this study in five small companies show that certain manifestations and values foster knowledge sharing across organizational boundaries and can be regarded as characteristics of a knowledge culture favorable for cross-boundary knowledge sharing. Some of these characteristics have already been discovered in previous studies regarding favorable features for intra-organizational knowledge management initiatives. However, the contribution of this study is to find out how inter-organizational knowledge sharing takes place between SMEs and which cultural elements are decisive.

The companies under study are SMEs and lack – due to their small size – the necessary expertise within their organizational boundaries (see also, Knight, 2000; Nunes et al., 2006; Weck & Blomqvist, 2008). Therefore, they engage in inter-organizational project teams in order to satisfy their customers (see also, Grotz & Braun, 1993; Panteli & Sockalingam, 2005). Although no standardized procedures are established to share knowledge across boundaries (contrary to project partnering by Cowan et al., 1992), the inter-organizational knowledge sharing processes took place. Thus, we propose

P1: SMEs engage in inter-organizational knowledge sharing due to their small size and missing expertise.

P2: The need to collaborate and the interdependency of project partners have a positive influence on inter-organizational knowledge sharing.

P3: Inter-organizational knowledge sharing enhances project and company success.

Characteristic for the collaboration of the studied SMEs is that they prefer ongoing relationships and cooperation (see also, Oliver, 1990; Jones et al., 2006). This long-term orientation makes boundaries between organizations less important. Consequently, similar characteristics facilitating cross-boundary knowledge sharing could be found as in intra-organizational settings, such as care and the willingness to help each other (von Krogh, 1998; Zárrega & Bonache, 2005), trust (Levin & Cross, 2004; Renzl, 2008), openness (Kayworth & Leidner, 2003), and learning orientation (Brachos et al., 2007). Also, regarding knowledge sharing friendly manifestations this study confirmed that means for communication are decisive (see also, Moffett et al., 2002; Oliver & Kandadi, 2006; Yeh et al., 2006; Al-Alawi et al., 2007; Chen & Huang, 2007) although the companies used widely established information and communication technologies, such as email and the phone. This is contrary to the assumption that collaborative tools are used for inter-organizational knowledge transfer (Majchrzak et al., 2000). Thus, we propose:

P4: Care, trust, openness, and learning orientation positively influence inter-organizational knowledge sharing.

P5: SMEs do not heavily invest into new information and communication technologies to facilitate inter-organizational knowledge sharing.

However, there are also some special cultural elements needed for inter-organizational knowledge sharing. Because the project team members do not belong to the same companies, the trustworthiness of the partners has to be evaluated (see lack of control; Williams, 2005). If partners are found to be too competitive (Park et al., 2004) or steal ideas (see also, Cabrera & Cabrera, 2002), the cooperation ceases immediately. If partners have proven to be trustworthy, very strong relationships and even friendship are established in order to facilitate an ongoing partnership (see interaction intensity; Ngai et al., 2008). Consequently, the companies under study do not use contracts to fix project details. Thus, we propose:

P6: Evaluated trustworthiness and friendship have a positive influence on long-term inter-organizational knowledge sharing.

P7: Sympathy positively influences inter-organizational knowledge sharing.

Furthermore, leadership and commitment of top-management are decisive (Gupta & Govindarajan, 2000b; Connelly & Kelloway, 2003; Jamrog et al., 2006; Lin, 2006; Yeh et al., 2006). In this study, we could show that in most cross-boundary knowledge sharing activities the project leaders were involved. However, in SMEs the hierarchies are rather flat enhancing the possibilities to take personal responsibility. If top-management does not interfere into self-responsible cross-boundary knowledge sharing, employees engage on their own initiatives into these activities. Thus, we propose:

P8: Inter-organizational knowledge sharing mainly takes place via project leaders.

P9: Personal responsibility and taking own initiative have a positive influence on inter-organizational knowledge sharing.

A new factor discovered in this study is humor. Interview partners stated that having the same kind of humor facilitates inter-organizational knowledge sharing. This is similar to the shared system of meaning discovered by Galunic and Rodan (1998) and the cognitive dimension of social capital (Nahapiet & Ghoshal, 1998). Thus, we propose:

P10: Sense of humor has a positive influence on inter-organizational knowledge sharing.

Unlike previous studies on intra-organizational knowledge sharing (McDermott & O'Dell, 2001; Jamrog et al., 2006; Lin, 2006; Oliver & Kandadi, 2006; Yeh et al., 2006; Brachos et al., 2007), this study revealed that incentive systems are not needed to facilitate knowledge sharing across boundaries. Rather, individuals need to experience that it makes sense to engage in this kind of activities, which motivates them intrinsically. Especially, project

success motivates employees to further engage in knowledge sharing with their project partners. Thus, we propose:

P11: Intrinsic motivation positively influences knowledge sharing between project teams.

Time is the most important resource for knowledge sharing. As knowledge processes are mostly not an official part of the work, time for these activities is not planned (Oliver & Kandadi, 2006). The lack of time is worsened if project work is additional to the daily work. Nevertheless, knowledge was shared between the companies under study because employees felt the need to do this, experienced a decrease of work load if they used their colleagues' knowledge, and felt positive about the reciprocal behavior. Thus, we propose:

P12: The lack of time negatively influences inter-organizational knowledge sharing.

This study has several implications. Theoretically, we could show how knowledge sharing takes place between different SMEs and which cultural elements are decisive for this kind of behavior. These cultural pre-requisites differ from existing studies concerning knowledge cultures derived from studies in large enterprises. This is also important for managers of SMEs, who mainly influence cultural values. However, also employees are responsible to shape cultural values important for knowledge sharing (Martin et al., 1985; Golden, 1992). This is especially achieved if employee experience a decrease of individual work load and see that project are successful due to the ongoing knowledge sharing.

Limitations of the study are that only five SMEs with a limited amount of employees could be studied at this level of detail. Further studies are needed to verify if the new relationships regarding cultural elements and inter-organizational knowledge sharing are valid for a broader variety of companies. The companies under study are Germany based companies; as national cultures shape corporate cultures equivalent studies should be repeated in other countries,

especially in order to find out if the deviant results regarding supportive and hindering cultural elements are based on national differences (Nissen, 2007).

References

- Al-Alawi, A.I., Al-Marzooqi, N.Y. & Mohammed, Y.F. (2007): Organizational Culture and Knowledge Sharing: Critical Success Factors. *Journal of Knowledge Management*, 11, pp. 22-42.
- Alavi, M., Kayworth, T.R. & Leidner, D. (2005): An Empirical Examination of the Influence of Organizational Culture on Knowledge Management Practices. *Journal of Management Information Systems*, 22, pp. 191-224.
- Alavi, M. & Leidner, D.E. (2001): Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, 25, pp. 107-136.
- Alvesson, M. (2002): *Understanding Organizational Culture*. Sage. London.
- Ardichvili, A., Maurer, M., Li, W., Wentling, T. & Stuedemann, R. (2006): Cultural Influences on Knowledge Sharing Through Online Communities of Practice. *Journal of Knowledge Management*, 10, pp. 94-107.
- Argote, L., Ingram, P., Levine, J.M. & Moreland, R.L. (2000): Knowledge Transfer in Organizations: Learning from the Expertise of Others. *Organisational Behavior and Human Decision Processes*, 82, pp. 1-8.
- Badaracco, J.L. (1991): *The Knowledge Link - How Firms Compete through Strategic Alliances*. Harvard Business School Press. Boston.
- Barney, J.B. (1986): Organizational Culture: Can It Be a Source of Sustained Competitive Advantage? *Academy of Management Review*, 11, pp. 656-665.
- Bock, G.-W., Zmud, R.W. & Kim, Y.-G. (2005): Behavioral Intention Formation in Knowledge Sharing: Examining the Roles of Extrinsic Motivators, Social-Psychological Forces and Organizational Climate. *MIS Quarterly*, 29, pp. 87-111.
- Brachos, D., Kostopoulos, K., Soderquist, K.E. & Prastacos, G. (2007): Knowledge Effectiveness, Social Context and Innovation. *Journal of Knowledge Management*, 11, pp. 31-44.
- Brown, J.S. & Duguid, P. (1998): Organizing Knowledge. *California Management Review*, 40, pp. 90-111.
- Brown, J.S. & Duguid, P. (2001): Knowledge and Organization - A Social-Practice Perspective. *Organization Science*, 12, pp. 198-213.

- Brown, S.L. & Eisenhardt, K.M. (1995): Product development: Past research, present findings, and future directions. *Academy of Management Review*, 20, pp. 343-378.
- Buber, R. & Kraler, C. (2000): How GABEK and WinRelan Support Qualitative Research. In: Buber, R. & Zelger, J. (Eds.): *GABEK II: Zur Qualitativen Forschung*, Studienverlag, Innsbruck, pp. 111-137.
- Cabrera, A. & Cabrera, E.F. (2002): Knowledge-Sharing Dilemmas. *Organization Studies*, 23, pp. 687-710.
- Cabrera, A., Collins, W.C. & Salgado, J.F. (2006): Determinants of Individual Engagement in Knowledge Sharing. *International Journal of Human Resource Management*, 17, pp. 245-264.
- Chatman, J.A. & Jehn, K.A. (1994): Assessing the Relationship between Industry Characteristics and Organizational Culture: How Different Can You Be? *Academy of Management Journal*, 27, pp. 522-553.
- Chen, C.-J. & Huang, J.-W. (2007): How Organizational Climate and Structure Affect Knowledge Management - The Soical Interaction Perspective. *International Journal of Information Management*, 27, pp. 104-118.
- Chesbrough, H. (2003): The Era of Open Innovation. *MIT Sloan Management Review*, Spring 2003, pp. 35-41.
- Chua, A.L. & Pan, S.L. (2008): Knowledge Transfer and Organizational Learning in IS Offshore Outsourcing. *Omega - International Journal of Management Science*, 36, pp. 267-281.
- Collins, C.J. & Smith, K.G. (2006): Knowledge Exchange and Combination: The Role of Human Resource Practices in the Performance of High-Technology Firms. *Academy of Management Journal*, 49, pp. 544-560.
- Connelly, C. & Kelloway, E.K. (2003): Predictors of Employees' Perceptions of Knowledge Sharing Cultures. *Leadership & Organization Development Journal*, 24, pp. 294-301.
- Coviello, N.E., Ghauri, P.N. & Martin, K.A.-M. (1998): International Competitiveness: Empirical Findings from SME Service Firms. *Journal of International Marketing*, 6, pp. 1998.
- Cowan, C., Gray, C. & E., L. (1992): Project Partnering. *Project Management Journal*, 22, pp. 5-11.
- Cummings, J.N. (2004): Work Groups, Structural Diversity, and Knowledge Sharing in a Global Organization. *Management Science*, 50, pp. 352-364.
- Darr, E.D. & Kurtzberg, T.R. (2000): An Investigation of Partner Similarity - Dimensions on Knowledge Transfer. *Organizational Behavior and Human Decision Processes*, 82, pp. 28-44.
- Davenport, T.H., De Long, D.W. & Beers, M.C. (1998): Successful Knowledge Management Project. *Sloan Management Review*, 39, pp. 43-57.

- De Long, D.W. & Fahey, L. (2000): Diagnosing Cultural Barriers to Knowledge Management. *Academy of Management Executive*, 14, pp. 113-127.
- Denison, D.R. (1990): *Corporate Culture and Organizational Effectiveness*. Wiley. New York.
- Desouza, K.D. & Awazu, Y. (2006): Knowledge Management at SMEs: Five Peculiarities. *Journal of Knowledge Management*, 10, pp. 32-43.
- Dixon, N. (2000): *Common Knowledge*. Harvard Business Press. Boston.
- Drucker, P. (1993): *Post-Capitalist Society*. Harper Business. New York.
- Du Plessis, Y. & Hoole, C. (2006): An Operational "Project Management" Culture Framework (Part 1) *SA Journal of Human Resource Management*, 4, pp. 36-43.
- Dyer, J.H. & Nobeoka, K. (2000): Creating and Managing a High-Performance Knowledge-Sharing Network: The Toyota Case. *Strategic Management Journal*, 21, pp. 345-367.
- Dyer, J.H. & Singh, H. (1998): The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage. *Academy of Management Review*, 23, pp. 660-679.
- Eisenhardt, K.M. (1989): Building Theories from Case-Study Research. *Academy of Management Review*, 14, pp. 532-550.
- Eisenhardt, K.M. & Santos, F.M. (2002): Knowledge-Based View: A New Theory of Strategy? In: Pettigrew, A. et al. (Eds.): *Handbook of Strategy and Management*, Sage, London, pp. 139-164.
- Elkjær, B. (2003): Social Learning Theory: Learning as Participation in Social Processes. In: Easterby-Smith, M. & Lyles, M.A. (Eds.): *The Blackwell Handbook of Organizational Learning and Knowledge Management* Blackwell, Malden, MA, Oxford, UK, pp. 38-53.
- Galunic, D.C. & Rodan, S. (1998): Resource Recombinations in the Firm - Knowledge Structures and Potential for Schumpeterian Innovation. *Strategic Management Journal*, 19, pp. 1193-1201.
- Gherardi, S. (2005): *Organizational Knowledge - The Texture of Workplace Learning*. Blackwell.
- Glaser, B.G. & Strauss, A.L. (1967): *The Discovery of Grounded Theory: Strategies for Qualitative Research*. De Gruyter. New York.
- Gold, A.H., Malhotra, A. & Segars, A.H. (2001): Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*, 18, pp. 185-214.
- Golden, K.A. (1992): The Individual and Organizational Culture: Strategies for Action in Highly-Ordered Contexts. *Journal of Management Studies*, 29, pp. 1-21.
- Grant, R.M. (1996): Toward a Knowledge-Based Theory of the Firm. *Strategic Management Journal*, 17, pp. 109-122.

- Grotz, R. & Braun, B. (1993): Networks, Milieux and Individual Firm Strategies: Empirical Evidence of an Innovative SME Environment. *Geografiska Annaler. Series B, Human Geography*, 75, pp. 149-162.
- Gupta, A.K. & Govindarajan, V. (2000a): Knowledge Flows within Multinational Corporations. *Strategic Management Journal*, 21, pp. 473-496.
- Gupta, A.K. & Govindarajan, V. (2000b): Knowledge Management Social Dimension: Lessons from Nucor Steel. *Sloan Management Review*, 42, pp. 71-81.
- Hair Jr., J., Black, W., Babin, B., Anderson, R. & Tatham, R. (2006): *Multivariate Data Analysis*. Prentice Hall. Upper Saddle River, NJ.
- Hansen, M.T. (1999): The Search-Transfer Problem - The Role of Weak Ties in Sharing Knowledge across Organization Subunits. *Administrative Science Quarterly*, 44, pp. 82-111.
- Hartley, J. & Benington, J. (2006): Copy and Paste, or Graft and Transplant? Knowledge Sharign Through Inter-Organizational Networks. *Public Money and Management*, pp. 101-108.
- Hatch, M.J. (1993): The Dynamics of Organizational Culture. *Academy of Management Review*, 18, pp. 657-693.
- Hazlett, S.-A., McAdam, R. & Gallagher, S. (2005): Theory Building in Knowledge Management - In Search of Paradigms. *Journal of Management Inquiry*, 14, pp. 31-42.
- Hofstede, G. (2001): *Culture's Consequences - Comparing Values, Behaviors, Institutions, and Organizations across Nations*. Sage. Thousand Oaks.
- Ipe, M. (2003): Knowledge Sharing in Organizations: A Conceptual Framework. *Human Resource Development Review*, 2, pp. 337-359.
- Jamrog, J., Vickers, M. & Bear, D. (2006): Building and Sustaining a Culture that Supports Innovation. *Human Resource Planning*, 29, pp. 9-19.
- Janz, B.D. & Prasarnphanich, P. (2003): Understanding the Antecedents of Effective Knowledge Management: The Importance of a Knowledge-Centered Culture. *Decision Sciences*, 34, pp. 351-384.
- Jones, M.C., Cline, M. & Ryan, S. (2006): Exploring Knowledge Sharing In ERP Implementation: An Organizational Culture Framework. *Decision Support Systems*, 41, pp. 411-434.
- Kasper-Fuehrer, E. & Ashkanasy, N.M. (2001): Communicating Trustworthiness and Building Trust in Interorganizational Virtual Organizations. *Journal of Management*, 27, pp. 235-254.
- Kayworth, T. & Leidner, D. (2003): Organizational Culture as a Knowledge Resource. In: Holsapple, C.W. (Ed.): *Handbook on Knowledge Management: I Knowledge Matters*, Springer, Berlin, pp. 233-252.

- Kerste, R. & Muizer, A. (2002): Effective Knowledge Transfer to SMEs: Lessons from Marketing and Knowledge Management: EIM Business and Research Policy
- King, W.R. (2006): Maybe a "Knowledge Culture" isn't so Important After All! *Information Systems Research*, Winter 2006, pp. 88-89.
- Knight, G. (2000): Entrepreneurship and Marketing Strategy: The SME under Globalization. *Journal of International Marketing* 8, pp. 12-32.
- Kostova, T. (1999): Transnational Transfer of Strategic Organizational Practices: A Contextual Perspective. *Academy of Management Review*, 24, pp. 308-324.
- Lam, A. (2000): Tacit Knowledge, Organizational Learning and Societal Institutions: An Integrated Framework. *Organization Studies*, 2, pp. 487-513.
- Leonard-Barton, D. (1995): *Wellsprings of Knowledge - Building and Sustaining the Sources of Information*. Harvard Business School Press. Boston.
- Levin, D.Z. & Cross, R. (2004): The Strength of Weak Ties You Can Trust: The Mediating Role of Trust in Effective Knowledge Transfer. *Management Science*, 50, pp. 1477-1490.
- Lewins, A. & Silver, C. (2006): *Using Software in Qualitative Research: a Step-By-Step Guide*. Sage Publications. London.
- Lin, H.-F. (2006): Impact of Organizational Support on Organizational Intention to Facilitate Knowledge Sharing. *Knowledge Management Research & Practice*, 4, pp. 26-35.
- Majchrzak, A., Rice, R.E., King, N., Malhotra, A. & Ba, S. (2000): Computer-Meditated Inter-Organizational Knowledge-Sharing: Insights from a Virtual Team Innovating Using a Collaborative Tool. *Information Resources Management Journal*, pp. 44-53.
- Martin, J., Sitkin, S.B. & Boehm, M. (1985): Founders and the Elusiveness of a Cultural Legacy. In: Frost, P.J. et al. (Eds.): *Organizational Culture*, Sage, Beverly Hills, London, New Delhi, pp. 99-124.
- Matzler, K., Renzl, B., Müller, J., Herting, S. & Mooradian, T. (2008): Personality Traits and Knowledge Sharing. *Journal of Economic Psychology*, 29, pp. 301-313.
- Matzler, K., Rier, M., Hinterhuber, H.H., Renzl, B. & Stadler, C. (2005): Methods and Concepts in Management: Significance, Satisfaction and Suggestions for Further Research - Perspective from Germany, Austria and Switzerland. *Strategic Change*, 14, pp. 1-13.
- Maxwell, J.A. (2008): Designing a Qualitative Study. In: Bickman, L. & Rog, D.J. (Eds.): *The Sage Handbook of Applied Social Research Methods* Sage, Thousand Oaks, pp. 214-253.

- McAdam, R. & Reid, R. (2001): SME and Large Organisation Perceptions of Knowledge Management: Comparison and Contrasts. *Journal of Knowledge Management*, 5, pp. 231-241.
- McDermott, R. & O'Dell, C. (2001): Overcoming Cultural Barriers to Sharing Knowledge. *Journal of Knowledge Management*, 5, pp. 76-85.
- Moffett, S., McAdam, R. & Parkinson, S. (2002): Developing a Model for Technology and Cultural Factors in Knowledge Management: A Factor Analysis. *Knowledge and Process Management*, 9, pp. 237-255.
- Mooradian, T.A., Renzl, B. & Matzler, K. (2006): Who Trusts? Personality, Trust and Knowledge Sharing. *Management Learning*, 37, pp. 523-540.
- Müller, J. & Matzler, K. (2008): Individual Determinants of Knowledge Sharing - Goal Orientation and Personality. Paper presented at 8th Annual European Academy of Management (EURAM) Conference. Ljubljana, Slovenia.
- Nahapiet, J. & Ghoshal, S. (1998): Social Capital, Intellectual Capital and the Organizational Advantage. *Academy of Management Review*, 23, pp. 242-266.
- Ngai, E.W.T., Chen, J. & Tong, L. (2008): A qualitative study of inter-organizational knowledge management in complex products and systems development. *R&D Management*, 38, pp. 421-440.
- Nissen, M.E. (2007): Knowledge Management and Global Cultures: Elucidation Through an Institutional Knowledge Flow Perspective. *Knowledge and Process Management*, 14, pp. 211-225.
- Nonaka, I. & Takeuchi, H. (1995): *The Knowledge-Creating Company - How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press. New York, Oxford.
- Nunes, M.B., Annansingh, F. & Eaglesonte, B. (2006): Knowledge management issues in knowledge-intensive SMEs. *Journal of Documentation*, 62, pp. 101-119.
- Oliver, C. (1990): Determinants of Interorganizational Relationships: Integration and Future Directions. *Academy of Management Review*, 15, pp. 241-265.
- Oliver, S. & Kandadi, K.R. (2006): How to Develop Knowledge Culture in Organizations? A Multiple Case Study of Large Distributed Organizations. *Journal of Knowledge Management*, 10, pp. 6-24.
- Panteli, N. & Sockalingam, S. (2005): Trust and Conflict Within Virtual Inter-Organizational Alliances: A Framework for Facilitating Knowledge Sharing. *Decision Support Systems*, 39, pp. 499-617.
- Park, H., Ribière, V. & Schulte, W.D.J. (2004): Critical Attributes of Organizational Culture that Promote Knowledge Management Technology Implementation Success. *Journal of Knowledge Management*, 8, pp. 106-117.
- Polanyi, M. (1966): *The Tacit Dimension*. Routledge and Kegan Paul. London, UK.

- Powell, W.W., Koput, K.W. & Smith-Doerr, L. (1996): Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology. *Administrative Science Quarterly*, 41, pp. 116-145.
- Renzl, B. (2008): Trust in Management and Knowledge Sharing - The Mediating Effects of Fear and Knowledge Documentation. *Omega - International Journal of Management Science*, 36, pp. 206-220.
- Sackmann, S.A. (1991): *Cultural Knowledge in Organizations - Exploring the Collective Mind*. Sage. Newbury Park, London, New Delhi.
- Sackmann, S.A. (2003): Cultural Complexity as a Challenge in the Management of Global Change. In: Mohn, L. (Ed.): *A Cultural Forum Vol. III, Corporate Cultures in Global Interaction*, Bertelsmann Foundation, pp. 58-81.
- Saffold, G.S.I. (1988): Culture Traits, Strength, and Organizational Performance: Moving Beyond "Strong" Culture. *Academy of Management Review*, 13, pp. 546-558.
- Sawers, J.L., Pretorius, M.W. & Oerlemans, L.A.G. (2008): Safeguarding SMEs dynamic capabilities in technology innovative SME-large company partnerships in South Africa. *Technovation*, 28, pp. 171-182.
- Schein, E.H. (1992): *Organizational Culture and Leadership*. Jossey-Bass. San Francisco.
- Schein, E.H. (1996): Three Cultures of Management: The Key to Organizational Learning. *Sloan Management Review*, Fall, pp. 9-20.
- Senge, P.M. (2006): *The Fifth Discipline: The Art and Practice of the Learning Organization* Currency. New York.
- Serenko, A. & Bontis, N. (2004): Meta-Review of Knowledge Management and Intellectual Capital Literature: Citation Impact and Research Productivity Rankings. *Knowledge and Process Management*, 11, pp. 185-198.
- Smircich, L. (1983): Concepts of Culture and Organizational Analysis. *Administrative Science Quarterly*, 28, pp. 339-358.
- Spender, J.-C. (1996): Making Knowledge the Basis of a Dynamic Theory of the Firm. *Strategic Management Journal*, 17, pp. 45-62.
- Stehr, N. (1992): *Practical Knowledge*. Sage. London.
- Stumpf, C. (1939): *Erkenntnislehre, Band 1*. Johann Ambrosius Barth. Leipzig.
- Swan, J., Scarbrough, H. & Robertson, M. (2002): The Construction of 'Communities of Practice' in the Management of Innovation. *Management Learning*, 33, pp. 477-496.

- Trice, H. & Beyer, J. (1984): Studying Organizational Cultures through Rites and Ceremonies. *Academy of Management Review*, 9, pp. 653-669.
- Tsoukas, H. (1996): The Firm as a Distributed Knowledge System - A Constructionist Approach. *Strategic Management Journal*, 17, pp. 11-25.
- Tsoukas, H. & Vladimirou, E. (2001): What is Organizational Knowledge? *Journal of Management Studies*, 38, pp. 973-993.
- van Wijk, R., Jansen, J. & Lyles, M.A. (2007): Organizational Knowledge Transfer: A Meta-Analytic Review of its Antecedents and Outcomes. *Academy of Management Proceedings*, pp. 1-6.
- Verona, G., Prandelli, E. & Sawhney, M. (2006): Innovation and Virtual Environments: Toward Virtual Knowledge Brokers. *Organization Studies*, 27, pp. 765-788.
- von Krogh, G. (1998): Care in Knowledge Creation. *California Management Review*, 40, pp. 133-153.
- von Krogh, G. (2002): The communal resource and information systems. *Journal of Strategic Information Systems*, 11, pp. 85-107.
- von Krogh, G., Roos, J. & Slocum, K. (1994): An Essay on Corporate Epistemology. *Strategic Management Journal*, 15, pp. 53-71.
- Wang, X. (2001): Dimensions and Current Status of Project Management Culture. *Project Management Journal for Quality & Participation*, 32, pp. 4-17.
- Weck, M. & Blomqvist, K. (2008): The Role of Inter-Organizational Relationships in the Development of Patents: A Knowledge-based Approach. *Research Policy*, 37, pp. 1329-1336.
- Wenger, E.C. & Snyder, W.M. (2000): Communities of Practice - The Organizational Frontier. *Harvard Business Review*, 78, pp. 139-145.
- Wilkins, A. & Ouchi, W.G. (1983): Efficient Cultures: Exploring the Relationship Between Culture and Organizational Performance. *Administrative Science Quarterly*, 28, pp. 468-481.
- Willem, A. & Buelens, M. (2009): Knowledge Sharing in Inter-unit Cooperative Episodes: The Impact of Organizational Structure Dimensions. *International Journal of Information Management*, 29, pp. 151-160.
- Williams, T. (2005): Cooperation by Design: Structure and Cooperation in Inter-Organizational Networks. *Journal of Business Research*, 58, pp. 223-231.
- Wood, D.J. & Gray, B. (1991): Toward a Comprehensive Theory of Collaboration. *Journal of Applied Behavioral Science*, 27, pp. 139-162.

- Yeh, Y.-J., Lai, S.-Q. & Ho, C.-T. (2006): Knowledge Management Enablers: A Case Study. *Industrial Management & Data Systems*, 106, pp. 793-810.
- Yin, R.K. (2003): *Case Study Research: Design and Methods*. Sage. Newbury Park.
- Zárraga, C. & Bonache, J. (2005): The Impact of Team Atmosphere on Knowledge Outcomes in Self-managed Teams. *Organization Studies*, 26, pp. 661-681.
- Zelger, J. (2000): Twelve Steps of GABEKWinRelan. In: Buber, R. & Zelger, J. (Eds.): *GABEK II. Zur Qualitativen Forschung*, Studienverlag, Innsbruck / Wien, pp. 205-220.
- Zelger, J. (2008): The Representation of Verbal Data by GABEK®-Nets. In: Zelger, J. et al. (Eds.): *GABEK III*, Studienverlag, Innsbruck, pp. 95-122.
- Zelger, J. & Oberprantacher, A. (2002): Processing of Verbal Data and Knowledge Representation by GABEK-WinRelan: *Forum Qualitative Social Research*.