## Chapter I

# Managing Knowledge-Based Organizations Through Trust

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## ABSTRACT

*This chapter provides a comprehensive basis for understanding the role of trust in knowledge management and systems in organizations. The point of departure is the resource and knowledge-based theories of an organization that place knowledge generation as the primary source of wealth and social well-being. The authors show the crucial role of the intangible factors of trust, knowledge and information as related to the social capital and the development of the intellectual capital of an organization. The multidisciplinary nature of the concept of knowledge management and of trust is examined by a thorough review of literature. Trust is seen as a situational and contextual phenomena whose impact on the development of an organizational culture and climate and on success with collaborating is explored as related to the relational, cognitive and*

*structural dimensions of social capital. The overall aim is to sustain strategic capability in the networked mode of performing. The importance of normative trust, shared values and shared meanings is stressed as a frame of reference to organizational behaviour and in communities of practice, but also the role of swift trust is highlighted. The authors provide ideas for empirical research to develop theory of the strategic management of knowledge and information and outline implications for practices for the organizational development.*

# INTRODUCTION

The knowledge-based society of the 21st century is characterized by knowledge generation as the primary source of wealth and social well-being. This economic development, facilitated by networked actions of a variety of global actors utilizing new information and communication technology (ICT) including Internet technologies, is fundamentally changing "the rules of the game" of performing in both private and public organizations. Accordingly, new concepts, frameworks, models and theories are required in order to increase our understanding of the principles of the creation and use of knowledge and information as a resource. These theories will find support from the resource and knowledge-based views of an enterprise (e.g., Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Grant, 1996; Spender, 1996; Spender & Grant, 1996). (See also Day, 2001, for a critical review of this economic development.)

This development both in theory and in practice is evident because, contrary to the traditional factors of production, knowledge and information are partly intangible in nature (see e.g., Buckland, 1991; Teece, 1998). It is therefore vital to provide a holistic view of contextual factors which have an impact on the creation, processing, storage, maintenance and use of information and knowledge as a resource. Moreover, we must know more about the means that affect processes related to knowledge and information. One such means is trust. This will allow us to communicate the outcomes of these processes as intangible assets whose value is difficult to estimate in the traditional economic, financial and quantitative terms (see e.g., Yates-Mercer & Bawden, 2002). Like knowledge and information, trust is an intangible factor that may either promote or inhibit these processes. It has even been argued that intangibles of this kind are gradually replacing traditional elements of power in states and the role of trust has been emphasized in the positive aspect of economic globalization (Rosecrance, 1999; see also Putnam, 2000).

This development has generated increased interest in the concepts of knowledge management (KM) and of intellectual capital. It has been proposed that these two concepts are complementary and, therefore, KM needs to be placed in the wider field of intellectual capital management (e.g., Wiig, 1997). Intellectual capital is knowledge that transforms raw materials (both tangible and intangible), thereby increasing their value. Stewart (1997, 2001) divides intellectual capital into human, structural and customer capital. In this, human capital refers to the talent of employees. Structural capital involves intellectual property, methodologies, software, documents, and other knowledge artifacts. Customer capital refers to client relationships. By integrating organizational knowledge into intangible assets, an organization aims to turn human capital into structural capital (see Mac Morrow, 2001). Moreover, through access to increased resources, social capital may have an impact on the generation of the intellectual capital of an organization.

It has been suggested that the role of KM is to enhance the value-creating capability of the more effective use of knowledge (Edvinsson, 1997). The management of intellectual capital, in turn, includes both value creation and value extraction. However, the use of these concepts is quite vague in the literature. For example, Koenig (1998) combines elements of these two concepts in his concept of knowledge capital consisting of organizational knowledge resources, social capital and infrastructure.

In this chapter our aim is to increase the understanding of the role of trust in managing knowledge-based organizations. We contend that in the future it will be crucial for every organization to manage knowledge and information as a raw material of knowledge processes. Our foci in this paper are the social, more intangible issues related to the management of knowledge-based organizations to enhance knowledge creation, production, organization, sharing and use. Therefore, we will highlight factors of the relational, cognitive and structural dimensions of social capital and their relations (see Nahapiet & Ghoshal, 1998). By examining trust as related to organizational culture and climate, we will highlight their impact on the relational dimension of social capital. Moreover, we will discuss the role of values and norms as components of the relational and cognitive dimensions. Similarly, our analysis of the effect of trust on collaboration reflects both the cognitive and the relational dimensions. Furthermore, we suggest that the ability to collaborate strengthens the structural dimension of social capital.

Our thesis is that pursuing the management of organizational knowledge-based activities in a strategic manner requires increased understanding about

the interplay of these factors as related to the three dimensions of social capital. Furthermore, we claim that this is critical to enhance and facilitate human information and knowledge-related behavior in order to enhance information and knowledge processes and to develop an organizational structure that supports these processes to enable the realization of strategic aims (see e.g., Leonard-Barton, 1995). We believe that the ability to combine these factors in a unique manner increases the strategic capability and sustainability of a competitive edge for a longer period ahead. Our view is supported by many authors. For example, Nahapiet and Ghoshal (1998, p. 259) state that "…it is the co-evolution of social and intellectual capital that is of particular significance in explaining the source of organizational advantage."

We will begin our analysis by defining two main concepts: knowledge management and trust. Both of these concepts have been widely used, but simultaneously the definition of each is conceptually demanding, even difficult. Therefore, without clarifying their content it would be impossible to analyse the role of trust in managing knowledge-based organizations. Our point of departure is based on the view that intellectual capital is a wider concept than KM. Thus, we will examine trust as a component of social capital. Finally, in the discussion we will identify some potential theoretical and practical implications of our analysis for the management of knowledge based-organizations.

## THE CONCEPT OF KNOWLEDGE MANAGEMENT

There is no common understanding or definition of the concept of knowledge management. Knowledge and information are very different phenomena. Therefore, we can assume that the underlying cause for the dilemma of explicitly defining the concept of KM lies with the difficulty of defining the concept of knowledge and its relation to the concept of information. However, the nature and differences of these concepts should be taken into account when providing frameworks of KM and information management (IM).

The most common definition of knowledge is based on Plato's idea that "knowledge is a well justified, true belief." However, Ingwersen's (1992, pp. 228-229) definition, for example, is more comprehensive: "Knowledge is an individual's total understanding of itself and the world around it at any given point in time, incorporating (sub)conscious memory, thinking and cognition, as well as emotional and intuitive properties." Communicating knowledge is a

process. When communicated, knowledge becomes information and, consequently, the raw material of new knowledge. Due to its nature as a dynamic resource, information is also something transitive. People produce and receive information. Often information is described as a message, or as data, which makes a difference. Information has a meaning, and it can be catalogued and documented. Information becomes knowledge when a person internalizes it. According to Ingwersen (1992, p. 228), the concept of information, from the perspective of information science, has to satisfy dual requirements: on the one hand, information is the result of a transformation of a generator's knowledge structures; on the other hand, information is something which, when perceived, affects and transforms the recipient's state of knowledge.

Knowledge representations stored in information systems can be called knowledge artifacts. Generally the purpose of KM is seen to be to provide these resources for use (see e.g., McInerney, 2002; Davenport & Cronin, 2000). This perception brings KM close to the traditional role of IM. However, the role of personal knowledge — particularly in KM — has been emphasized, for example, by Choo (1998) and Skyrme (1997). Choo (1998) points out that to transfigurate information into learning, insight, and commitment to action is the goal of KM. Skyrme (1997) suggests that KM is explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organizing, diffusion, use and exploitation of knowledge. This requires turning personal knowledge into corporate knowledge to be widely shared throughout an organization and appropriately applied. Skyrme's definition covers social and behavioral aspects related to people in organizations and the IM infrastructure and, thus, thereby coming close to Koenig's concept of knowledge capital.

Moreover, knowledge is often understood as consisting of both explicit and tacit elements. The identification of the tacit nature of knowledge can be traced back to Polanyi (1958, 1966). Nonaka (1994; see also Nonaka & Takeuchi, 1995) popularized the concept in the theory of knowledge creation, namely the SECI model, in the mid-1990s. However, many authors have claimed that the concept of tacit knowledge is used too superficially in the conceptions of KM (e.g., Cook & Brown, 1999; Yates-Mercer & Bawden, 2002). Wilson (2002) even points out Nonaka's and Takeuchi's misuse of the term when, in fact, referring to implicit knowledge that can be externalized verbally (see also Nahapiet & Ghoshal, 1998, p. 246). Tacit knowledge is the most intangible form of organizational knowledge because it is very personal in nature and difficult to articulate. However, it is manifested in people's behavior,

way of acting and carrying out tasks in practice. This view relates to the constructionist approach that regards knowledge as a social construct (e.g., von Krogh, 1998, cited here by Hildreth & Kimble, 2002).

It has, moreover, been stressed that the distinction between KM and IM is the fact the KM aims at enabling and actively supporting expertise (Blair, 2002, p. 1022). To be able to complete, for example, a problem-solving task, co-workers have to learn from each other. Learning of this kind is called situated learning, the concept popularized by Lave and Wenger (1991). To enable the emergence of communities of practice is a means of supporting such development. Communities of practice are groups of people who share a concern, a set of problems, or a passion for a topic, and who increase their knowledge and expertise in this area by interacting on an ongoing basis (Wenger, McDermott & Snyder, 2002). For example, a group of co-workers characterized by situated learning to master the knowledge required for problem solving in a joint task can be called a community of practice (see also Davenport & Hall, 2002).

Due to the social nature of both knowledge and information, many authors are in favor of the concept of organizational knowing and its management, rather than the term knowledge management (e.g., Orlikowski, 2002; Cook & Brown, 1999; Brown & Duguid, 2001; Choo, 1998; Choo & Bontis, 2002). McInerney (2002, p. 1012) states that knowing involves the whole person, mind and body; emotion, cognition, and physicality that together create what is known. Her concept of a community of practice has evolved, as knowledge can be seen as a collection of processes that allow learning to occur and knowing to be internalized (p. 1012). Sveiby (1996) claims that during this decade research in KM will focus on knowledge as a process, rather than knowledge as a thing. Furthermore, Blackler (1995) uses the concept of knowing in order to emphasize the active nature of knowledge as a process. He argues that the five different types of knowledge he has identified in organizational literature, namely, embrained, embodied, encultured, embedded and encoded, are insufficient to account for knowledge as a social process (see also Choo & Bontis, 2002). Moreover, for example, Boisot's (1998) views strongly support the social nature of knowledge. His thesis is that the evolution of knowledge forms a social learning circle that consists of transformational phases from personal knowledge through proprietary knowledge to public knowledge and common sense. According to him personal knowledge, through codification of shared experience, can become proprietary knowledge or, on an aggregate scale, the intellectual capital of an organization. Later on, after being externally scrutinized, this knowledge becomes public and, when widely

internalized, turns into common sense. In the major part of the literature on knowledge management, however, the key issue is the recognition that knowledge is related to individual persons, i.e., it exists in their minds. However, it is this specific feature of knowledge that makes its management problematic and has caused a lot of academic debate about the relevance of the concept of knowledge management.

We claim that the management of people is as crucial as the management of information when aiming at the strategic management of knowledge and information as a resource. This idea, however, is not new (see e.g., Streatfield & Wilson, 1999, p. 68). Yet, in a networked, global economy the area of KM is multidimensional involving a diversity of external actors and stakeholders of an organization. In this wide area, information management (IM) has an essential role to play as the management of information flows and messages, information resources and practices of delivery used to enhance these flows, in order to maximize exploitation of information in all processes of a knowledge-based organization. This view is supported by Hansen, Nohria and Tierney (1999, p. 110) who state that the: "…highest benefits are achieved when KM is coordinated with human resources, information technology and competitive strategy" and this "…coordination requires the leadership of general management." (See also e.g., Mackenzie Owen, 1999.)

The concepts of intellectual capital and knowledge capital seek to count for the social and behavioral factors as crucial when enhancing knowledge creation, sharing and utilization within and between organizations. Therefore, we suggest that KM involves the management of people as creators of knowledge and the management of information as the raw material of processes related to knowledge creation and production. We define KM as the combination of human resource management (HRM) and IM. Therefore, it relates to all those processes that are concerned with the identification, acquisition, creation, storage, distribution, and use of both information and knowledge (see Huotari, 1998; Iivonen, 1999). We emphasize that the distinctive nature of both information and knowledge should be taken into account when aiming to manage organizational knowledge. Due to its social nature, knowledge is inextricably linked to human behavior.

## THE CONCEPT OF TRUST

In order to increase our understanding of the essential role of trust in the management of knowledge and information in organizations, we will try to clarify its content. Trust is a multidimensional concept by nature. Therefore, it

is a difficult concept to define. McAllister (cited here in Scott, 2000) identified a difference between cognition-based and affect-based trust. Cognition-based trust is a rational view of trust and is associated with competence, ability, responsibility, integrity, credibility, reliability, and dependability. Affect-based trust has more emotional connotations and is related to issues like care, concern, benevolence, altruism, commitment, mutual respect, etc. Further, we can identify the distinction between calculative and non-calculative trust. Calculative trust is based on the weights of the costs and benefits of certain actions, and on a view of man as a rational actor. Non-calculative trust, in turn, is based on values and norms (see e.g., Lane, 1998; Nooteboom, 2002).

Trust has been considered by researchers from various disciplines in their respective contexts and related to individual expectation, interpersonal and inter-organizational relations, economic transactions, and social structures (Hardy, Phillips & Lawrence, 1998; Lane, 1998; Nooteboom, 2002). This multidisciplinary nature of the concept of trust makes it still harder to define. However, the following basic features that are partly overlapping can be summarized:

1. Trust is based on expectations and interactions.
2. Trust is manifested in people's behavioral patterns.
3. Trust makes a difference.

The fairly common understanding of trust is that trust is based on expectations of other people's willingness and ability to fulfil our needs and wishes (see e.g., Fukuyama, 1996; Lagerspetz, 1996; Shaw, 1997; Lane, 1998; Nooteboom, 2002). This indicates that trust develops through interactions when we learn to understand other people's expectations. Because of this phenomenon, trust is particularly critical in situations where we depend on each other, and therefore more critical between two partners than two strangers. Relationships between partners are more significant, but also more vulnerable than relationships between strangers, and trust is more significant for long-term relationships than for short ones.

The interactive aspect of trust is fairly strongly emphasized, especially in management literature, both in intra-organizational and inter-organizational relations. For example, Fukuyama (1996) defined trust as "… the expectation that arises within a community of regular, honest, and cooperative behaviour, based on commonly shared norms, on the part of other members of that community" (p. 26). Similarly, Shaw (1997) defined trust as "... a belief that those on whom we depend will meet our expectation of them." Researchers from other disciplines share this view of trust as related to expectations.

Lagerspetz (1996), who has studied trust from the philosophical perspective, ended with a similar definition and described trust as "...a tacit demand not to betray the expectations of those who trust us."

Because trust is based on other people's expectations, an understanding of these expectations is essential for building a trusting relationship. This presupposes similar or related worldviews and shared meanings. The role of shared meanings and shared values as the basis of trust has been stated by many researchers, for example by Fukuyama (1996). Common values give a frame of reference to social norms that create predictability and trustworthiness. This can be called normative trust or value- or norm-based trust. Lane (1998), however, challenges the concept of normative trust by stating: "To posit common values and norms as the sole basis of trust is as one-sided as the notion of calculative trust. Empirical work tells us that trust can be built even between people from different cultural backgrounds or between individuals who share no values beyond their narrow business goals. To insist on common socialization in a solidary community to generate and police the common values underpinning trust would make trust an extremely scarce commodity in advanced society" (p. 8). Because trust is needed, and should be built even in the absence of common values and norms, it is obvious that shared meanings must be created, at least at some level to be able to build trust**.** As Hardy et al. (1998) claim: "Trust is therefore an intersubjective 'reality' that cannot exist, regardless of the good intentions of partners, unless the symbols used to signal trustworthiness have meaning for all parties" (p. 70).

The second very often indicated comprehension is that trust is manifested in people's behavioral patterns, and that the honesty and predictability of behavior will build a strong basis for trust (see e.g., Shaw, 1997; Lane, 1998; Ciancutti & Steding, 2000). Although trust is intangible and related to many abstract matters, both cognition-based and affect-based, such as beliefs, expectations, credibility, mutual respect, etc., the behavioral pattern of trust has also often been described. Trust imposes a concrete form on people's behavior, how they treat each other, and how they communicate. The communicative foundation of trust was emphasized by Hardy et al. (1998) who conceptualised trust as a communicative, sense-making process that bridges gaps between disparate groups. They claimed that in an inter-organizational relationship, trust grows out of a communication process in which shared meanings develop to provide the necessary foundation for non-opportunistic behavior.

The behavioral pattern of trust was also described by Iivonen and Harisalo (1997), who defined trust as expectations and acts of members of the

community towards each other. They emphasized that trust is more than expectations, and it emerges as a result of everyday experiences in a work community or elsewhere. Their empirical study provided good examples of the signs of trust as behavior. The findings showed that trust was understood by the employees as a chance to work independently and take responsibility for their own work, a chance to tackle challenging and demanding tasks, as well as managers' support to employees' careers, and managers' habit of asking employees' opinion and giving feedback (Iivonen & Harisalo, 1997). (See also Iivonen, 1999; Iivonen & Huotari, 2000.)

The third often repeated common understanding is that trust makes a difference. Trust has been described as a social phenomenon. As such, it has several advantages, for example, in promoting open exchange of information and knowledge and learning, enabling interactions between people and between organizations, reducing transaction costs, facilitating economic activities and information technological solutions, and enabling work and collaboration both within and among organizations. (See Sydow, 1998; Ciancutti & Steding, 2000; Scott, 2000; Nooteboom, 2002.) Lane (1998) emphasised trust as a highly desirable property, especially in knowledge-intensive business. According to Lane, the number and variety of exchange relations and the increased complexity and uncertainty of the business environment cannot be handled without the presence of interpersonal and/or inter-organizational trust. Therefore, he took the view that the growth of knowledge-intensive products, the information-based mode of production, and the necessity of sharing often sensitive information, have made trust a highly desirable property.

Trust does not, however, make a difference only in an economic sense, but also affects the well-being of the work community. Iivonen and Harisalo (1997) described trust as a safety net of the work community which helps people to tolerate uncertainty, but also produces commitment and internalised accountability. Harisalo and Miettinen (1995) paid attention to the capability of trust to produce more trust. To be able to produce evidence of the advantage of trust, trust has been often characterised as the opposite of mistrust, and the advantages of trust have been made visible by describing the situation where trust is lacking. The ability of trust to make a difference both at personal and organizational levels is based on the phenomenon that trust provides a way to cope with risk and uncertainty (Lane, 1998). Even in circumstances where learned trust does not occur because of the limited history of working together, there is the option of "swift trust," which coincides with risk, and produces clear advantages (see Davenport & McLaughlin, 2003.) We claim that because the

difference between trusted and mistrusted situations is obvious, trust should be closely related to organizational development.

## TRUST IN SOCIAL CAPITAL

The ability of trust to make a difference makes it crucial to the management of organizational knowledge processes. Thus, trust is strongly manifest in the concept of intellectual capital through social capital. Nahapiet and Ghoshal (1998, pp. 243-245; Tsai & Ghoshal, 1998) define social capital as "the sum of the actual and potential resources embedded within, and available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network." They divide it into the relational, cognitive and structural dimensions. The relational dimension is concerned with the behavioral embeddedness involving the nature of the relationships developed over time including trust, norms and identity. Normative trust relates to the relational dimension of social capital because norms create predictability and trustworthiness. Moreover, normative trust is manifest in the cognitive dimension of social capital that refers to shared representations, interpretations and systems of meaning, for example, to a shared vision among actors. The structural dimension relates to ties of social interaction such as density, hierarchy, etc., between actors (see also Adler & Kwon, 2002, for a comprehensive review of social capital).

We believe that in the future social capital will prove to be more important than has been previously recognized. Traditionally, for example, the crucial role of information professionals has been stressed as enhancing both the generation and organization of information resources and the development of an overall infrastructure also involving the information management function (see Huotari, 2001). Awareness of the impact of the profession on social capital has been less emphasized. Therefore, we also seek to provide greater insight on the interaction between the main factors related to social capital in enhancing the development of organizational knowledge and the management of intellectual capital.

Human behavior within and between organizations is the foundation of social capital. Personal relationships developed over time enable such human interaction that can provide the basis for networked organizational activities. Trust develops within these networks. These networks are unique to an organization. Therefore, human relationships form the basis for collective

action and facilitate the exchange of resources and information flows (Nahapiet & Ghoshal, 1998). Thus, differences in types and levels of trust may result in different levels of resource exchange and flows (see also Iivonen & Huotari, 2000.) Social capital is owned jointly by the actors in a relationship. Therefore, it encourages collaboration and enables the development of new forms of association and innovative organization. Moreover, the basis for institutional dynamics, innovation and value creation is formed by human contacts in these relationships. If the actors in a relationship trust each other, their ability to cope with complexity and diversity increases their potential to combine knowledge for innovation (Nahapiet & Ghoshal, 1998, p. 245, p. 255; Tsai & Ghoshal, 1998.)

## Trust and Organizational Culture and Climate

On the one hand, trust or mistrust has an impact on the context in which it is manifested. On the other hand, the context for carrying out knowledge-based activities is shaped by the organizational culture and climate. An organizational culture embraces two levels: deep-seated ideas and beliefs, and espoused values. These values form part of the cultural knowledge embedded within organizations that may be very tacit in nature. Trust or mistrust is exposed by these values, which also form the basis for social norms. Through trust and social norms, that is through normative trust, organizational culture and climate refer mainly to the relational dimension of social capital, and through shared values it also relates to the cognitive dimension. Through trust, we can rather enhance than prevent knowledge and information related behavior and knowledge creation. For example, Davenport and Cronin (2000) stress that in the development of the tasks of information professionals, it is important to take the contextual factors into account when endeavoring to enhance organizational knowledge creation. Trust also plays a crucial role in turning personal knowledge into organizational knowledge.

Trust as a core value of an organization is stressed by Leonard-Barton (1995, 25), according to whom strategic knowledge assets are core capabilities. These capabilities are created through activities consisting of four interrelated dimensions: physical systems, skills, managerial systems, and values and norms. These dimensions, in turn, relate to all three dimensions of social capital. Understanding KM as the management of organizational expertise puts emphasis on the development of core capabilities requiring continuous learning. Leonard-Barton (1995) points out that knowledge creation occurs by combining people's distinct individualities with a particular set of activities. This combination must be managed, as it enables innovation. Therefore, sensitivity

to these activities and their potential combinations is a crucial ability of a successful manager (see also Prahalad & Hammel, 1990.)

However, trust must be embedded in organizational culture enabling the sharing of knowledge and information, as well as learning for the creation of new knowledge. For example, we recognize the following features in an organizational culture as signs of lacking trust, as identified by Pfeffer and Sutton (2000), preventing the conversion of knowledge into action. This happens, for example, when talk substitutes for action, when memory is a substitute for thinking, when fear prevents acting on knowledge, when measurement obstructs good judgment, and when internal competition turns friends into enemies. It is somehow amazing that although these features are so damaging to organizations and the people there, they are nevertheless very common. A means to overcome these problems might be to foster normative trust. This requires engendering a shared purpose and a shared identity for an organization.

Our view of the role of trust is also supported by McInery (2002, 1014), who favors the development of a knowledge culture that encourages learning and sharing of what is known**.** She believes that trust and dialogue are the necessary means for building a culture that offers the continual creation and sharing of knowledge. By referring to Shaw (1997), she states that trust allows people to communicate openly and without fearing that the knowledge shared will be used unethically. Moreover, she brings to the surface the fundamental role of trust in virtual communities.

Normative trust is essential to create organizational knowledge that refers to something that is commonly known. Organizational knowledge provides a way to make a difference between what is known by an individual and by a group or other social entity. The creation and maintenance of trust, and the norms of the behavior it engenders, are important factors in enabling knowledge sharing, for example, in communities of practice. Because of the informal nature of communities of practice, it has been stressed that trying to manage the tasks of these communities by formal means is the best way to "kill" these social communities.

An impressive example of the innovative power of the social collectivity of this type is presented by Tuomi (2002), who provides a thorough analysis of the development of the Linux operating system based on an open source development model. It was developed by an informal self-organizing social community and is today challenging Microsoft's market dominance. Tuomi emphasizes that Linux development is characterized as a practice and form of social life, and cannot be explained by any single financial driving force. Instead,

it is based on a complex interaction between social practices and technology where "the technological artifact can be seen as a side-effect of the fact that people live and construct their identities in a social world that is organized around this technological artifact, which then becomes the stage for feats and congregations, and the centre of community life" (p. 217). This relates to the establishment of an organizational culture that promotes more autonomous means for performing tasks. For example, such facilitators as boundary spanners, roamers or outposts have been suggested as an import component of the infrastructure of communities of practice contributing to the diffusion of knowledge across and between communities. (See Davenport, 2002, for an empirical application of the idea.)

We, moreover, believe that communication and extensive knowledge and information sharing is not likely to happen in an atmosphere of mistrust. Furthermore, Davenport and Prusak (1998) pay attention to the role of trust in transferring information and in knowledge work by noting that: "Trust can trump the other factors that positively affect the efficiency of knowledge market. Without trust, knowledge initiatives will fail, regardless of how thoroughly they are supported by technology and rhetoric and even if the survival of the organization depends on effective knowledge transfer" (p. 34). Empirical studies likewise support this notion. A study on KM at the European Bank for Reconstruction and Development showed that trust, technology and ownership were the major influential factors for knowledge sharing (see Babeira, 1999). Orlikowski (1993) examined the implementation of the groupware product Notes within an international corporation providing consulting services worldwide. The findings, also reported elsewhere in this book, suggested that in competitive and individualistic organizational cultures, where people are not used to sharing their knowledge and expertise, the groupware technology does not give the expected benefit.

Because the critical areas of an organizational culture vary on different industrial sectors and organizational levels (Huotari, 1998), these differences should be taken into consideration when developing appropriate strategies to enhance the conversion of individual knowledge into organizational knowledge through collaboration and knowledge and information sharing. Sometimes failures with the factors related to the relational dimension of social capital may cause problems in the cognitive dimension and thus also in the development of the structural dimension. Nooteboom (2002, pp. 23-29) explains the problems of not adapting to the use of new technology with the intangible nature of tacit knowledge within organizations and the problems of criticizing it. He emphasizes the importance of decreasing the cognitive distance of network members

by establishing so called "epistemic communities" of shared mental categories, meanings and interpretations. This may even call for the establishment of shared values between collaborators to increase normative trust. Therefore, we believe that the effective management and application of knowledge and information is to a large extent an outcome of successful leadership.

## Trust and Collaboration

Collaboration is a cornerstone of social capital and a necessary form of accomplishing tasks in knowledge-based organizations. It is strongly related to trust and networking. Collaboration is related to all three dimensions of social capital. We can assume that through the cognitive and relational dimensions it also has a strengthening impact on the structural dimension. Collaboration can be defined as human behavior, sharing of meaning and completion of activities with respect to a common goal that takes place in a particular social or work setting (Sonnenwald & Pierce, 2000). Like trust, collaboration enables the conversion of individual knowledge into organizational knowledge. Trust has an effect on collaboration and the development of the structural dimension because it produces more interactions between the interdependent members of an organization or a network. Therefore, the enhancement of trust in collaboration is crucial for knowledge creation.

Problems in collaboration have an impact on the cognitive dimension because the cognitive distance of partners often inhibits collaborative efforts. Their different background and expertise may likewise impede it. Sonnenwald (1995), who studied collaboration in a design project, claims that problems such as impeding collaboration appear because the partners bring not only their models of work and organization and personal beliefs, but also their own world lives to the collaboration process. We can assume that trust strengthens the cognitive and relational dimensions and has a crucial role as a communicative sense-making process in such a situation. Without trust, different opinions and views could easily be interpreted to be hostile and the benefits of collaboration would be lost. Here, too, the development of normative trust may produce the required effects on collaboration.

Networking makes collaborative ability a critical factor. Therefore, collaboration as a behavioral model should be encouraged and enhanced by applying appropriate strategies. Iivonen and Harisalo (1997) identified three main strategies to increase collaboration in work communities:

1. Improving the openness of the work community.
2. Crossing the boundaries which impede the collaboration.
3. Sharing and increasing knowledge.

These strategies are closely related to the organization's communicative and sense-making processes to cross borderlines and bridge gaps between various groups. Therefore, they also foster the growth of trust. Moreover, they can be applied to strengthen the relational, cognitive and structural dimensions of social capital. The openness of work communities means both good communication practices and understanding of the work done by other people in the same organization. Open work communities are essential for new knowledge creation and use because processes related to the identification, acquisition, storage, sharing, and distribution of information for knowledge creation do not work effectively in closed organizations (see Widén-Wulff, 2001).

In many organizations there may be both visible and invisible borders to be crossed. These borders may relate to the relational and cognitive dimensions of social capital. The strategies applied should include incentives to boundary spanning behavior because these organizational borderlines prevent human contacts and, consequently, information flows. Thus, they also impede the development of the structural dimension of social capital. Visible borderlines can be found, for example, between various units and departments, invisible ones, in turn, between generations, genders, or individuals with disparate educational backgrounds, worldviews and mental models. Cognitive distance exists where invisible borderlines are strong. Knowledge sharing helps to decrease cognitive distance and enhances knowledge creation and use within organizations. Moreover, it increases inter-organizational learning through collaborators' ability to learn from each other. At the same time it offers an opportunity to learn to collaborate. Communities of practice can become the foundation for this learning.

Trust has an impact on the structural dimension of social capital. Trust in these relationships allows frequent contacts and sharing of knowledge in practice for the generation of new knowledge. Trust can emerge in relationships of this kind because these activities may be heavily routinized in nature and also have evolved informally. This signifies the role of knowledge sharing that requires that communication also be established, maintained, and facilitated between experts and novices (Blair, 2002, p. 1022).

We can infer that organizational structure can also have an impact on knowledge sharing and the type of trust or mistrust developing within an organization. An empirical study by Tsai (2002) highlights the impact of organizational structure on knowledge sharing. He examined knowledge sharing in a multi-unit organization where units compete against each other. The findings indicate that formal hierarchical structure, in the form of centralisation,

has a significant negative effect on knowledge sharing. Informal lateral relations, in turn, in the form of social interaction, have a significant positive effect on knowledge sharing among units that are competing against each other in the market place, but not among units competing for internal resources. This means that external market competition, rather than internal competition for resources, influences knowledge sharing. Social interaction allows units to accumulate social capital to access knowledge or new information. These knowledge and information flows require interaction to promote trust and to reduce perceived uncertainty about providing or acquiring new knowledge to other units (see also Hansen, 2002).

In our view the relationship between collaboration and trust is a two-way relationship. On the one hand, real collaboration pre-supposes trust. People who do not trust each other do not give their best to collaboration. As Fukuyama (1996, p. 27) says, "...people who do not trust one another will end up cooperating only under a system of formal rules and regulations, which have to be negotiated, agreed to, litigated, and enforced, sometimes by coercive means." Instead, if they trust each other, they will appreciate collaboration that they are involved in, and thus also their commitment to it. On the other hand, trust can be learned in organizations through collaboration. When people work together, they can learn to trust each other and find that they will win and succeed simultaneously with their partners. Because trust is based on our own experiences, we need opportunities to learn it in our own lives. Real, honest collaboration offers such an opportunity.

Because learned trust is based on our own experiences, collaboration offers an opportunity to generate trust. However, in certain circumstances people have to collaborate without a history of working together or having had the opportunity to learn trust. Davenport and McLaughlin (2003) consider trust in virtual teams elsewhere in this book. They also pay attention to the concept of swift trust.

Swift trust refers to trust that is based on sharing meanings and that can be developed and maintained rather quickly in social interaction through a clear definition of roles and responsibilities, and handling of disagreements effectively.

The understanding of the social nature of knowledge is manifested, for example, in Nahapiet and Ghoshal's view of the nature of intellectual capital. They refer to Brown and Duguid's (1991) analysis of communities of practice by stating that "…social learning is located in complex, collaborative social practices…" and continue that… "Intellectual capital stresses the significance of socially and contextually embedded forms of knowledge and knowing as a

source of value differing from the simple aggregation of the knowledge of a set of individuals" (Nahapiet & Ghoshal, 1998, p. 246). They provide a comprehensive theoretical analysis for understanding the creation of intellectual capital facilitated by social capital as the processes of combination and exchange of resources to innovate.

Tsai and Ghoshal (1998) also gained empirical support for the hypothesis that social interaction and trust had the potential to increase knowledge creation through resource exchange and combination and to enhance trustworthiness, whereas a shared vision did not. They conclude that inside a firm social interaction and shared vision are two different sources of trustworthiness. Their thesis is that, via its influence on trust, a shared vision can influence resource exchange and pooling only indirectly. Moreover, resource exchange and combination created value for the firm through a significant, positive effect on product innovations (p. 472). Therefore, they conclude that each dimension of social capital reinforces the creation of other dimensions. They also strongly advocate the use of network analysis to understand organizational phenomena.

# DISCUSSION

In the globalized economy of the 21st century, it is crucial to gauge the intangible assets of organizations. This calls for new frameworks, models, theories and methods. We claim that the role of trust must be taken into account in the management of the knowledge-based activities of organizations and their stakeholders. Societies have always changed through various cycles, and these developments have changed the forms and models of work, too. According to Halal (1996), there exist three parallel revolutions, namely, revolutions in technology, organization, and leadership. These fundamental changes are contingent upon each other, because it is impossible to pay attention only to one revolution at a time without seeing changes in the others. There is no reason to assume that information technology has reached its zenith. Instead, we are confident about new technological innovations. Simultaneously, we will face fundamental changes in organizations and leadership. As the exploitation of knowledge and information increases, the sources of productivity, innovations, and competitive advantage in organizations also increases. Therefore, it is crucial to examine how this new, major factor of production changes organizations, and how knowledge-based organizations can be managed. In this chapter we have shed some light on the role of trust in managing knowledge-based organizations. We provided an analysis of trust in relation to organiza-

tional culture and climate and collaboration, and indicated the potential impacts of trust on the relational, cognitive and structural dimensions of social capital and its relation to the intellectual capital of an organization.

## Implications for Research

We hold the view that because intellectual capital is a wider concept than KM, it should be included in the frameworks that pursue the strategic management of organizational knowledge and information. This entails examining the social nature of knowledge as organizational knowing and understanding the impact of social factors on knowledge generation. Because knowledge management can be defined as involving both the management of people as creators of knowledge and information as the raw material of all knowledge processes, the complementary — not optional or exclusive — nature of knowledge management and information management should be tested empirically.

Trust is also based on social norms or values of behavior (Nooteboom, 2002, p. 11). Norms are a component of the relational dimension of social capital and the link to trust, through normative trust, was indicated. Otherwise, the role of norms in trust building was not examined in this chapter. However, there exists a clear need to conduct empirical research in this area by analysing the various features of the multidimensional concept of trust in relation to organizational culture and climate, collaboration, and social norms and values in the everyday life contexts of knowledge-based work in greater detail.

One approach highlighting the interplay of these factors is suggested by Huotari and Chatman (2001), who claim that structural attributes of social network theory, that is, social norms, shared values and homogeneity, network density and dispersion (the diversity of members and social distance among them) explain collaborators' behavior in networks. By combining these concepts with a theory of everyday life, information seeking, that is, Chatman's Small World Theory, and the strategic management framework of value constellation (Normann & Ramiréz, 1994), Huotari and Chatman (2001) provide elements for a new model of strategic information management. (See also Huotari 1999, 2001; Huotari & Wilson 1996.) They show that the concept of social types can be used to examine approaches taken to information and knowledge generation within a network by applying the insider/outsider description to explain knowledge awareness, acquisition, sharing and use.

Huotari and Chatman (2001) claim that trust has an impact on knowledge creation processes. They show that insiders' lived experiences are shaped by a common cultural, social and occupational perspective by applying the

concept of localized integration. Moreover, they argue that accepted social norms give insiders a standard to gauge normative behavior, for example, when collecting information. This means that insiders hold a common worldview when forming strategic partnerships and clusters of collaboration, whereas outsiders may be opposed to this worldview. This indicates that it would be important to distinguish and elaborate on the impact of the different types of trust, for example, normative trust, on information and knowledge-related processes. Moreover, the concept of swift trust should be examined in future studies, because knowledge creation in circumstances where people have no common history of working together requires fast trust building to minimize vulnerability, uncertainty, and risk. Therefore, we find it very appropriate to examine trust clearly from the social network theory perspective.

Furthermore, the two types of social capital — bonding and bridging — find support in Huotari and Chatman's (2001) application of the insider-outsider description to explain collaboration and information-related behavior in networked environments. For example, as bonding social capital facilitates inside-organization knowledge generation, it is manifested through insiders' trust in each other and their ability to create new knowledge. In bridging social capital, in turn, there exists a social network based on trusting relationships established for the purpose of linking an organization to other outside organizations for knowledge creation. (See also Nooteboom, 2002; Putnam, 2000.) Understanding of the relationships of the main concepts in organizational behavior in general and knowledge and information related behavior in particular is required for developing appropriate knowledge strategies and knowledge management programmes. Moreover, the examination of these relationships is a sine-qua-non for the development of new theoretical knowledge, including models and frameworks of strategic management of knowledge and information to sustain a competitive advantage in the networked environment.

We have to bear in mind that trust is only one of the intangible organizational factors to have an impact on knowledge generation. It is highly relevant to enhance and maintain social well-being and the economic development of society. Other intangible organizational factors related to human behavior should also be studied both at the theoretical and empirical levels. We are certain that in the future these intangible factors will gain more critical emphasis and new roles.

## Implications for Practice

Understanding of the nature of the main factors within the three dimensions of social capital and their relations at the theoretical level increases the ability

to manage these factors in practice. Through various combinations these factors can have an impact on performing in a unique manner for innovative outcomes. The development of trust within and between organizations or strategic partners performing in a networked manner is a demanding and long-term engagement. It requires commitment to collaborate and persistent work towards common goals and strategies for their achievement. These strategic aims could possibly be realized by identifying the main factors of the relational and cognitive dimensions of social capital, for example, by establishing shared values that give a frame of reference to behavioral norms. Moreover, sharing meanings is crucial for trusting and the level of trust is assessed through the outcomes of the joint work processes in collaborative networks.

We propose that organizations pay more attention to potential changes related to the structural dimension of social capital. This could be vital for many knowledge-based organizations in order to generate social capital in the future. We argue that the possibilities of replacing general organizational structure and power-based relations by trust-based relations should be thoroughly examined. This entails replacing hierarchical structures by units whose foundation is formed by collaboration. Halal (1996) emphasizes the need to redefine the employment relationship and break large organizations into small, self-managed units. Further, he proposes that "pay-for-position" thinking should be replaced by "pay-for-performance" thinking. Halal's concept of "knowledge entrepreneurs" refers to a knowledge worker who acts on the basis of a working contract of rights and responsibilities. The knowledge entrepreneur does not fit in (match) with hierarchical organizational structures, but requires the networks of independent units where all units are accountable for results and creative entrepreneurship is encouraged.

Borderlines inhibiting interactions within and between collaborators, organizations or partners should be identified and challenged, too. Moreover, to produce such an architectural landscape or task structure that supports collaboration and informal interactions is a managerial challenge. This is a crucial task because successful collaboration pre-supposes the opportunity for face-to-face contacts. For example, Nonaka and Konno (1998) apply the concept of *basho (ba)* by the Japanese philosophers Nishida and Shimizu. *Ba* refers to a physical and mental and even virtual "place" that enables interaction for interpreting information to yield knowledge. As such, it relates to what Heidegger calls a locality that simultaneously includes space and time (Nonaka, Toyama & Konno, 2000, p. 14).

We claim that it is a demanding managerial task to enable sense-making for shared meanings within an organization and between collaborating partners.

The development of a communicative, open organizational climate requires executives and managers to behave as role models. Special consideration, even talent, is required to communicate even critical issues to all personnel and collaborators. These discussions should also include the development of the overall mission of an organization.

We believe that building trust-based partnerships with other organizations will be the major managerial challenge in the globalized economy because organizations are no longer able to succeed alone. Partnership building means the pooling of intellectual capital of collaborating partners, and this demands trust. Therefore, trust is the basis for and co-evolution of social capital. Social capital, in turn, facilitates high performing partnerships and increases their capability to produce high quality outcomes contributing to the development of intellectual capital as the major source of economic and social wealth.

## CONCLUSION

The aim of this chapter was to increase the understanding of the role of trust in the management of the knowledge-based activities of an organization and its stakeholders, that is, within a network. We examined the concept of intellectual capital as a wider framework for knowledge management within an organizational context. The emphasis was placed on the social nature of knowledge as organizational knowing and on the importance of understanding the impact of social factors on knowledge generation. By pointing out the main differences in the concepts of knowledge and information, the complementary roles of KM and IM were justified. We defined knowledge management as involving both the management of people as creators of knowledge and information as the raw material for all knowledge processes. Moreover, we defined the concept of trust and analyzed its main features.

To highlight the crucial role of trust in the effective management of organizational and inter-organizational knowledge and information processes, we examined it within the wider framework of social capital in relation to intellectual capital. The foci were on the role of trust in the development of organizational culture and climate and on collaboration. Moreover, we discussed the interrelation of trust and social norms and values, and suggested an appropriate approach to combine these factors into a new theoretical framework. Our examination clearly demonstrates the need for empirical research on trust as a component of social capital having an impact on knowledge creation and the generation of intellectual capital. This is vital for grounding new theoretical frameworks in the everyday life of knowledge-based organizations.

This grounding, in turn, is crucial because the management of knowledge-based organizations is increasingly involved in the various deep-seated values of their members and stakeholders. These values affect people's willingness to work, their existing norms and beliefs about the world and their own organizations. Values have an impact on the principles which guide people's actions and knowledge and information-related behavior. On the basis of the dominating values, knowledge management may be implemented very differently in different contexts. Thus, we claim that trust should be a jointly accepted value in every knowledge-based organization. To achieve this stage more theoretical research is required based on empirical studies on the everyday contexts of organizational life in the networked global economy.

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