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HOW TO PROMOTE KNOWLEDGE SHARING IN ORGANIZATIONS USING THE PSYCHOLOGICAL CONTRACT AS A MANAGEMENT TOOL

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The aim of the study was to explore and understand the factors promoting knowledge sharing in organizations. In addition, the study aimed to find out how management could further knowledge sharing in organizations using the psychological contract as a management tool.

The study focused on the individual employees. The study asked what motivates knowledge workers to share their personal knowledge and what makes knowledge sharing desirable from the perspective of an employee. The concept of the psychological contract was used to explain the relationship between the employee-employer relationship and the knowledge sharing motivation. The study aimed to find answers to the question how can the psychological contract help management to promote knowledge sharing performance.

The research choices of the study originated from the interpretative research paradigm. The study is qualitative and it was conducted as an extensive multiple-case study among five knowledge workers located in Oulu and representing different business fields. Two web developers, a start-up entrepreneur, a project manager and a university teacher were interviewed in order to study individual experiences of knowledge workers on knowledge sharing. The interviews were conducted as a semi structured and the data collected was analyzed using phenomenological hermeneutic methods.

The results of the study showed that knowledge is shared most effectively in organizations where communality is strong, communication flawless, knowledge sharing behavior is supported by upper management and the creative nature of knowledge work is respected. The knowledge sharing motivation of knowledge workers showed to be mostly intrinsic and based on the reciprocity and the common good.

The psychological contract was studied using former literature and its suitability as a management tool in knowledge management was evaluated. The concept of the psychological contract proved to be a useful tool for assessing employees’ needs and expectations in order to find the best possible means to arouse the intrinsic motivation towards knowledge sharing.

The results of the study offered managerial implications in order to increase the amount and the quality of the knowledge sharing behavior in organizations. By improving communication and recognizing the importance of the continuous re-negotiation of the psychological contracts of the individual employees, management can better intrinsically motivate knowledge workers to share their knowledge. To ensure the knowledge sharing performance management should make sure that the work of the knowledge workers includes enough creative problem solving. Also, the relaxed organizational climate with suitable amount of autonomy was revealed to be an important factor affecting on job satisfaction and accordingly on knowledge sharing.

Keywords
Knowledge management, organizational learning, knowledge sharing motivation, motivation theory

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1 INTRODUCTION

This introduction chapter presents the scientific discussion where the study contributes and which acts as a context of the study. This is done by describing the research problems, defining the key concepts, showing the limitations and evaluating the contribution and significance of the study. Also, the social debate on the background of the subject, describing the economic and social importance of the topic, is shortly presented for a start.

1.1 Background and the social debate behind the subject

Working life is under great changes in advanced economies, also in Finland. Wealth and well-being have engendered changes in the ways of thinking and attitudes toward work and life generally. According to Pantzar and Halava (2010), the traditional career, as we have used to know it, is stepping aside and replaced with the chain of separate working periods. They state that linear augmentation of the standard of living is not necessarily required, because the satisfactory level of wealth has already been achieved, and therefore, the story of individual’s working life can become more like an exploratory expedition among different roles and working communities. Consequently, the traditional career is replaced with a portfolio including all past working experiences. The more diverse the portfolio is the more secure person feels on a labor market.

Other important issue in the Finnish labor market is the increasing amount of ageing labor force. In 2007 The Finnish Ministry of Labor (Työministeriö, 2007) forecasted that the supply of labor will reduce strongly from 2010 onwards, when approximately 7500 persons retire yearly. According to The Official Statistics Finland (2013), the amount of senior citizens increased 14 741 persons between 2010 and 2011. That is even more than forecasted.
The third prominent trend in the Finnish labor market has been companies downsizing as a consequence of recession, hard competition and attempts to economize. Nokia, one of the biggest employers in Finland at the start of the millennium, for example, has cut off huge amounts of jobs yearly since 2008 (Yle Uutiset, 2013).

Followers of knowledge-based view of the firm (e.g. Grant 1996, Spender 1996) state, that knowledge is the foundation of a firm’s competitive advantage and, if simplified, ultimately the primary driver of the firm’s value. Knowledge resides within individuals (Nonaka & Konno, 1998) who create, recognize, archive, access and apply it carrying out their tasks. Individuals might have great amounts of knowledge that no one else has access into. This unshared and often nebulous tacit knowledge is a vast threat to organizational knowledge and therefore also for organizational success. The departure of key employees can create critical knowledge loss which is difficult or even impossible to restore afterwards. Without planning and preparation knowledge continuity crisis can occur and cause a threat to organizational productivity and profits.

Therefore knowledge management and especially knowledge transfer is nowadays significant for every organization. According to Riege (2005), organizations’ competitive advantage increasingly depends on effective knowledge management and organizational learning. Organizational learning is a part of successful knowledge management, which depends on employee behavior and especially on knowledge sharing among employees (Park et al. 2004). Understanding what could make people share their individual knowledge and finding effective motivators to do so is one of the biggest and the most important challenges of present-day leaders.

### 1.2 Research objectives and problems

Creating an atmosphere in which knowledge will be shared and knowledge flow created is not an easy job to do. Mostly because it is commonly believed that knowledge is power only if it benefits one to acquire competitive advantage. The more valued knowledge becomes, the less it is shared because of the risk of losing the competitive advantage. Also other knowledge sharing barriers, like lack of time
or sense of importance of the knowledge in hand, exist. Research literature recognizes certain essential obstacles to knowledge sharing and these knowledge sharing barriers will be presented more specifically later on.

The objective of this research is to find answers to the question what motivates employees to share their knowledge among co-workers and through the organization. The problems of knowledge sharing are approached studying both factors influencing on knowledge sharing and barriers preventing employees from sharing their knowledge. The research problem is summarized in these three research questions, where the first one is the main research question defined by two sub questions.

1) What motivates employees to share their personal knowledge in organizations?

   a. What makes knowledge sharing desirable from the perspective of an employee?
   b. How can the psychological contract help management to promote knowledge sharing performance?

1.3 Framing of the research

The literature review shows that there are three major approaches to enhance knowledge sharing among employees. The first approach is the tool based emphasizing the importance of IT systems in knowledge sharing. The second approach is incentive-based, emphasizing the use of incentives to promote knowledge sharing. The third approach is integrative, connecting these two approaches. (Hsu, 2006)

This study emphasizes the incentive-based approach, as IT systems and their influence on knowledge sharing have been left outside the focus. This study is also mainly concerned with the knowledge sharing between employees, whereas top-down knowledge sharing between management level and employees acquires only some attention. Knowledge shared between employees is outstandingly important,
because organizational and team level knowledge flow is in essence based on the amount of knowledge shared between employees (Cabrera & Cabrera, 2005).

1.4 Significance and contribution of the research

The subject of this research, knowledge management and particularly knowledge sharing motivation, is quite widely studied these days. The research branches of knowledge sharing and motivation are thick on the ground. Studies have been made concerning for instance extrinsic and intrinsic motivation, organizational culture, incentives and job design. Nevertheless, fewer studies have been made to explain the individual knowledge sharing motivation.

None of the studies done has explained what possibly makes knowledge sharing advantageous for individual and therefore helps to overcome individual knowledge sharing barriers. Neither has the psychological contract used to explain knowledge sharing motivation. Hislop (2003) suggest in his paper linking HRM and KM, that organizational commitment may be an important variable influencing the attitudes of workers towards participating in knowledge sharing. He also suggests that the model of the psychological contract illustrates the effects of commitment on the degree of loyalty that workers have to their organizations. On his opinion research in this area has the potential to improve understanding of what motivates people to share their knowledge at work.

1.5 Research process and structure

Varto (2005) emphasizes that in qualitative research the description of the research process is eminently important, because only by describing the process, the methods used and the foundations of the constructions the researcher can without gaps present the research decisions made and the principles which the progression of research is based on. Therefore the phased research process is presented in Figure 1.
The interest of this study focuses on human experience of knowledge sharing motivation. Any research aiming to identify and understand concrete phenomenon on the basis of experiences and knowledge got through experiences is empirical qualitative research, also this study. The experiences of the knowledge workers are studied by qualitative phenomenological research methods. Because the aim of the research is to describe the experiences of knowledge workers, categorize them, and analyze the knowledge produced by the experiences the data is collected by interviewing knowledge workers. Hermeneutic phenomenology gives suitable analysis methods for data analysis to explore and interpret the experiments of other people. (Mapping Research Methods, 2013)

The research report describing and verifying the research process is made up of eight chapters which are retelling the structure of the actual research process. The first chapter at hand, an introduction, describes the selection of the topic, the formation of the research problems, the objectives of the research and selected research methods. The next four chapters present the previous literature that proved interesting and
Valuable for the research problems of the study. The sixth chapter summarizes the selected literature and describes researcher's preliminary understanding about the research problems by answering to the research questions and objectives based on the former literature, and guiding the latter parts of the study. The seventh chapter presents and justifies the methodology chosen to implement the study. In the eighth chapter, the detailed results from the analyzed data are presented. The ninth chapter connects and discusses the results with the former literature. In the final chapter the research questions are answered, the managerial implications presented and the subjects for the future research suggested.

1.6 Definitions of the key concepts

In order to guide the reader to better understand the framing and the viewpoints of this study on its subject the key concepts of the study (knowledge, knowledge management, knowledge sharing, organizational learning, motivation and psychological contract) are defined in this subchapter briefly. All the definitions are reasoned and discussed in more details later on in different chapters covering the theory of the concept in question.

In organizational context, like in this study, knowledge is defined as “the fluid mix of framed experience, values, contextual information, and expert insights” (Davenport and Prusak 1998, 5). Most of the knowledge in organizations is tacit by its nature. Tacit knowledge is obtained by internal individual processes like experience, reflection, internalization and individual talents and it cannot be managed and thought in the same manner as explicit knowledge (Haldin-Herrgård 2000, 358).

This study adopts the following definition of knowledge management presented by Gao et al. (2008, 13) “... knowledge management in a business organization means managing the activities of knowledge workers, which is achieved through facilitating, motivating, leading, and supporting knowledge workers and providing or nurturing a suitable working environment”. According to the definition, the main stress on knowledge management is in facilitating and enabling knowledge creation and sharing.
Knowledge sharing can be defined as a social interaction culture, involving the exchange of employee knowledge, experience, and skills through the whole department or organization by capturing, organizing, reusing, and transferring experience-based knowledge that resides within the organization, and making that knowledge available to others in the business (Lin, 2007b). According to McDermott (1999) and adopted in this study knowledge sharing really happens only when a person guides someone else through his or her thinking or uses his or her insights to help others see their own situation better. Knowledge sharing and organizational learning are tightly bounded together. Organizational learning can be described as “the detection and correction of error” (Argyris and Schon 1978, 2). Organizational and individual learning are one of the key objectives of knowledge sharing initiatives. (Alavi and Leidner, 2001; Earl, 2001; Nahapiet and Ghoshal, 1998; Nonaka, 1994; Sveiby, 1997).

In work context, the person is motivated when he or she is moved to do something. (Ryan & Deci, 2000). People have not only different amounts, but also different kinds of motivation. People can be motivated either extrinsically or intrinsically and these two categories can lead to very different behavior and performance. Intrinsic (internal) and extrinsic (external) motivations are presented and discussed in more details later on in this study.

Psychological contract is used to define the relationship between organization and its employer. The most widely accepted definition of the psychological contract by Rousseau (1995, 9) states that “psychological contract is individual beliefs, shaped by the organization, regarding the terms of an exchange arrangement between the individual and their organization”.
2 ORGANIZATIONAL KNOWLEDGE AND LEARNING

Plato (369 BC) defines knowledge as “justified true believe” in The Theaetetus, one of his dialogues concerning the nature of knowledge. Most Western philosophers also accept the definition. Data and information are both closely related terms to knowledge. Nevertheless, there is clear distinction between these three. According to Fahey and Prusak (1996) data is numbers and facts, information is processed data and knowledge personalized information. Knowledge is based on and overlapping with both information and data.

Miller & Morris (1999) define knowledge as the intersection of information, experience, and theory. According to Alavi & Leidner (2001, 109), “knowledge becomes information once it is articulated and presented in the form of text, graphics, words, or other symbolic forms”. In reverse, knowledge becomes information as soon as it is articulated or written. Knowledge doesn’t exist without individuals who give meaning to information, which then becomes knowledge. (Räisänen, 2010)

In organizational context, knowledge is defined as “the fluid mix of framed experience, values, contextual information, and expert insights” (Davenport and Prusak 1998, 5). Hence, organizational knowledge includes the human factor and according to Bock et al. (2005), largely resides within individuals. Alavi and Leidner (2001) state, that there are four sets of socially enacted knowledge processes within organizations: knowledge creation, knowledge storage and retrieval, knowledge transfer and knowledge application. All these processes are possessed by individuals in the organization.

According to the early work of Polanyi (1966), knowledge can be classified to be either explicit or tacit. Tacit knowledge cannot be easily articulated and it only exists in people's hands and minds, and manifests itself through human actions. Explicit knowledge is instead knowledge that has been captured and codified into manuals, procedures, and rules, and is easy to disseminate. Knowledge exists on a spectrum with totally tacit knowledge located at the one extreme and totally explicit knowledge at the other. Even though knowledge in most cases is for simplicity
labeled to be either tacit or explicit, the most of the knowledge exists between these two extremes.

Tacit knowledge is obtained by internal individual processes like experience, reflection, internalization and individual talents and it cannot be managed and thought in the same manner as explicit knowledge (Haldin-Herrgård 2000, 358). Therefore managing tacit knowledge is often more complex and challenging than managing the explicit knowledge.

2.1 Knowledge management

Knowledge management as a concept is complex and cannot be defined simply by defining the terms knowledge and management. There are two main tracks of topics under the concept knowledge management – those related to technology and those concerning more people-focused issues, concentrated on facilitating or enabling knowledge creation and culture (Gao et al., 2008).

Whereas the hard track of knowledge management (e.g. Boisot, 1995, 1998; Davenport, 1993; Davenport and Prusak, 1998; Stewart, 1997) is aimed at the management of existing explicit knowledge, the experts in the soft track of knowledge management place more emphasis on tacit knowledge and know-how. For the soft trackers of knowledge management (e.g. Nonaka and Takeuchi, 1995; Sveiby, 1997) knowledge is embedded in people and knowledge creation is associated with the processes of social interaction, whereas the hard trackers see that creating knowledge implies a process of generating insights through extracting information from data. (Gao et al., 2008)

Davenport and Prusak (1998) has defined knowledge management as the process of capturing, storing, sharing, and using knowledge. For them, knowledge management is more knowledge processing. As the research problems of this study express, the perspective used in this study follows the soft track of knowledge management and adopts the following definition of knowledge management presented by Gao et al. (2008, 13) “- knowledge management in a business organization means managing the activities of knowledge workers, which is achieved through facilitating,
motivating, leading, and supporting knowledge workers and providing or nurturing a suitable working environment”. The main stress on knowledge management is in facilitating and enabling knowledge creation and sharing.

2.2 Knowledge sharing and knowledge transfer

Knowledge transfer and knowledge sharing are often used synonymously or considered having overlapped content in knowledge management literature. According to Paulin and Suneson (2012, 87), there are clear indications that researchers who use the term knowledge transfer have a tendency towards the perspective seeing “knowledge as an object” and that authors who use the term knowledge sharing are drawn more towards the perspective defining “knowledge as something that is constructed in a social context and which cannot be separated from the context or the individual”. In this study, the term knowledge sharing is adopted based on this above described typology.

Knowledge sharing is a part of the knowledge management process. It can be defined as a social interaction culture, involving the exchange of employee knowledge, experience, and skills through the whole department or organization (Lin, 2007b). Also Hsu (2006) emphasizes the importance of people in the knowledge sharing process and defines knowledge sharing as employee behaviors which facilitate the dissemination or transfer of his/her knowledge to others.

Lin (2007b) continues that knowledge sharing for an organization is capturing, organizing, reusing, and transferring experience-based knowledge that resides within the organization, and making that knowledge available to others in the business. Van den Hooff & de Ridder (2004) define knowledge sharing as the process of mutually exchanging knowledge and jointly creating new knowledge. When human element is involved in the process, knowledge sharing can be defined as the exchange of ideas and information among people who share a common purpose and experience similar problems (Storey, 2001). Knowledge sharing is closely related to the concept of social capital. As knowledge sharing, social capital also has the ability in creating value through the process of recombining and disseminating knowledge (Abdullah et al., 2011).
McDermott (1999) explains knowledge sharing further and gives a guiding principle to recognize where knowledge sharing really happens by stating that sharing someone’s knowledge involves a person guiding someone else through their thinking or using their insights to help others see their own situation better.

All these definitions presented above are dealing largely with tacit knowledge sharing. It is mainly because tacit knowledge cannot be managed and taught in the same manner as explicit knowledge as it is obtained by internal individual processes like experience, reflection, internalization or individual talents (Haldin-Herrgård, 2000). Therefore, the main challenge of companies’ sharing practices is to protect and maximize the value derived from tacit knowledge held by employees, customers and external stakeholders (Riege, 2005). The main focus of this study is also in tacit knowledge and its diffusion in organizations.

Knowledge sharing concerns the willingness of individuals in an organization to share with others the knowledge they have acquired or created. Knowledge sharing cannot be forced but can only be encouraged and facilitated (Gibbert & Krause, 2002). Therefore the great share of knowledge management activities is motivating employees to share their knowledge.

### 2.3 Organizational learning

Organizational learning seems to be impossible to define comprehensively; widely excepted definitions do not exist. Organizational learning can, however, be described as “the detection and correction of error” (Argyris and Schon 1978, 2). In this context error means the difference between what members in an organizational context aspire to achieve and what they actually achieve.

Knowledge sharing and organizational learning are tightly bounded together. Knowledge sharing practices and initiatives often form a key component of knowledge management programs, in terms of organizational and individual learning (Alavi and Leidner, 2001; Earl, 2001; Nahapiet and Ghoshal, 1998; Nonaka, 1994; Sveiby, 1997).
3 FACTORS AFFECTING ON KNOWLEDGE SHARING

It has been widely studied and agreed that several overlapping factors affecting on knowledge sharing behavior exist (Cabrera & Cabrera, 2005; Haldin-Herrgård, 2000; Riege, 2005; Small & Sage, 2005/2006; Wang & Noe, 2000; Marks et al., 2008). These factors have been studied from different perspectives, for example, as people management practices fostering knowledge sharing (Cabrera & Cabrera, 2005), knowledge sharing barriers (Riege, 2005), as difficulties in knowledge diffusion (Haldin-Herrgård, 2000), as factors motivating individuals to share (Marks et al., 2008) and as factors influencing on human performance (Small & Sage, 2005/2006).

Despite the fact that the main stress of this study is on motivational factors, it is important to take into account also other areas of interest in antecedent knowledge sharing research, in order to clarify the context of the research problem in question. Therefore, organizational, individual and technological factors affecting on knowledge sharing are covered in this chapter.

As the literature is carefully studied it reveals that there seem to be two kinds of approaches to the factors affecting on knowledge sharing; positive approach studying factors facilitating knowledge sharing and more pessimistic approach studying factors preventing or complicating knowledge sharing. Cabrera & Cabrera (2005) go along with the former approach and propose seven distinctive people management practices to foster knowledge sharing among organizational employees. Those are work design, staffing, training and development, performance appraisal, compensation and rewards, culture and technology.

Riege (2005) recognizes over three dozen knowledge sharing barriers appearing in former knowledge sharing literature. These factors can be divided into three subgroups of potential barriers: individual, organizational and technological. Also, Haldin-Herrgård (2000) has studied difficulties of sharing knowledge. She studies exclusively tacit knowledge and notes that tacit knowledge must be managed differently from explicit knowledge in order to unleash its power (Haldin-Herrgård 2000, 363). She presents that difficulties in tacit knowledge sharing are mainly related to perception, language, time, value and distance. Perception and language
are mainly individual factors complicating knowledge sharing, whereas time, value and distance can be concerned as organizational problems. Value of tacit knowledge is defined by organizational culture; time and distance instead are dependent mostly of organizational structure.

In their review research, Small and Sage (2005/2006) have adopted the idea of Ives et al. (2003) that knowledge sharing is a human behavior that must be examined in the context of human performance. Based on their idea, the human performance model, that includes the business context, organizational and individual factors can be used to describe what makes knowledge sharing successful. Marks et al. (2008) highlight three factors influencing on knowledge sharing: managerial prompting, group identification and social value orientation. They recognize also other factors influencing, but emphasize these three as they are common elements in most organizational environments and, therefore, pertinent factors in the study of organizational dynamics in modern business environments.

Wang and Noe (2010) have reviewed the current knowledge sharing research and built a framework revealing areas and themes already examined in knowledge sharing literature and underlining those in need of contribution in the future research. They found five areas of emphasis common for knowledge sharing research: organizational context, interpersonal and team characteristics, cultural characteristics, individual characteristics and motivational factors.

As this literature presented above is studied carefully, it is revealed that most of the influencing factors concerned in these studies can be divided into four categories: organizational factors, individual factors, technological factors and motivational factors. Motivational factors are presented separately in Chapter 4, and other three categories presented in Table 1. are discussed in this Chapter 3.
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<th>Table 1. Categorized factors influencing on knowledge sharing</th>
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<td>1. Organizational factors</td>
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<td>a. Organizational culture and climate</td>
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<td>c. Rewards and incentives</td>
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<td>i. Performance appraisal</td>
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<td>2. Individual factors</td>
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<td>ii. Competitor</td>
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<td>iii. Individualist</td>
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<td>c. Education and work experience</td>
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<td>3. Technological factors</td>
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<td>a. Poor design, planning or implementation of new technology</td>
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Different national cultures and languages can also generate challenges for knowledge sharing (Ford & Chan, 2003; Minbaeva, 2007). Ford and Chan (2003) conducted a case study which showed that the most blocks and flows caused by cross-cultural
differences were influenced by the several languages, heterogeneity or homogeneity of national cultures, and culturally acceptable advice-seeking behaviors. Nevertheless, national cultural factors are left out of the discussion in pursuance of this research, as they fall out from the area of the research questions.

3.1 Organizational factors

Based on the literature review made, organizational context seems to include three distinct groups of factors affecting knowledge sharing. These are 1) organizational culture and climate, 2) organizational structure and 3) compensation, rewards and incentives. Fourteen of Riege’s (2005) three-dozen knowledge sharing barriers identified come under the organizational context and can also be divided into these three groups.

Under the topic organizational culture and climate there are communication, egalitarianism, fairness, perceived managerial and organizational support and training and development. In organizational structure, factors crucial for knowledge sharing seem to be work design, team characteristics and staffing. Topic rewards and incentives cover both monetary and non-monetary rewards, which include, for example, training and development, feedback and different kinds of immaterial incentives. All these components of compensation are based on performance appraisal and might have effects on behavior, also in knowledge sharing.

3.1.1 Organizational culture and climate

In many studies, organizational culture and climate has been examined and factors affecting on knowledge sharing directly or indirectly, through different mediators, have been found. Cabrera and Cabrera (2005) present that organizational culture can influence knowledge sharing in two distinct ways; through social norms or trust.

The first way to influence is to create an environment where there are strong social norms regarding the importance of sharing one’s knowledge with others. Typically social norms like many other aspects of culture are transmitted through socialization processes, storytelling and rituals. By incorporating knowledge sharing behaviors
into these experiences organizations can demonstrate the importance of knowledge sharing (Cabrera & Cabrera, 2005). According to Haldin-Herrgård (2000), in order to harness tacit knowledge it first needs to be valued. The concern of the value of tacit knowledge originates from its different forms, for example the rule of thumb or intuition, which have been labeled as less important forms of knowledge because of their immeasurable nature (Zack, 1999). Organizational culture valuing tacit knowledge and the importance of its sharing is the first step in the exploitation of organizational tacit knowledge.

The managerial example and the pressure from the peers will also create the norms for sharing (McDermott and O’Dell, 2001). Lin and Lee (2006) state that managers' perceptions about the relative advantage of knowledge sharing for business and knowledge sharing compatibility to existing business processes serve as mediators between organizational climate and organization’s intention to encourage knowledge sharing. Similarly, Riege (2005) recognizes the lack of leadership and managerial direction, in terms of clearly communicating benefits and values of knowledge sharing practices, can perform as a knowledge sharing barrier. He has also noticed that if existing corporate culture does not provide sufficient support for sharing practices, the culture itself is the potential knowledge sharing barrier.

Learning culture has been used to describe organizational climate focusing on learning and trying new approaches (Wang & Noe, 2010). However, the relationship between knowledge sharing and learning culture has drawn mixed research results. Taylor and Wright (2004) found that climate encouraging new ideas and focusing on learning from failure was positively related to effective knowledge sharing, whereas Lee et al. (2006) found no significant relationship between knowledge sharing and learning orientation.

The second way to influence knowledge sharing through organizational culture is to create an environment of caring and trust for encouraging individuals to share with others. This is acknowledged also by other researchers. Kankanhalli et al., (2005) state that a culture that emphasizes trust has been found to help alleviate the negative effect of perceived costs on knowledge sharing. Similarly, in many other studies (Schepers & Van den Berg, 2007; Wang, 2004; Willem & Scarbrough, 2006) it has
been shown that organizational climate that emphasizes individual competition may pose a barrier to knowledge sharing whereas cooperative team perceptions help create trust. In addition to trust as a facilitating knowledge sharing factor, many different researchers (Ruppel & Harrington, 2001; Bock et al., 2005; McKinnon et al., 2003) have shown that also the culture emphasizing innovation encourages knowledge sharing.

According to Cabrera and Cabrera (2005), the culture of caring, trust and cooperation can be created by open communication, egalitarianism, fairness in decision making processes and perceived support from the organization, co-workers and supervisors.

High band-width communication, which is two-way, face-to-face discussion, provides a rich medium for information exchange by leading to more chance encounters and by increasing familiarity, both of which increase the likelihood of sharing. Although the generality of the communication nowadays happens through different technological solutions, face-to-face communication seems to be a key to establishing trusting relationships and should not be entirely replaced by information technology. (Cabrera & Cabrera, 2005)

According to Riege (2005), high internal or external competitiveness within business units, functional areas, and subsidiaries can serve as potential knowledge sharing barriers. This is understandable as at the same time highly egalitarian environment has found to be one of the main factors contributing to the success of knowledge-intensive firms (Robertson & O’Malley, 2000). Snell et al. (1999) agree and posit that information and knowledge are likely to be shared in egalitarian work environments. Egalitarianism in organizations’ practices emerges as eliminated status barriers, low hierarchy, open and free communication, transparency, empowerment and involving decision making. The environment that empowers and involves its employees feeds trust as employees feel themselves important, recognized and respected. (Cabrera & Cabrera, 2005)

Also, the perceived fairness of the decisions that management makes and the perceived fairness of reward and recognition practices it pursues affect employees’ willingness to share significantly (Hislop, 2003; Flood et al., 2001). One of the
dimensions of organizational citizenship behavior (OBC) is interpersonal helping behavior. If the parallel between knowledge sharing and OBC is drawn, knowledge sharing can be considered as an interpersonal helping behavior. OBC literature states that justice perceptions play a key role in encouraging citizenship behavior. Therefore, knowledge sharing as citizenship behavior can also be affected by justice perceptions (Cabrera & Cabrera, 2005). For example, Moorman (1991) found out in his OBC study, that employees demonstrated more helping behaviors when they believed that outcomes, such as a pay and promotions, were distributed fairly.

Perceived support from the organization, the supervisors or the peers have been acknowledged by many researchers (e.g. Hislop, 2003; McDermott & O’Dell, 2001; Oldham, 2003) as an important factor encouraging knowledge sharing. Podsakoff et al. (2000) found a significant positive relationship between perceived organizational support and helping behavior. Once again, if knowledge sharing is seen as an interpersonal helping behavior, it can be said that perceived organizational support affects on knowledge sharing behavior as well. Marks et al. (2008) studied how managerial prompting, in other words, cues provided by managers to remind workers what is expected of them, impacts on knowledge sharing. The results of their study indicated that repetitive managerial prompt or reminder increased knowledge sharing. Hence, managerial prompting can be seen as part of managerial support and, therefore, useful way by being presence to enhance knowledge sharing behavior.

Top management support for knowledge sharing has been shown to affect positively on both the level and the quality of knowledge sharing. The support has been positively associated with employees’ perceptions of knowledge sharing culture and willingness to share knowledge (Connelly & Kelloway, 2003; Lin, 2007d). Also, employee commitment to knowledge management practices has found to be related to top management support (Lee et al. 2006). The support from other co-workers has been shown to be as important as support from management and to increase employees’ knowledge exchange and their perceptions of usefulness of knowledge sharing. (Lee et al., 2006; Cabrera et al., 2006; Kulkarni et al., 2006)

Riege (2005) writes that if the integration of knowledge management strategy and sharing initiatives into the company’s goals and strategic approach is missing or
unclear, that can perform as a potential knowledge barrier. Therefore, the translation of any company strategy into the personal goals of employees is one of the most important tasks of the management to do together with its employees. Also, knowledge sharing, as it is written into the company’s strategy, can be carried out only if every employee understands what it means in her or his everyday work. The implementation of the firm strategy can be seen also as a managerial support.

Also, Hsu (2006) has studied which organizational practices enhance employee knowledge sharing tendencies. In his study, strong top/senior manager involvement and commitment were highly associated with knowledge sharing. He also found out that continuous company-wide learning initiatives and performance management systems, which motivate employee knowledge sharing and information disclosure, enhance the creation of knowledge sharing climate.

According to Cabrera and Cabrera (2005), extensive training and development programs should help to increase the general level of employee self-efficacy, which makes employees feel more assured of their abilities and consequently more likely to share their knowledge with others. Also training in a team building should increase knowledge transfer by increasing social, relational and structural social capital which is noticed to help to stimulate knowledge sharing behavior. Cabrera & Cabrera (2005) assume that team-based training, cross-training and training in communication skills should best help employees to exchange information effectively by emphasizing cooperation and building relationships among employees. Also, according to Kang et al. (2007), trainings at the very beginning of the employment, which can be called orientation or socialization, are very useful for helping employees to acquire organizational values, norms and the shared cognitive schema. As noted earlier, shared norms, values and cognitive schemata help to facilitate knowledge sharing.

Cabrera and Cabrera (2005) suggest that all these below presented practices recognized to facilitate knowledge sharing are expected to affect the relational dimensions of social capital positively. This in turn increases trust and cooperation, which consequently increase expectations of reciprocity. Other studies (e.g. Chiu et al. 2006; Wasko & Faraj, 2005) concerning the relationship between the norm of
reciprocity and knowledge sharing have given inconsistent results. Also, Wang and Noe (2010) have noticed that the relationship between the norm of reciprocity and knowledge sharing is still on the level of hypothesis, and they suggest that this relationship should be studied further in the future.

3.1.2 Organizational structure

Organizational structure has also shown to affect knowledge sharing. The results of the former studies suggest that organizations should create opportunities for employee interactions and the hierarchy should be lessened to facilitate knowledge sharing (Wang & Noe, 2010). Also Riege (2005) recognizes hierarchical organization structure as knowledge sharing barrier inhibiting and slowing down most sharing practices. The high hierarchy is most often associated with big companies and corporations. Consequently, according to Riege (2005), too large business units are unmanageable to enhance contact and facilitate the ease of sharing.

Cabrera and Cabrera (2005) point out that work design can establish interdependencies, the frequency of interactions and information flow requirements which affect social capital and especially its structural dimension. A functionally segmented structure seems to constrain knowledge sharing (Lam, 1996; Tagliaventi & Mattarelli, 2006), whereas a less centralized organizational structure (Kim & Lee, 2006), the use of open workspace (Jones, 2005), the use of fluid job descriptions and job rotation (Kubo et al., 2001), communication across departments and informal meetings (Liebowitz, 2003; Liebowitz & Megbolugbe, 2003; Yang & Chen, 2007) has been shown to encourage interaction and knowledge sharing. Also Haldin-Herrgård (2000) emphasizes the importance of face-to-face interaction for the diffusion of tacit knowledge.

Riege (2005) names physical work environment and layout of work areas as possible restricting factors for effective knowledge sharing. The shortage of formal and informal spaces to share, reflect and generate knowledge is named as one of the Riege’s organizational knowledge sharing barriers. According to Riege (2005), also the lack of other company resources, like skilled personnel, finance, information or communication technology, that would provide adequate sharing opportunities, can
function as a serious knowledge sharing barrier. The shortage of appropriate infrastructure supporting sharing practices seems to be one of the most important barriers as Riege mentions it separately.

Haldin-Herrgård (2000) notes, that lack of time, which seems to be one the most important organizational resources, is one of the factors making especially the tacit knowledge diffusion more difficult. She states that only a few organizations have understood to reserve enough time for learning to achieve the tacitness of the knowledge. These shortages in resources listed by Riege and Haldin-Herrgård can be a result from managerial decisions not emphasizing the importance of knowledge sharing, but also from inappropriate work design.

Mohrman (2003) found out that job design with lateral linkages across functions, geographical locations, business units and companies can be created by employees working closely with other employees in sequence of assignments on the series of projects rather than stable, individualized jobs with concrete tasks. Riege (2005) emphasizes that in flat organizations, with communication flows that are not restricted in one direction, knowledge sharing is more likely to occur. Any restrictions in communication can perform as knowledge sharing barriers, which can complicate sharing also on the other levels of the organization. Restrictions in communication flows, especially from the top to down, can also result from organizational culture, which is non-transparent, highly hierarchical and stiff. In order to make changes in work design initial changes are required in organizational culture and climate.

Team work has altogether been showed to increase knowledge sharing. Work designed around teams makes employees work closely with others and, therefore, encourages knowledge sharing (Cabrera & Cabrera, 2005). Kang et al. (2007) believe that cross-functional teams are especially useful for encouraging the creation of ties with employees from different groups. Achieving positive results requires that team members seek and share information with others (Noe et al., 2003).

There are only a few studies exploring team characteristics in relation to knowledge sharing willingness and actions. Those few found out that the longer the team has
been formed and the higher the team cohesiveness the more likely the team members are to share knowledge (Bakker et al., 2006; Sawng et al. 2006). The agreeable and extrovert team communication styles have also found to be positively associated with knowledge sharing willingness and behaviors (de Vries et al. 2006) and the empowering leadership has been found to foster knowledge sharing among team members (Srivastava et al., 2006). It is also noted that knowledge sharing is greater when high interdependency exists among team members (Noe et al. 2003). The personal reciprocal interdependency of work tasks creates not only strong and cohesive relationships (Kang et al. 2007), but also strong need to work together in order to achieve common goals (Lengnick-Hall & Lengnick-Hall, 2003). Based on this reasoning interdependency of members in a team and tasks they conduct seems to enhance all the three dimensions of social capital; relational, structural and cognitive.

The minority status or diversity of team members has found to be related to knowledge sharing. In Ojha’s research (2005) team members who considered themselves a minority based on gender, marital status or education were less likely to share knowledge with team members. Sawng et al. (2006) found out that R&D teams with higher female-male ratios were more likely to engage in knowledge sharing. Regarding study conducted by Thomas-Hunt et al. (2003) socially isolated members of the team are more likely to disagree and contribute their unique knowledge within others. Also, in functionally diversified teams the acknowledgement of team members’ expertise helps to increase participation in knowledge sharing (Thomas-Hunt et al. 2003).

Knowledge sharing can also occur in social networks like the communities of practices (CoP). CoPs are groups of people who share a craft or a profession. Faraj and Wasko (2001, 3) define the community of practice as “an emergent social collective where individuals working on similar problems self-organize to help each other and shape perspectives about their work practice, resulting in learning and innovation within the community”. Lave & Wenger’s (1991) perception of CoPs extends the definition to apply also to the groups built purposefully with the goal of gaining knowledge, related to the field of certain interest, in mind. Typical for CoPs
is the use of internet or intranet discussion groups or other computer-mediated communications to make the sharing of information and ideas possible.

Many researchers have noticed that ties among individuals within social networks can sustain knowledge sharing and enhance the quality of information received (e.g. Cross & Cummings, 2004; Hansen, 1999; Reagans & McEvily, 2003). The amount of relationships between members, direct ties and the strength of those ties seem to facilitate knowledge sharing and perceived helpfulness of the knowledge in virtual communities (Chiu et al., 2006; Wasko & Faraj, 2005). Chen (2007) has also noticed that expectation of maintaining and strengthening social ties by frequently participating has been found to positively affect individuals’ intention to continue to participate in a community.

In addition to functional work design and team characteristics, it is important to be aware that having high levels of relational social capital among employees requires also properly performed recruiting and selection practices. The most important task during the recruiting process is to identify individuals who will have a higher probability of agreeing on the norms of the firm and identifying with each other (Cabrera & Cabrera, 2005). This means that candidates’ values should be identified during the hiring process and their compatibility to firm’s and other employees’ values should be considered. Chatman (1991) describes this practice used in the recruiting process as a person-organization (P-O) fit and defines it as congruence between organizational values and beliefs and individual personality, values and needs. The use of the P-O fit in the selection process helps management to hire people based on who they are with their values and beliefs, not just for what they can do (Lengnick-Hall & Lengnick-Hall, 2003).

Another tool for finding people sharing the same values that the firm’s current employees do is to use employee referrals in recruiting. Persons referred are also more likely to have greater social capital upon entry as they already have ties with at least one current employee. Furthermore, employee who referred them will include them in his or her social network as soon as they start working for the company. (Cabrera & Cabrera, 2005).
Besides the selection of new employees, equally important is to take care of the retention of skilled people and their knowledge. Riege (2005) highlights the fact that if the knowledge retention of highly skilled and experienced staff is not a high priority of the company, knowledge sharing is threatened.

As discussed earlier, communication skills facilitate the building of social capital and open high band-width communication increases the likelihood of knowledge transfer in the organization. Therefore in recruiting process candidates should also be assessed for their communication skills, as well as facilitative team and collaborative behaviors (Pulakos et al. 2003).

3.1.3 Compensation, rewards and incentives

The empirical results of the relationship between rewards or incentives and knowledge sharing have been mixed. Even though it is common believe that incentives, including recognition and rewards, facilitate knowledge sharing, especially the effects of extrinsic rewards have been challenged in the recent research (Bock et al., 2005; Kwok & Gao, 2005; Lin 2007c). Also Cabrera and Cabrera (2005) warn that there may be some danger in using financial rewards to encourage knowledge sharing, as they can be perceived as controlling and in some cases shown to diminish creativity. Deci (1975) discovered the long time ago that offering extrinsic reward may decrease the perceived intrinsic value of the behavior. Also O’Dell and Grayson (1998) argue that intrinsic rewards, such as recognition, may be more effective than extrinsic rewards for engaging employees in knowledge sharing activities. Another reason to avoid extrinsic rewards is their tendency to create competition among employees (Cabrera & Cabrera, 2005). Also Riege (2005) warns about the lack of transparent rewards and recognition systems. He continues by summarizing that although reward and recognition systems linked to knowledge sharing behavior may not be the best possible way to encourage the behavior that should be natural, they nevertheless pay the important role emphasizing the significance of knowledge sharing.
Instead, it has been shown that group-based and co-operative incentives and reward systems affect knowledge sharing positively whereas individual and competitive reward systems and incentive have an opposite effect (Ferrin & Dirks, 2003; Quigley et al., 2007; Taylor, 2006). Also Kang et al. (2007) state that appraisal and incentive systems based on group or firm performance and stock ownership programs will reinforce collective goals and cooperation.

Also, Foss et al. (2009) found out that feedback on the job has a positive impact on employees’ external motivation to engage in knowledge sharing. However, they (Foss et al. 2009) also found that external motivation is negatively related to the extent of knowledge sent to colleagues and suppose that it is because individuals who engage in knowledge sharing for external reasons might strategize their knowledge sharing by sharing only the amount of knowledge required to obtain external rewards.

Cabrera and Cabrera (2005) have noticed that making knowledge sharing behavior critical for career success and recognizing the knowledge sharing behaviors in performance appraisals reduce the perceived cost of knowledge sharing behavior. They continue and state that performance evaluations should have a developmental, rather than controlling, focus, as knowledge sharing is more likely to take place in an organizational climate that is safe and non-judgmental (Oldham, 2003).

Offered training and development plans can also be seen as a part of reward and appraisal practices. Training and development as factors affecting on knowledge sharing are nevertheless discussed under the topic organizational culture and climate, as a part of learning culture, covered in this same chapter earlier.

### 3.2 Individual factors

The role of personality or dispositions is also rarely studied in relation to knowledge sharing. Cabrera et al. (2006) and Lin (2007a) have both found the individual openness to experience to be positively related to individuals’ knowledge exchange. They suggest that individual’s openness to experience is related to curiosity that drives them to seek others’ ideas and insights. Also Riege (2005) recognizes the poor
verbal or written communication and interpersonal skills as a potential individual knowledge sharing barrier. Especially poor verbal and other interpersonal skills may result from personality that is more introverted than extroverted and play a role that affects knowledge sharing ability. Haldin-Herrgård (2000) states that one of the most difficult factors complicating tacit knowledge sharing is language. Tacit knowledge is held in a non-verbal form. To articulate something that is so obvious and natural for its owner can be extremely hard for most of the people.

Marks et al. (2008) approach individual factors affecting knowledge sharing through social value orientation. They use the theory by Messick and McClintock (1968) where individuals can be described by three different profiles: as collectivists, competitors or individualists. Collectivists try to ensure they are sharing any returns equally with others. Competitors separate themselves from others in order to maximize their return. For competitors it is primarily important to maximize the distance between them and their competitors rather than maximize the absolute amount of revenue. Vice versa, individualists try to maximize their own return regardless of what others are doing. (Marks et al. 2008)

These three categories by Messick and McClintock (1968) can be combined and labeled into two groups; individuals and competitors as proself and collectivists as prosocial. Marks et al. (2008) expected and in their study also indicated that prosocial individuals will contribute more knowledge to a KSM than proself individuals. Therefore it is important to look for prosocial traits when hiring personnel.

Constant et al. (1994) have found that employees with the higher level of education and longer work experience have positive attitudes toward sharing and are more likely to share their expertise. Results in studies concerning the expertise-knowledge sharing relationship have been mixed. Wasko and Faraj (2005) found no relationship between expertise and knowledge sharing, but Constant et al. (1994) suggests that when other employees are asking questions using organization’s knowledge management system, the employees with higher expertise are more likely to share useful knowledge. Riege (2005) believes that differences in age, gender or education levels may be barriers to knowledge sharing. He does not take a stand on whether
age, gender, the education or the experience levels themselves have an effect on knowledge sharing behavior, but he emphasizes the differences in them as affecting factors.

However, several studies have been shown that employees who are more confident about their ability to share useful knowledge are also more likely to express intentions to share knowledge and engage in knowledge sharing (e.g. Cabrera et al. 2006; Lin, 2007c). Also, the fear of negative evaluation has found to be negatively related to knowledge sharing (Bordia et al. 2006). Also, employees need to understand the full range of their knowledge before they tend to share it (Haldin-Herrgård, 2000). Especially the amount and quality of individual tacit knowledge is difficult to perceive.

Riege’s (2005) viewpoint to individual knowledge sharing barriers proposes that factors like lack of time, the fear of job security, unawareness of the value of the knowledge, power issues and lack of trust in the organization are more individual than cultural characteristics. Elsewhere these kinds of factors are often seen as cultural barriers complicating knowledge sharing. However, at least the level of these factors and their effect on knowledge sharing behavior seem to differ between individuals.

3.3 Motivational factors

One profound part of the knowledge sharing is the willingness of individuals in an organization to share with others the knowledge they have acquired or created, because as mentioned earlier, organizational knowledge largely resides within individuals (Bock et al. 2005). Wang and Noe (2010) presented in their study that all the other areas of emphasize of knowledge sharing literature have been shown to directly or indirectly influence knowledge sharing through motivational factors. The effects of the motivational factors on knowledge sharing are presented in more details in Chapter 4, following this chapter and reviewing recent literature related on the topic.
3.4 Technological factors

“Knowledge sharing is as much a people and organizational issue as it is a technology challenge” states Riege (2005) in his study concerning potential barriers for knowledge sharing. The most important is to make the people want to share, but it is not enough. Technology is also needed as it can offer instant access to large amounts of data and information and enable long distance collaboration.

One of the ways to reduce perceived costs of sharing knowledge is to have a well-designed, user-friendly technological tool that simplifies the task and reduces the time necessary for sharing one’s ideas with others (Cabrera & Cabrera, 2005). Regarding McDermott and O’Dell (2001) the most successful information technology is the technology that matches the existing organizational culture. The culture of a firm should not be ignored when adopting a new information technology as it should be built upon or enhance the existing knowledge sharing networks rather than conflict with it (Cabrera & Cabrera, 2005). Riege (2005, 23) warns about technology barriers to knowledge sharing, which are consequences of poor design, planning or the implementation of new IT technology, systems or processes.

1) Lack of technical support (internal or external) and immediate maintenance of integrated IT systems obstructing work routines and communication flows.
2) Lack of compatibility between diverse IT systems and processes.
3) Lack of training regarding employee familiarization of new IT systems and processes.
4) Lack of communication and demonstration of all advantages of any new systems over existing ones.

In many instances the introduction of a new technology has failed because attention is not paid enough for the human factors which determine the effectiveness of the new systems (Cabrera et al. 2006). Also Riege (2005, 23) names several technology barriers, which can be seen as the results of the human factor:
1) Lack of integration of IT systems and processes impedes on the way people do things.
2) Reluctance to use IT systems due to lack of familiarity and experience with them.
3) Mismatch between individuals’ need requirements and integrated IT systems and processes restricts sharing practices.
4) Unrealistic expectations of employees as to what technology can do and cannot do.

Ideally modern technology integrates mechanisms and systems purposefully and provides a suitable sharing platform which is accessible to all those in need of knowledge from diverse internal or external sources (Riege 2005, 31).
4 KNOWLEDGE SHARING MOTIVATION

As presented above, knowledge sharing behavior is a complex subject with dozens of affecting factors. Motivation has been identified as a key determinant not only of general behavior but also work-related behavior (Deci & Ryan, 1987; George & Brief, 1996; Lu, 1999). There is also a sign that it is the primary trigger for knowledge transfer (Osterloh & Frey, 2000). Individuals tend to hoard knowledge for various reasons. Therefore transformation of individual knowledge into organizational knowledge is not the easiest task to carry through. Like there are several reasons for individuals to hoard their knowledge, there are also several factors that increase employees’ tendencies to engage in knowledge sharing behavior (Bock, 2005).

The world is bursting with motivational theories and models. Many of them have also been used to explain knowledge sharing motivation. In knowledge sharing literature, mostly used motivational model seems to be Self-Determination Theory by Deci and Ryan (1985) (e.g. Lin, 2007b; Hung et al., 2011; Foss et al., 2008; Gagné, 2009). Also, the theory of reasoned action by Ajzen and Fishbein (1980) and theory of planned behavior by Ajzen (1991) are used to study knowledge sharing behavior (e.g. Bock & Kim, 2002; Bock et al., 2005; Gagné, 2009). These mentioned theories and models are presented and their suitability for knowledge sharing research evaluated in this chapter.

4.1 Intrinsic and extrinsic motivation in knowledge sharing

Self-Determination Theory (SDT) by Deci and Ryan (1985) is a theory of motivation. SDT has been researched and practiced by a network of researchers around the world. Knowledge sharing behavior shares similarities with many other voluntary behaviors, such as helping and prosocial behaviors and organizational citizenship behaviors. Self-Determination Theory has proven to be useful in predicting such voluntary behaviors and therefore it can also be used to predict knowledge sharing behavior (Gagné, 2009).
Self-Determination Theory (SDT) is a multidimensional framework with two types of motivation, autonomous motivation and controlled motivation. It is concerned with supporting our natural or intrinsic tendencies to behave in effective and healthy ways. Autonomous motivation produces volitional behavior as activity is performed because it is interesting or enjoyable. Therefore autonomous motivation is intrinsic. Controlled motivation instead wells from pressure from outside or inside sources, like promised rewards or self esteem contingent upon performance and is either extrinsic or introjected. (Deci & Ryan, 1985, 2000)

If a person is extrinsically or externally motivated he or she is driven by a goal. He or she engages in an activity to attain a positive or avoid a negative external outcome and feels pressured from the outside (Foss et al., 2008). Intrinsically motivated person will engage in an action because it is enjoyable and he or she finds it inherently interesting (Deci & Ryan, 1985, 2000). The action is also accord with the individual’s personal values.

Deci and Ryan (1985, 2000) argue that there is need for more fine-grained motivation typology. They point out that an individual can internalize external demands and his or her behavior becomes self-regulated but not intrinsically motivated. This kind of motivation is called introjected motivation. It is similar to intrinsic motivation in that it is internalized. When behavior is introjectedly motivated, it is not depend on others or external rewards and punishments. Introjectedly motivated individuals monitor and administrate rewards and sanctions to themselves. (Deci & Ryan, 1985)

Hung et al. (2011) and Lin (2007b) have studied the influence of intrinsic and extrinsic motivation on individuals’ knowledge sharing behavior and discovered that different intrinsic motivations have stronger influence on knowledge sharing behavior than any extrinsic motivation.

Hung et al. (2011) wanted to deepen the understanding of how to influence an individual’s tendency to engage in knowledge sharing behavior in a team setting. In their research knowledge sharing was measured in number of ideas generated, idea usefulness, idea creativity and meeting satisfaction. They used the model of extrinsic
and intrinsic motivation, which they tested in a group meeting settings. They found out that reputation feedback has the most significant effect on all measures of knowledge sharing. Instead, economic incentives did not increase knowledge sharing in their study.

Lin (2007b) also showed that expected organizational rewards did not influence employee attitudes and intentions towards knowledge sharing. Instead reciprocal benefits seemed to influence significantly employee attitudes and intentions towards knowledge sharing. Also, employee attitudes and intentions regarding knowledge sharing were strongly associated with their intrinsic motivation to share knowledge. (Lin, 2007b)

Liu and Fang (2010) studied the correlations between knowledge sharing motivation, willingness and behavior in nonprofit organizations. They found out that extrinsic motivation is unrelated to willingness to share knowledge, whereas the intrinsic motivation factor has the strongest influence on both knowledge sharing willingness and behavior. Extrinsic motivation can have influence on knowledge sharing behavior, but willingness to share always demands also intrinsic motivation. Also based on the study of Liu and Fang (2009) altruistic characters of intrinsic motivation, the reputation and mutual benefits seemed to be correlated with knowledge sharing willingness and behavior.

Foss et al. (2008) studied how different aspects of job design foster different types of individual motivation and how these motivation types influence employees’ knowledge sharing behavior. They found out that job autonomy increases employees’ intrinsic motivation toward knowledge sharing, task identity is positively linked to introjected motivation toward knowledge sharing and feedback on the job has a positive impact on employees’ external motivation to engage in knowledge sharing. However, results of their research also showed that external motivation is negatively related to the extent of knowledge sent to colleagues, while intrinsic motivation has a very strong and positive impact on knowledge sharing and introjected motivation has slightly weaker, yet positive, effect. They suppose that this is because individuals who engage in knowledge sharing for external reasons might
strategize their knowledge sharing by sharing only the amount of knowledge required to obtain external rewards. (Foss et al. 2008)

4.2 Theory of reasoned action (TRA) and theory of planned behavior (TPB)

Theory of reasoned action (TRA) is the model derived from the social psychology for the prediction of behavioral intention, spanning predictions of attitude and predictions of behavior. The model was proposed by Ajzen and Fishbein (1975) and later on it has been revised and extended by Ajzen (1991) himself into the theory of planned behavior, TPB. In TPB intentions “are assumed to capture the motivational factors that influence a behavior” (Ajzen 1991, 181).

Ajzen (1991) names three factors that are influencing intentions and defining whether to perform or not to perform certain behavior. These factors are:

1) attitude
2) social norms
3) beliefs about one’s control

The behavior is perceived as favorable or unfavorable regarding the attention towards it, subjective norm causes the pressure to perform the behavior or vice versa and control beliefs concern with having a necessary skills, resources and opportunities to perform that certain behavior.

Lin (2007b) examined the role of both extrinsic and intrinsic motivations in explaining employee knowledge sharing intentions. She linked intrinsic and external motivation to the theory of reasoned action (TRA) and found out that consistently with TRA, employee attitudes toward knowledge sharing predict their intentions to share knowledge. Results of his study showed that “employees with the strongest knowledge sharing intentions also had more positive attitudes towards knowledge sharing behavior” (Lin 2007b, 143).
4.3 Social exchange theory

Also the social exchange theory (Blau, 1964; Emerson, 1981) has been used to describe the knowledge sharing willingness. Social exchange theory views exchange as a social behavior. Within social exchange theory people evaluate the perceived ratio of benefits to costs. The basic formula for predicting the behavior for any individual in any situation is:

\[
\text{Behavior (profits)} = \text{Rewards of interaction} - \text{Costs of interaction}
\]

The elements of relational life include costs and rewards. Social exchange process brings satisfaction when people receive fair returns for their expenditures. Central to the social exchange theory is the idea that an interaction that elicits approval from another person is more likely to be repeated than an interaction that elicits disapproval. In other words, benefits and costs drive relationship decisions made by individuals. Both parties in a social exchange take responsibility for one another and depend on each other. Costs can be defined as the elements of relational life that have negative value to a person. These are efforts put into a relationship such as time, money and effort. Rewards can be defined as the elements of a relationship that have positive value. Those can be for example sense of acceptance, support, and companionship. (Witt, 2011)

Social exchange theory seems to be especially suitable for knowledge sharing study in the context of professional communities where it also has been the most widely studied. Professional communities are typically online networks where people seek and share highly specified professional information and knowledge. It has been found that participating in knowledge sharing in these kinds of communities of practice is related to increased internal satisfaction, perceived obligation of reciprocity, enhanced professional reputations and helping advance the community (Lin, 2007b; Hew & Hara, 2007; Wasko & Faraj, 2000; Wasko & Faraj, 2005). However, employees’ beliefs about the usefulness of their shared knowledge to others seem to be more important factor than the personal benefits gained (Chiu et al., 2006; Siemsen et al., 2007; Wasko & Faraj, 2000).
4.4 Model of knowledge sharing motivation

Gagné (2009) has presented a model that predicts knowledge sharing intentions and actual knowledge sharing behavior in organizations. This model uses both the TPB and SDT to explain in-depth how and why specific HRM practices will influence people’s engagement in knowledge sharing by influencing on autonomous motivation. Separate HRM practices presented by Gagné are in this connection left outside the discussion, because the effects of different HRM practices are also discussed in Chapter 3. Also, the psychological contract as a management tool in knowledge sharing is covered in Chapter 6, where the role of the HRM practices in psychological contract negotiations and further in knowledge management are presented.

However, Figure 2. shows how HRM practices have an influence on knowledge sharing intentions and behavior. Consistently with SDT, the model proposes that autonomous motivation predicts knowledge sharing intention, which in turn predicts knowledge sharing behavior. Consistently with TPB, also attitudes and norms toward knowledge sharing predict intentions. Like SDT outlines, autonomous motivation, in other words intrinsic motivation, predicts attitudes, meaning that people’s attitudes will become more positive if they internalize the value of sharing knowledge. (Gagné, 2009)
In Gagné’s (2009) model need satisfaction replaces control beliefs originally existing in TPB. The need satisfaction in Gagné’s model includes the need for competence, the need for autonomy and the need for relatedness. Norms moderate the link between need satisfaction and autonomous motivation. This means that positive sharing norms strengthen the link between need satisfaction and autonomous motivation and vice versa. Also, sharing motivation is expected to moderate the intention-behavior link, meaning that the greater the autonomous motivation the stronger the link.

Gagné’s model proposes that through HRM practices it is possible to affect prevailing norms, need satisfaction and attitudes and accordingly to knowledge sharing motivation, intentions and behavior. Through successfully planned and implemented HRM practices management can have an influence also on knowledge transfer.

The knowledge sharing motivation model by Gagné (2009) can be improved by adding the social exchange theory as a part of it. According to the social exchange
theory (Blau, 1964), performed behavior is either satisfactory or unsatisfactory depending on the rewards and costs of the interaction. These positive or negative outcomes shape the attitudes toward knowledge sharing and accordingly affect the future behavior. This relationship of the knowledge sharing motivation and social exchange theory is presented in Figure 3.

![Figure 3. Connection between knowledge sharing motivation and social exchange theory. Adapted from Gagné (2009).](image)
5 PSYCHOLOGICAL CONTRACT IN KNOWLEDGE MANAGEMENT

There are only a few studies concentrating on the effects of the psychological contract on knowledge sharing (Abdullah et al. 2011; O’Neill & Adya, 2007). However, some scholars have found signs that relationship between positive psychological contract and knowledge sharing behavior exists. The literature review of those studies is presented in this chapter and results are combined into the proposition of the relationship between psychological contract and knowledge sharing.

The psychological contract concept was introduced at the beginning of the 1960s. Argyris (1962, 96) first used the term psychological contract and considered it as an implicit, unwritten agreement between both parties to respect each other’s norms. At the same time, Levinson et al. (1962, 22) defined it as “an unwritten contract, a product of mutual expectations which are largely implicit and unspoken”. These two initial definitions first differentiated the psychological contract from formal contracts by emphasizing the implicit nature of it. At this time, the psychological contract was mainly used as a framework rather than a scientific construct.

Schein (1965) combined the work of Argyris and Levinson in order to conceptualize the nature of the psychological contract. He managed to establish the psychological contract as a tool for understanding the complex relationships between the employee and the organization. Schein (1965, 156) defined the psychological contract as

“An unwritten set of expectations operating at all times between every member of an organization and the various managers and others in that organization.”

Basically, the psychological contract was regarded as an implicit expectation in organizational roles, with each role having a set of expectations. Rousseau (1989, 123) defines the concept more narrowly stating:

“The psychological contract is an individual’s belief in the terms and conditions of a reciprocal exchange agreement between the focal person and another party. A psychological contract emerges when one party believes that a promise of future returns has been made, a contribution has been given, and thus, an obligation has been created to provide future benefits.”
Later Rousseau (1995, 9) has redefined his definition and this definition has become the most widely accepted.

“The psychological contract is individual beliefs, shaped by the organization, regarding the terms of an exchange arrangement between the individual and their organization.”

Rousseau’s definition emphasizes two fundamental points of the psychological contract; reciprocity and subjectivity. Reciprocity means that psychological contract contains an individual’s belief regarding the mutual obligations of both parties to the relationship (McLean Parks et al., 1998; Rousseau, 1990). Subjectivity instead concerns the way the employment contract is interpreted, understood, and enacted on a daily basis as employees are interfacing with their workplace (Millward & Brewerton, 1999). These two characters of the psychological contract have been agreed as essential components by the majority of scholars also in later research.

5.1 Types of psychological contracts

Rousseau (1995) has categorized the psychological contract into four types: transactional, relational, balanced and transitional. These contracts are distinct on two dimensions, the promised duration or time frame of the relationship and the explicitness of the performance requirements (Hui et al., 2004). The types and the dimensions of the psychological contracts are presented in Figure 4. The transactional contract is based on explicit performance criteria and focuses on economics terms. With the transactional contracts employees do not expect the long lasting relationship with their employer, but view their employment as a transaction, where work is compensated with the suitable pay, training and development (Rousseau & Wade-Benzoin, 1995). The transactional contracts can be described as short-term financial relationships and low emotional commitment involving agreements (Rousseau & Parks, 1993).

Relational contracts instead depend on trust, loyalty, and job security. These contracts have primarily emotional and implicit performance terms and long-term commitments by both parties of the contract. Workers with relational contracts are usually the most upset when the contract is violated, but also willing to solve the
problem and seek improvements instead of leaving the job or reducing their contributions (Rousseau, 2004).

Balanced contract type is a combination of transactional and relational terms, and typically in use when performance requirements are still unclear, but the aim is at a long-term relationship. Within the balanced contracts, employers have willingness to develop workers, but they also have expectations that workers will be flexible with the employment terms if economic conditions change for example.

Transitional contracts are not really psychological contracts at all. Instead they are more like arrangements, which occur when psychological contract breaches or reciprocal agreement for some other reason lacks. The transitional arrangement reflects instability in the organization’s environment and work conditions. Such contracts offer guarantees neither to employees nor employers. (Rousseau 1995, O’Neill & Adya 2007)

Figure 4. Types of the psychological contracts (Hui et al., 2004).
It has been proved that the type of the psychological contract cannot be determined by the employment status of an individual. Some part-time workers can have strong relational psychological contracts, whereas some full-time employees might have only weak commitments to their organizations and co-workers (Rousseau, 2004). Instead, O’Neill and Adya (2007) argue that the stage of employment, regular employee, newcomer or applicant, can predict the expectations and psychological contract perceptions regarding employer or employee obligations.

5.2 Characters of psychological contract

Psychological contracts develop through different phases of an employment and change over time as a result of changing needs and relationships on both the employee’s and the employer’s side (Schein, 1965; Levinson, 1962). Individual determinants for the psychological contract include experiences and expectations formed prior the employment, during recruitment, during early socialization or from experiences in the course of employment (Rousseau, 2001). Expectations can also vary according to factors like age, gender, level of education, non-work commitments etc. (Guess & Conway, 1998). Naturally also organizational factors influence the development of the psychological contract. Human resource policies and practices are the main factors indicating certain promises or obligations on the part of the employer and expectations of employees (Guest & Conway, 1998).

Failure to fulfill the psychological contract’s obligations is called the breach of the psychological contract. The breach can lead to behavioral reactions towards the employer, anger, resentment, a sense of injustice and dissatisfaction. (Rousseau, 1998; Rousseau, 1994; Robinson and Morrison, 1995, 1997; Roehling, 1997).

5.3 Psychological contract and knowledge sharing

Like defined in the introduction of this research report, psychological contract is “individual beliefs, shaped by the organization, regarding the terms of an exchange arrangement between the individual and their organization” (Rousseau 1995, 9). Based on the definition, psychological contracts are reciprocal and subjective, in other words, under the ongoing negotiation between the employer and the employee.
On the negotiation table there are two theories psychological contracts are based on, the norm of reciprocity by Gouldner (1960) and social exchange theory by Blau (1964).

The norm of reciprocity makes two interrelated, minimal demands: (1) people should help those who have helped them, and (2) people should not injure those who have helped them (Gouldner, 1960). Reciprocity is important in maintaining the stability and commitment within the social system as it establishes mutual and enduring associations where both parties have consistent obligations and rights. Social exchange theory bases on reciprocity (Blau, 1964). When an individual voluntarily provides a benefit to another, this action will invoke an obligation of the other party to reciprocate by giving something in return.

Social capital stands for close interpersonal relationship existing among individuals (Bolino et al. 2002). It is the important concept for organizational behavior as it describes and facilitates relationships important for successful collective action between organizational members (Leana and Van Buren, 1999). Nahapiet and Ghoshal’s (1998) define social capital as the sum of the actual and potential resources embedded within, available through and derived from the network of relationships possessed by an individual or social unit.

There are three dimensions of social capital; structural, cognitive and relational (Nahapiet & Ghoshal, 1998). The relational dimension is the affective part of the social capital describing network relationships in terms of interpersonal trust, the existence of shared norms and identification with other individuals in the network (Cabrera & Cabrera, 2005). In addition to trust it is composed of collaboration, reciprocity, coordination and team orientation. Structural capital refers to the overall patterns of connections between actors, or in other words, the impersonal configuration of linkages between people or units. The cognitive dimension of social capital forms from the language and shared narratives between network members. The communication becomes more effective when shared understanding increases through shared language and narratives. (Nahapiet & Ghoshal, 1998)
The structural and cognitive dimensions of social capital determine whether or not individuals have opportunity to share their knowledge with others, whereas the third dimension, the relational social capital, has an effect on whether or not individuals have the motivation to share. Relational social capital should ease the knowledge sharing by creating trusting environment as the motivation to share will be higher when employees trust and identify with one another. (Cabrera & Cabrera, 2005)

Abdullah et al. (2011) present that reciprocity and social exchange provide useful lens for examining the motivational mechanisms underlying the sharing of knowledge in the organization by showing that relational psychological contract is significantly related to knowledge sharing. Like mentioned earlier relational psychological contracts depend on trust, loyalty, and job security. According to Abdullah et al. (2011), trust and collaboration, which are components of relational social capital, mediate the relationship between psychological contract and knowledge sharing. These relationships are illustrated in Figure 5.

![Figure 5. Trust and collaboration mediating the psychological contract and knowledge sharing (Abdullah et al., 2011).](image)

The proposition of trust and collaboration mediating relational psychological contracts and knowledge sharing is backed up by other researchers as well. Both trust and collaboration have been studied to be essential elements in promoting knowledge
sharing in organizations (e.g. Janowicz & Noorderhaven, 2002; Kotlarsky & Oshri, 2005; Atkinson, 2007; Lester et al., 2007). Employees’ expectations towards organization’s fulfillment of their needs must first be translated into the development of trust and collaboration. Knowledge sharing can’t flourish within the organization before the trust and collaboration are established (Abdullah et al., 2011).

5.4 Psychological contracts of knowledge workers

Knowledge workers think for a living. According to Drucker (1999, 87), they “own the means of production”, the knowledge in their brain. Knowledge work, which can be defined as the acquisition, creation, packaging and application of knowledge, is performed by professionals with high-level of expertise and is variable by its nature (O’Donohue et al., 2007). These special features of knowledge work result in a set of characteristics specific to knowledge workers. As Acsente (2010) indicates in her literature review, special characters for knowledge workers are autonomy, innovation, creativity, flexibility, adaptability, intrinsic motivation, desire for interesting and challenging work, collaboration, and social networking.

Horwitz et al. (2003, 24) capture the same features of knowledge workers and state that knowledge workers are “autonomous people who enjoy occupational advancement and mobility and resist command and control culture”. O’Neill and Adya (2007, 413) propose that knowledge workers’ commitment is more occupational and less organizationally motivated. Holland et al. (2002) share the view and state that knowledge workers often direct their loyalty towards their careers and profession rather than to their organization. This might lead knowledge workers to leave their organizations easier than other groups would. This is in line with the proposition that knowledge workers’ turnover can be significantly higher than other employee groups (Despres & Hiltrop, 1995).

Scientists are good examples of knowledge workers. O’Donohue et al. (2007) have studied scientists’ psychological contracts. They found that scientists have the strong need to make a recorded contribution to the body of professional knowledge and to the “public good”. For some knowledge workers (at least the relational part of) the
psychological contract exists only so long as there is congruence between their own ideology and the organization’s aims.

The bipolar continuum of transactional and relational contracts is not enough to explain the issues of concerns about the psychological contracts of knowledge workers, because those concerns are more ideological and societal based than transactional or relational. The psychological contracts of knowledge workers include the ideological component which contains the need for the public availability of the knowledge produced, the possible ongoing generation of new knowledge and commitment to “public good” projects. (O’Donohue et al. 2007)

5.5 Evaluation and applicability of psychological contract study

The concept of the psychological contract has been used increasingly as a framework within which to study the aspects of the employment relationship (Conway & Guest, 2002). However, the psychological contract is not a theory, like Guest (1998) commented in his critical study. The psychological contract research has not managed to form a coherent theoretical framework to interpret and predict the employment relationship and employees’ attitudes and behaviors (Peng 2008, 47). Through analysis Guest (1998) lists doubts about the validity and parsimony of the concept. He raises doubts about the content validity, the construct validity and the testability and applicability of the concept.

The changes in the economic and social environments cause changes also in the employment relationship. These fundamental changes have important implications for employees’ human resource policies and practices. Whereas the work commitment in old and traditional employment relationship was based on job security, career advancement within the organization and promises of pay raises, in the new employment relationship the participative decision making, the sharing of rewards and risk (a stake in the outcome), accommodating employees personal needs, intrinsically rewarding work, social networks in the work place, external employability and fair treatment are increasingly important. (Roehling et al., 1998)
The psychological contract reflects this individualization of the employment relationship. Therefore, despite the fact that there are several open questions in the psychological contract field of research, the concept has various undeniable strengths. It uses the market philosophy, which views employee as an independent individual, offering her or his knowledge and skills in the labor market. The psychological contract also draws attention to the range and complexity of contracts in organization among individuals and varying career preferences. This is the especially useful feature as employment has developed from traditional form to new kind of employment relationship. (Guest, 1998)
6 PSYCHOLOGICAL CONTRACT PROMOTING KNOWLEDGE SHARING MOTIVATION

In this chapter, the earlier discussed theory adopted from the former literature concerning knowledge sharing, motivation and psychological contract is connected and linked together in order to preliminarily to answer the research questions and to describe the pre-understanding of the researcher guiding the upcoming parts of the study.

Like discussed earlier in Chapter 5, psychological contracts vary in different phases of an employment. According to O’Neill and Adya (2007), managers succeed better in promoting knowledge sharing if they first recognize the type of the psychological contract of an individual employee. O’Neill and Adya (2007, 430) suggest that “managers must properly assess the nature of psychological contracts maintained by knowledge workers so that knowledge sharing messages may be customized to address individual motivators”.

The social exchange theory and the norm of reciprocity are the underlying theories in the psychological contract determining the nature of the employment and so in the significant role in employee-employer relationships. The social exchange theory in the psychological contract connects the motivation and reciprocal nature of the employment relationship describing the employees’ motivation to fulfill the employee expectations. In the context of knowledge sharing the expectations are naturally connected with the knowledge sharing behavior.

The relational psychological contract enhances the maximization of fulfillment of employee’s economic and socio-emotional needs and leads to deeper levels of trust (O’Neill & Adya, 2007). Like mentioned before, many researchers are of one mind that trust is crucial for knowledge sharing. Therefore, in order to enhance positive knowledge sharing behavior, it would be beneficial to lead knowledge workers from transactional contracts towards more mutually satisfying relational contracts.

Communication, in any given form, has commonly accepted to lead to a more explicit and effective psychological contract (e.g. Robinson & Morrison, 2000;
Herriot & Pembertonm 1997; Stiles et al., 1997; Rousseau, 1995; Turnley & Feldman, 1999). The study conducted by Guest and Conway (2002) indicates that job-related and recruitment based communication is more important for effective management of the psychological contract than top-down communication. Regarding the same study job-related and recruitment based communication has positive association with contract explicitness, lower breach, a fairer exchange and reciprocity, and contract outcomes, which are performance, commitment, employee relations, employee wellbeing, motivation and employee trust in the organization.

Communication as a main driver of the positive psychological contract sounds reasonable. Front-line employees are recognized as the key business drivers and might be even called ‘human capital’. In order to get most out of this resource, employers need to know what employees expect of their work. The psychological contract provides the useful tool for mapping employee’s attitudes on things that have crucial influence on organization’s performance.

O’Neill and Adya (2007) use Daimler Chrysler as an example of how career opportunities can be used as motivators in knowledge management. Daimler Chrysler had integrated knowledge sharing as a part of their annual performance reviews, but employer attitudes toward knowledge sharing were notwithstanding mixed. CEO of the company decided to give a lead by participating in knowledge forums and same time successfully emphasized knowledge sharing as a way to move up the corporate ladder. There was a fruitful way to shift focus from the transactional approach of rewarding to an emphasis on how knowledge sharing can enhance one’s career objectives. Also, showing commitment to knowledge sharing Daimler Chrysler management set a good example for the rest of the employees to follow. (O’Neill & Adya, 2007)

In the model of knowledge sharing motivation presented and discussed in Chapter 4.3 HRM practices were left on the less attention. Management practices still play a key role in knowledge management. The nurturing of the positive relational psychological contract can be seen as HRM practices that have been well taken care of and resulting as trust and collaboration, which affect attitudes, need satisfaction and sharing norms as a model in Figure 6. presents.
Because the psychological contract is a constantly developing set of mutual agreements, within it could also the changing situation of knowledge sharing motivation be measured, mapped and developed individually with every employee. Understanding the concept of the psychological contract helps leaders to understand different demands and expectations of every individual employee, also considering knowledge sharing behavior and motivation. The type of psychological contract has an effect on which and what kind of factors employee finds motivating. Based on the social exchange theory (Blau, 1964; Emerson, 1981), every employee weighs the rewards and the costs differently, based on his or her psychological contract. Well negotiated relational psychological contract produces trust and collaboration that form the basis for positive attitudes, need satisfaction and sharing norms towards knowledge sharing. By recognizing the type of psychological contract management is able to predict the most useful ways to motivate their individual employees and use these motivators as a part of knowledge management.

Figure 6. Psychological contract as a management tool.
7 METHODOLOGY

All the research choices originate from the research paradigm. Methodology, methods and research design are all based on the chosen paradigm. Bryman (1988, 4) describes a paradigm as “a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, how results should be interpreted”. This chapter presents the paradigm of this research and discusses the research choices made within.

7.1 Research paradigm

Research paradigm forms from the ontology, which concerns the ideas about the existence of and relationship between people, society and the world, and the epistemology, which answers to the questions what is knowledge and what are the sources and limits of knowledge (Eriksson & Kovalainen, 2008). Burrell and Morgan (1979, 2) present, that associated with but conceptually separate from, the ontological and the epistemological issues, there is a third set of assumptions concerning human nature. According to Burrell & Morgan (1979, 2), these three sets of assumptions have direct implications of a methodological nature; different ontologies, epistemologies and models of human nature are likely to incline social scientists towards different methodologies.

In epistemology, there is an objectivist and a subjectivist view. According to the objective view, it is possible that there exists a world that is external and theory neutral, whereas the subjective epistemological view claims that there is no access to the external world beyond our own observations and interpretations. Also ontology can be described by two different positions. Objectivism in ontology asserts that social phenomena and their meanings have an existence that is independent or separate from actors, whereas constructivism (or in other words subjectivism as in epistemology) asserts that social phenomena and their meanings are continually being accomplished by social actors. (Eriksson & Kovalainen, 2008; Bryman & Bell 2003, 22-25)
Burrell and Morgan (1979) merge these three aspects into four paradigms and state that each paradigm contains assumptions that can be presented as either objectivist or subjectivist. Objectivist assumption claims that there is an external viewpoint from which it is possible to view the organization, which is comprised of consistently real processes and structures. Subjectivist assumption sees an organization as a socially constructed product, a label used by individuals to make the sense of their social experience, so it can be understood only from the point of view of individuals who are directly involved in its activities. (Bryman & Bell 2003, 25-26)

Furthermore, Burrell and Morgan (1979, 17) present that the scientist research can have two different purpose, either regulation or radical change. Bryman and Bell (2003, 26) illustrate what this division means in the world of business. They state that if the purpose of business research is regulative, it describes what goes on in organizations and if necessary suggests minor changes, but does not make any judgments. If the purpose of the research is radical change, the research makes judgments about the organizations and what organization should be proposing possible ways to achieve these given goals.

These two assumption axes presented above – objectivist-subjectivist and regulation-radical change – form the four possible paradigmatic positions for the research of organizations presented in Figure 7.

In this study, reality is seen as being socially constructed. The organizations do not exist in any real sense beyond the conceptions of social actors. This also means that knowledge is available only through social actors and therefore is highly subjective by its nature. It is also assumed that human beings are regarded as the creators of their environment, more as the controllers than the controlled. This kind of epistemological and ontological view describing the research philosophy behind this study is called the interpretative paradigm.
Because of these assumptions, the research objects of this study were naturally selected to be the social actors in the centre of the phenomena, in this case knowledge workers. Their experiences of their own and their organizations’ knowledge sharing practices and knowledge sharing motivation are central factors of understanding the phenomenon.

7.2 Research strategy

A research strategy is the overall plan, which a researcher uses to conduct a research project. It includes the selected methods of research and defines particular rules and aspects which apply to a research project (Mapping Research Methods, 2013).

Figure 8. presents the overall strategy and methodological choices made for this research. The figure is made up of layers that present different interconnected methods. The distance from the center of the figure indicates the broadness or the narrowness of a method’s focus. The further is the distance of a particular method from the centre the narrower is the focus of it, and vice versa.
From the beginning of the research project and instantly after the research questions were formed it became clear that it would be remarkably valuable to study the human experiences related to those questions. Therefore the aim of this study is to answer the research questions by studying the experiences of knowledge workers about knowledge sharing and motivation factors affecting on knowledge sharing behavior. This is done by interviewing knowledge workers about their experiences and feelings and analyzing the knowledge produced by them.

Interpretivism stresses interpretations and interpreting processes in the formation of knowledge. It is a typical philosophical background in qualitative research. All analysis methods based on interpretivism are qualitative by their nature. The method described stresses the formation of knowledge based on human perception and experiences is called phenomenological research, wherein discussions about personal sensations, feelings, experiences and perceptions are seen as the only way to acquire new knowledge. (Mapping Research Methods, 2013)
People’s experiences form from the meanings they gave for surrounding reality and phenomenology studies those meanings (Laine, 2001). In other words, phenomenology as a research strategy enables a researcher to explore the experiences and sensory perceptions of researched phenomenon, and the formation of understanding based on these experiences and perceptions. (Mapping Research Methods, 2013)

Normally the aim of the phenomenological research is not to find universally valid generalizations, but to understand the prevailing existence of the individual phenomena in question. In this research, however, the aim is at the same time understand the phenomena as it at the moment is, but also to find similarities between multiple concurrent cases representing the same phenomena. Therefore, the study design used in this study can be called extensive multiple-case study. Multiple-case studies have become increasingly common in business and management research, because their comparative design allows a researcher to compare and contrast the findings deriving from each of the cases (Bryman & Bell 2003, 64-65).

Extensive case study research means that several individual knowledge workers have been used as instruments in the study. In order to find what is unique and common across cases, more than one case is studied and analyzed during the research. In an extensive case study design it is not important to focus on individuals as intrinsically interesting cases, but to study several cases similar enough focusing on predefined themes originating from research questions in order to do theoretically interesting comparisons. In studies of this kind, the main interest lies in investigating, elaborating and explaining a phenomenon, not the cases themselves. (Eriksson & Kovalainen, 2008)

The purpose of this study is to provide a cumulative narrative in which each new case would add something new to the understanding about knowledge sharing motivation. Because there is no gapless theory on knowledge sharing motivation that could be applied, the multiple case study, compared with single case study, better helps to describe, crystallize, and explain the dynamics of knowledge sharing motivation more generally (Eriksson & Kovalainen, 2008).
This kind of holistic multiple-case study could also be called a cross-sectional study (Bryman & Bell 2003, 64). However, because the cross-sectional study is usually associated with quantitative research and quantitative analysis methods, in this research the use of the concept of multiple-case study is considered more suitable.

The data is analyzed using hermeneutic phenomenology. A combination of the rules of hermeneutics and phenomenology forms phenomenological hermeneutic analysis. The school of phenomenology puts an effort to get beneath the subjective experience and find the genuine objective nature of the things as realized by an individual. Hermeneutic phenomenology is focused on subjective experience of individuals and groups and attempts to unveil the world as experienced by the subject through their life stories. This school believes that interpretations are all we have and description itself is an interpretive process. To generate the best ever interpretation of a phenomenon it proposes to use the hermeneutic cycle. Hermeneutic analysis enables a researcher to elicit an in-depth understanding about the meanings of, for example: human practices, culture, works of art and texts. A hermeneutic circle is a systematic interpretation process. Interpretation of details affects the interpretation of the entire phenomenon, meaning that reviews of the interpretations produce a deepening understanding about the phenomenon. (Mapping Research Methods, 2013)

The phenomenological hermeneutic research seeks to understand the empirical nature of the research object describing and interpreting it from different perspectives. It takes into account the internal nature and the external socio-cultural status or context of the research object. The aim of the hermeneutic phenomenology is to create a new understanding about the researched phenomenon. Therefore it seeks to understand what the phenomenon is in relation to a wider world. (Minäkö tutkija?, 2013)

In this study this means, that although there is a theoretical framework which has shaped the researcher’s pre-understanding about the phenomena, the acquired data is analyzed apart from it. This is done by using methods suitable for phenomenological hermeneutic analysis which are described more closely later on. (Mapping Research Methods, 2013)
7.3 Data collecting

The data for this study was collected using semi-structured theme interviews. The interviews were performed in late winter 2013 in Oulu region. In order to do comparisons between different interviewees, interviews were designed to be semi-structured. Interviews were conducted with a fairly open framework in order to enable focused, conversational, two-way communication. The themes and opening questions for every theme defining and describing the themes were the same for all interviewees, but inside the themes follow-up questions differed depending on interviewees and topics that conversation brought out. The interviewees had opportunity to talk outside the themes and questions if they felt so and the researcher guided the interviews without controlling them. Also, the interviewees were allowed to jump from one theme to another when they felt so. The researcher guided the interview only that much that was required to ensure that all the themes were covered by the end of every interview.

All the interviewees work for different companies and different fields of business. This was a choice made by the researcher in order to find characteristics describing the knowledge sharing behavior common for many knowledge based professions and industries. However, interviewees were selected using the following criteria in order to form a group of people sharing the same case features. A person was considered a suitable interviewee for this research if he or she at the time of the interview 1) was a knowledge worker (see the definition at pg. 17), 2) was a full-time employee, 3) had worked more than half year in his/her work place and 4) had two or more people in his/her work community.

All the interviews were started off by talking broadly about the interviewees themselves, about their studies and working history and followed by discussion about their current working life. This was made to confirm that all the interviewees qualified as knowledge workers and that their work is really about “the acquisition, creation, packaging and application of knowledge and performed by professionals with high-level of expertise and is variable by its nature as knowledge work is defined by O’Donohue et al. (2007).
As the interviews were carefully gone through after descriptions of them were made and analysis started it was revealed that one of the interviews, the third one, was proved to be fruitless as for research questions and contained only little useful information. This interview and the interviewee in question were decided to leave outside the study. The decision was made based on the fact that interviewee’s work description did not fully meet the requirements to be considered as knowledge work. Leaving this particular interview out of the study turned out to be good decision also because all the other interviewees composed more homogenous group without this one particular interviewee and therefore analysis turned to be simpler and less time-consuming. Five interviews and interviewees that the study was run on with are presented in Table 2.

<table>
<thead>
<tr>
<th>Interviewee no.</th>
<th>Education</th>
<th>Current job</th>
<th>The field of business</th>
<th>Size of the employer organization</th>
<th>Work experience (years)</th>
<th>Work experience in current organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.A.</td>
<td>CMO</td>
<td>Computer programming</td>
<td>3</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>M.Sc. Technology</td>
<td>Software designer</td>
<td>Computer programming</td>
<td>20</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>M.A. Education</td>
<td>Researcher/ University teacher</td>
<td>Education</td>
<td>15</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Bachelor of Engineering</td>
<td>Team manager</td>
<td>Computer programming</td>
<td>~30</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Under-graduate student of Science</td>
<td>Application specialist</td>
<td>Computer programming</td>
<td>~100</td>
<td>14</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2. Background information of the interviewees
7.4 Data analyses

According to Heidegger (1927, 1962), all understanding is connected to a given set of fore-structures, including one’s historicality, that cannot be eliminated. One, therefore, needs to become as aware as possible and account for these interpretive influences. In this study, the theory was at first studied carefully in order to better understand the chosen field of research. Hence, the fore-structures and past life of the researcher cannot be ignored although the aim would be to conduct the analyses free of former theory.

The hermeneutic circle is a method which can be used to achieve this interpretive process. The hermeneutic circle moves from the parts of experience, to the whole of experience, and back and forth, again and again, to increase the depth of the engagement with and the understanding about texts (Annells, 1996; Polkinghorne, 1983). The end of this spiraling occurs when one has reached a place of sensible meaning, free of inner contradictions, for the moment (Kvale, 1996). Consequently, using the hermeneutic circle as a method of analysis researcher produces the synthesis of his or her pre-understanding and the information emerging purely from the collected data, usually text.

The procedures used to analyze the data of this study were mostly based on the hermeneutic circle, but partly the methods emerged from the data itself. According to Allen (1995) reading and writing is the core to the production of meaning in hermeneutic strategy. As interpretation arises from pre-understandings and a dialectical movement and the whole of the texts, there cannot be a limited set of procedures to structure the process. Instead, the key aspects of the process are the use of imagination, the hermeneutic circle and attention to language and writing processes. The nature of the data encouraged the researcher to do repetitive circuits through the data and within every round to observe different levels of information concealed in it. The circuits made to the data and back were implemented mostly by reading and writing, using different methods from thematic coding to writing narratives. These procedures used are next described phase by phase.
Acquired data was first transcribed in its entirety. It was also listened to several times from the tape and after lettering read carefully through. After this initial exploring the data was uploaded into the research software NVivo, which was used to code the data for the further analyses.

Because the interviewees were allowed to talk about the issues related to the topic fairly freely, all the data considered essential and relevant to the subject needed to be organized under the mutual themes. This was made by creating a parent node for every theme with NVivo’s coding features. At first, all the data considered worthy was divided under the six themes covered in all the interviews. These were:

1) Factors promoting knowledge sharing
2) Knowledge sharing barriers
3) Knowledge sharing motivation
4) Knowledge work and organization
5) Work motivation
6) Psychological contract

Because interviews were conducted as semi-structured and with the fairly open framework also other themes came out in the interviews. These were named purely based on their contents and no theory was included in analysis:

7) Bad knowledge management examples
8) Organizational learning

After that inside every theme the data was coded again under the different child nodes, describing the different contents emerged from the data during the coding. From this point on all the previously discussed theory on the topic was left behind and analysis made as purely as possible based on the data and researcher’s interpretations. Accordingly, the child nodes created were named to describe the meanings of their contents.

Next the data was processed at the level of the interviewees. Collected and coded content were read critically through and all the unnecessary material was screened
out. After that every citation coded was compacted to describe its core message. In this phase interpreting the interviewees’ deeper thoughts and meanings was crucial. In order to be faithful to the data and maintain the genuine tone and impression of the citations, the key expressions and the sayings of the interviewees’ were not changed. After that, these summarized citations were connected again into compact narratives, which linked the citations together and expressed their connections in the bigger picture.

During the analysis, some themes proved to be less informative than others. One theme, psychological contract, showed to offer only little useful data and was therefore decided to left outside of analysis. Nevertheless, the concept of the psychological contract was kept in the focus of the study and other results were later on reflected in relation to the former literature of the psychological contract.

According to Koch (1995), in hermeneutics, the researcher and participant aim together to bring life to the experience being explored, through the use of imagination, the hermeneutic circle and attention to language and writing. Within the above described methods using named components, imagination, the circular approach and writing as a tool, were the life of experiences tried and managed to achieve on the conditions of collected data. Koch (1995, 835) stated "Hermeneutics invites participants into an ongoing conversation, but does not provide a set methodology. Understanding occurs through a fusion of horizons, which is dialectic between the pre-understandings of the research process, the interpretive framework and the sources of information."

### 7.5 Trustworthiness and generalizability

Reliability and validity are important criteria in establishing and assessing the quality of quantitative research. The relevance of these terms for qualitative research assessment has been discussed widely and different views, both against and for, occur. Regardless the stance, the meanings of the terms need to be altered to suit qualitative research. According to LeCompte and Goetz (1982) research assessment in relation to qualitative methods can be made using external and internal reliability and validity.
According to LeCompte and Goetz (1982), external reliability means the degree to which a study can be replicated. In qualitative research, this is problematic to measure as social situations in which the studies take place are impossible to retain static. Internal reliability instead means whether or not members of the research team agree about what they see and hear. In this study external reliability is secured to the extent it is possible for qualitative research by describing the research methods and process in great details. Also decisions made are described and analyzed.

In one researcher’s study it is impossible to measure the internal reliability and therefore also in this research it is dismissed as useless criterion. Nevertheless, the objectivity of the study is tried to confirm by discussing about and evaluating the interpretations made with the supervisor and other competent people around.

LeCompte and Goetz (1982) define internal validity as a good match between researchers’ observations and the theoretical ideas they develop, whereas external validity refers to the degree to which findings can be generalized across social settings.

Internal validity seems to be the most suitable assessment tool for qualitative research as a quest of congruence between observations and concepts is inherent to it. External validity instead represents a problem for qualitative research because its tendency to employ case studies and small samples. Guba and Lincoln (1994) state that the thick description, which means the rich and detailed description of the culture, provides others the database for making judgments about the possible transferability of findings to other settings or milieu. Also Alasuutari (1999) suggest that instead of generalization in qualitative research it is more correct to talk about the proportion of the results to fit the broader whole.

The internal validity of this study is tried to verify by highlighting the connection between the results and the data using citations from the interviews. Because the interviews were made in Finnish, the citations needed to be translated into English. Translations were made carefully and the original message was closely guarded. Internal validity is increased also by linking the results with existing theoretical discussion. Also, the aim of the study is to produce thick description in order to
deeply understand the phenomena. This thick description plays the key role for better internal validity.

According to Hertz (1997), hermeneutic research methods demand self-reflexivity, an ongoing conversation about the experience while simultaneously living in the moment, actively constructing the interpretations of the experience and questioning how those interpretations came about. Being aware of and executing these procedures also helps to improve the internal validity of the study. Because of the circular nature of the hermeneutic method, the self-reflexivity is partly built-in to the structure of it.
8 RESEARCH FINDINGS

From the narrative descriptions, based on the coded phrases or fragments from the transcribed interviews, emerged a variety of meanings which were interpreted and arrayed into collections. Also the relationships between different meanings were studied and described. This all was accomplished apart from the existing theory and interpretations were purely based on the collected data.

Next subchapters are named based on the contents of the collections formed and in every subchapter these collections of the meanings are presented in more details. Interpretations are supported by interview citations, which are marked with the number of the interviewee in brackets. Background information of the interviewees is presented earlier in Table 2.

8.1 Knowledge work is mostly about solving problems creatively

Discussions in interviews revealed how interviewees perceive the nature of their work and the motivators originating from their work itself and its characters peculiar to knowledge work. This and the following chapter concern these themes in order to find the key to understand the motivation of knowledge workers.

The most often mentioned concept used to describe knowledge work is problem solving. Brain work and especially problem solving are perceived enjoyable as such, when working conditions are impeccable.

“So, mostly our work is solving problems and merely brain work.” (1)

“And the technical problem solving, when you can do it in a good climate, is enjoyable in itself.” (2)

Problem solving has a close relationship with another concept, creativity, which also is used to describe knowledge work.
“Yes, I am motivated by certain kind of, not factory work, but creative work. Those who do not work in this line of business do not understand how creative it is.” (5)

Together these two aspects form what is perceived to be the most sensible and meaningful part of knowledge work, creative problem solving. As creativity requires certain level of freedom, is it also important characteristic of knowledge work. In consequence of freedom, knowledge workers seem to be highly responsible for achieving certain goals in their own work.

“We can do whatever we want as long as it is reasonable. And somehow we are aware of our responsibility of achieving. Freedom and responsibility go hand in hand. Freedom to implement, but responsibility to do it wisely.” (5)

Knowledge work is also described as independent. Regardless of its independency is knowledge work usually also team work. The work is done in teams, but most of the time team members have their own independent areas of responsibilities. The work can be done independently, but the help of the team around is also available.

“Even though it does not seem like it, it does not have that reputation, but the work is quite independent in many respects.” (2)

“Team work basically means that people work in the same room and if there is a problem, you can ask help from others. But in a way everyone has their own pigeonhole, the compartment of the work they are doing, and it is not necessarily connected to what others do.” (4)

“I have a clear area of responsibility, a certain part of studies that I’m responsible for. If I wanted, I could do it on my own.” (3)

Talented and skilled co-workers are highly appreciated among knowledge workers and working for common goals, albeit often independently, everyone responsible for his or her own field of expertise, is considered to be important.

“Of course you do your job yourself, but still I see that our team is extremely important (for us), because there are so many questions you need help from your more experienced team mates. We communicate with each other very much. Of course I write my own work and make my own decisions, but I need our common know-how to back up my decisions.” (3)
Professionalism and strong experience, especially in management positions, seem to be highly valued among knowledge workers. For managers it is important to have the strong field experience and to understand the work done at grass roots level, in order to achieve respect from the knowledge workers.

“You will not be able to lead software from the front if you don’t have experience to tell you where to lead. An intelligent person can read the theory, but the theory does not teach you to fly.” (1)

“I respected that guy, I thought, this guy has done the same work as we and he has gone that far by doing these same things and still he is interested in those things and not only in management for management’s sake.” (1)

“Some of the owners are still developers working in the same group. They don’t emphasize themselves in any way. They work in the same rooms as others. And again, the CEO is, like I said, you can call or text him. He comes to Finland four or five times in a year and then we go out and have beers together. There is no need to bow and scrape. And my own bosses, they also are involved and available all the time and like normal people. There is no need to book a meeting, you can just go and talk. Very informal.” (5)

8.2 Work motivation of knowledge workers is all about knowledge work

Good work motivation of these studied five knowledge workers wells from the three separate sources: 1) organizational climate 2) own ambition and desire for individual development and 3) the nature of the work.

Motivating organizational climate is perceived free and relaxed, which means that work is designed to give freedom to employees to implement their tasks as they think is the best. This freedom is connected to either entrepreneurship or trusting leadership. Overall good feelings are described to evolve in working conditions where there is no fear of spying or pointless supervision.

“… that I have the responsibility of my own work, meaning that I don’t get specifications, a bunch of paper telling what to do. I only get the information about our needs and then I figure it out, or we figure it out in a group, I and that one guy, we do work tightly together, actually we have four people room, we have a good spirit in it and we work quite tightly together there and we can do in a way whatever we want as long as it is sensible -- so I am motivated by a
certain kind of creative work, not factory work but that kind of creative, because it is creative work, and that we have given a possibility to do it.” (5)

“It is because this is our own company, we can do whatever we want for it. If we stop working for a while, the company will go belly up. If we did the same in Nokia, no one would have even noticed.” (1)

Also the openness and transparency are considered to be important aspects for motivating organizational culture. Interviewees appreciate overall openness of communication. Clearness and transparency of the vision and the strategy of the company are mentioned to increase own motivation as own input relative to the bigger picture can be seen.

“There now we have a crystal clear vision about where are we going (as a business) and where we put the money that might come in. We will put it into growth. This is a clear strategy. I have not had such a vision in any other company before.” (5)

Possibilities for individual development are highly appreciated among these knowledge workers. This includes getting valuable feedback, having reasonable amount of responsibility commensurate with one’s abilities, learning new things and possibilities to be successful and noticed for that.

“…at the moment as I am finishing my doctoral thesis, and actually all this time I have been making this study, my motivation has been high, therefore that this is so personal, your own work, and you have an ambition to finish it and after that, you can again move on.” (3)

“… that you are a little outside, not too much, but enough without it becoming as a psychological load. That you are little out from your comfort zone. Like, now you know that thing perfectly and so we add this little twist to it. And then again, it works.” (1)

Also competent colleagues are mentioned to be valuable for own development as mentors and guides.

“And it (motivates), that those colleagues are so ridiculously competent. -- There are dozens so competent specialists that you feel yourself often, like, little stupid within those conversations. But then maybe, you learn, if you have energy to assimilate it.” (5)
Creative problem solving is not only perceived as the most meaningful but also as the most motivating part of the knowledge work. The most motivating characteristics of knowledge work, freedom, creativity and learning new things, combine in problem solving the best possible way. Motivation of knowledge workers seem to be high when the creative nature of the knowledge work is recognized, respected and nourished by the management.

“At its best, the thing that is enjoyable in it is the implementation, also the creativity it includes. Although people would not in the first instance think that software developer’s work can be creative, it actually is quite creative.” (2)

Monetary rewards did not awake conversation in pursuance of motivation. Only once were monetary rewards, to be precise salary, mentioned and even then noted that it has no or only little power to motivate people. The meaningfulness of the work and the nature of the work seem to be way more highly appreciated than high salary.

“Of course it is nice, if you get some money from it, so that you can manage, of course it is important, but money is not the first motivator, on no account. It is extremely short period of time that money can motivate, man quite quickly discounts the raise in his salary. So, you also need to get that good feeling from your work.” (1)

8.3 Communality furthers knowledge sharing

Collective responsibility, collective learning, collective problem solving practices and positively inspirational and challenging colleagues, who encourage and spur one another to learn new things, were common characters and factors for organizations where knowledge sharing is perceived to be fluent and effortless. Also transparency, in strategy and decision making, seems to facilitate communality and hence knowledge sharing. Within five interviewed knowledge workers and their current and past organizations these factors seem to be strong signs of communal organizational culture, but also the important knowledge sharing facilitators.

“…we, our core group, seven or eight people, have worked together for about ten years, and we know each other’s research interests and aims very well and we also know each other well, so the threshold to ask help is low and we truly want to help each other, because we have some way grown together and feel
common responsibility for others’ success. Because the work will not be under your own name only, but also under the whole group’s names.” (3)

Interviewees’ stories about the learning culture of their organizations indicate that organizational communality produce climate where also the development of others is perceived precious. In these organizations apprentice-supervisor relationships flourish, the joy of helping shows through and also of the achievements of others are something to be proud of.

“It is lovely to see how he figures it out. You give him a tiny small seed and watch afterwards as he has caught the whole thing. It looks great how they develop, we have youngsters there, actually I am already a senior although I am only 34, and there are lots of people coming straight from the university, guys twenty-something, and they have incredible desire to do the work, but not necessarily the experience, particularly not being a part of the organization or they are little timid there, but might be very competent as you help and guide them.” (5)

Obvious characters of the communal organizational climate, showing also clearly in interviewees’ comments, are proximity, openness and reciprocity, between co-workers and also between employees and management. Proximity facilitates communication and knowledge sharing. Sharing happens naturally when people are near each other and rubbing each other’s elbows on a daily basis. Like mentioned earlier, proximity is the result of work design, but it is also the outcome of certain kind of organizational climate.

“And the fact that in a team you work in same room, there is no screens, this kind of open plan office. In this kind of teams of four or five persons, when they are working in a same space, the information flows and all the people in that certain team learn and gain that information, but outside or when the team cease to exist, it does not ( ).” (4)

“The most of the barriers is eliminated, if key persons, the most important people in a certain project, talk to each other daily, in practice all the time. In big organizations it is not possible, and these kinds of CRMs or other operation systems need to be created. They have their own challenges, if they are old, like for example e-mail, they clearly create those barriers for communication.” (1)

In an open organizational climate, where conversations flow freely and atmosphere is permissive, also sharing takes place naturally. Experiences are changed and members
of the organization catch up with each other regularly. Relationships are established and growing strong easily.

“It is distinctive to the company, that people talk and the community, it is quite open, so you don’t need to hold back, it is very liberating. Like coffee break conversations can be something else than work things, or we don’t have certain time slots for coffee breaks, man can also drink his coffee at another time. I don’t like if things are insanely strictly classified, it is better to give people freedom to do their jobs like they think is the best. And if they are not good enough…” (5)

In communal organizational culture reciprocity is strong. Because relationships are close also the other members and their well-being in the organization is important. Knowledge sharing is considered as helping and is reciprocal. Once provided help is a promise to get it back in the future.

”I think it is maybe the reciprocity, that you know that you are not the only one giving, that when you maintain this openness, you also yourself get a lot.” (3)

“It might really fix your own thinking also, when you mentor someone else and he or she returns the ball back to you and says no, look, it is like this, and there you figure it out and learn yourself.” (5)

Proximity, openness and reciprocity are not only the characters of the communality but also the factors forwarding it. Organizational culture cherishing these three factors is the best way to consolidate relationships, maintain communal organizational climate and ensure rich and free communication among the members of the organization.

“…and doing together, coming along and giving away little part of your own time and things like that are the factors which form the relationships in those projects. So, of course it is the source of motivation, that if the situation where you can somehow help your friend occurs, if he somehow copes better with the help of yours, it is a great moment, a great thing per se. And certainly, these are the things defining the relationships in those projects, little by little, to be what they are, and how to treat other people.” (2)

Also shared achievements consolidate the fellowship between employees. Common success creates good atmosphere and strengthen the ties between employees. Sharing
the moments of success together is rewarding and furthers the future co-operation and knowledge sharing.

…then we scratched our heads and thought what is wrong with it and then we go, try this and try that, and that’s how we found the solution and solved the problem and got good feelings for both.” (1)

The most important aspect in functional communication is that with the help of it many common knowledge sharing barriers are easier to overcome.

8.4 Effortlessness of the communication facilitates knowledge sharing

In these five interviews conducted within this study, communication is the most often named single factor connected with knowledge sharing. Three broad factors affecting communication and its convenience came out within the interviews. These were working conditions, organizational climate and organizational culture. Each of these broad factors encloses many complex structures, which are not always easy to specify. However, trying to define and describe those structures and factors affecting communication more closely helps us to understand also knowledge sharing better.

In working conditions the most affecting factors either furthering or preventing knowledge sharing turned out to be common problem solving models and practices and the physical and mental proximity of the members of the organization.

“We are not alike as persons. But of course the problem solving models are very similar. I mean, we always attack the issue with the same analyzing manner, we start solving it and any of us won’t bang his head against the wall alone with the problem, but asks help.” (1)

“When people are in the same room and bump into each other, they go and ask, maybe hear the answer without asking, which is nice.” (5)

“When you are in the same room, you cannot be quiet either. Those problems will be solved aloud, because the other one might grasp the problem and suggest a solution. That’s how it goes, very naturally.” (1)

One of the most advantageous characters of organizational climate promoting communication and hence also knowledge sharing turned out to be the acceptance
and encouragement of seeking answers to questions daunting one’s mind from other members of the organization. The fact that asking questions, perhaps even stupid ones, is acceptable and even encouraged, seem to increase the overall sense of trust and security in organizations.

“Yeah, I’m asking quite many stupid questions and so do the others.” (2)

“…the geezers are mentoring and at the same time they absorb the energy from the younger, and other new stuff. I think that those guys in their forties and fifties, there are some gentlemen there, are enjoying the environment that is so youthful. Also they get much out of it.” (5)

Equally important seems to be the overall appreciation of knowledge sharing among the members of the organization, especially among the upper management. When management appreciates knowledge sharing and proves it by encouraging doing so, the employees perceive the time used to share knowledge as well exploited and will not have a guilty conscience for using effective working hours to share their knowledge.

“…first of all motivates that they kind of urge you, say that it would be nice if you would give a little presentation. And of course, if you know something, so what, it is nice to put up a presentation, little PowerPoint and then tell about it to colleagues. So it is also quite satisfying as such, I don’t mind.” (2)

Low bureaucracy and transparency are characters of organizational culture which are perceived to facilitate free and flowing communication and hence knowledge sharing.

“...but then in some little smaller, okay it has been a wholly different field of business, maybe in some advertising job, also there has the communication been open, but I have never known anything about for example strategic alignments, anything about where the company has been taken to.” (5)

8.5 Problems in organizational culture as knowledge sharing barriers

Certain circumstances in organizations and factors in organizational culture can be harmful for knowledge sharing. These unfavorable conditions can at the worst act as knowledge sharing barriers. It is remarkable that most of these factors can also
perform as knowledge sharing facilitators, like discovered in previous chapters. The quality, the nature or the amount of the certain factor defines whether it affects positively or negatively the knowledge sharing behavior.

The most visible of the factors stand in organization structure. High bureaucracy and the use of several support organizations were the most often mentioned factors acting as knowledge sharing barriers.

“Another is of course organizational structure, the fact that we had very hierarchical organization. If I had 600 persons working, it meant that I didn’t know the most of the, not even in Oulu.” (1)

Most of these problems seem to be mostly the concern of big companies. The spirit and the climate of small company are difficult to maintain when the size of the company is hundreds of peoples. However, the qualities of small and medium sized companies upholding the good spirit seem also to be those best supporting knowledge sharing.

“Because something evidently happens there, some are talking about the loss of growth control and others, but what are the root causes and why also I became, because I cannot raise myself over it, why also I became a little lazy. What was the reason that we became lazier and why wrong things took more time than the right ones?” (1)

Also the distance between employees or between employees and managers was perceived to complicate the knowledge sharing. The distance can be a result of geographical locations, work design or even organizational culture.

“There are 50 guys in Oulu, at the moment our office is divided in two parts, we are located in two different buildings albeit only a walk away, across the yard, but it is bad sometimes as we have guys in other building and we are in other and the communication, there are problems right away when it is not face-to-face, the tacit knowledge doesn’t come across, in other words the coffee table conversation or asking things on the fly doesn’t exist, there needs to be some real issue, that you feel like walking there.” (5)

Work design can be the most easily fixed, but with geographical facts companies need to come to terms one way or another. Easy and effortless communication tools play a key role maintaining long distance working relationships. E-mail is not agile
enough to facilitate the effective communication, which enables also knowledge sharing, for example between different time zones.

“It is between a team and the organization where there is this horrible gap. That kind of weird block of communication where a team makes something and learns, but information flows only upwards and the quality of information is something like whether the tasks are finished or still unfinished.” (4)

“At least there are geographical barriers, but it is… e-mail communication is extremely frustrating with the people who are like electric bunnies, who don’t have patience to think things through and structure the issue into one e-mail, instead there is twenty e-mails from US concerning the same issue waiting for you and you don’t know what of it is valid anymore and can’t ask because they are already sleeping there and… it is very frustrating that sharing that little piece of information in that e-mail case may take many days, because it is so slow.” (5)

Also lack of transparency and lack of flexibility were found to make knowledge sharing more difficult or in some cases even impossible. This was perceived to result from stiff organization culture, high bureaucracy and incompetent or unqualified management, at the worst the mix of these three.

“But when you are thinking organizationally, the spreading of knowledge should start from upper level to downwards. The information is actually flowing well inside a small team, but in order to make the whole organization well concerning knowledge sharing, it should start from up and move downwards.” (4)

Knowledge sharing seems to be far easier between employees located in the same business units, teams or groups than between colleagues from different business units. Like noted earlier, this may be a result of longer distance between the employees but the data also indicates that some of the difficulties seem to originate from competition between business units.

‘We clearly have these cliques, which compete with each other, there is envy, not moping, but knowledge hoarding and monopolizing. And we have thought about it, as we have these research groups, that how fruitful it would be to cooperate, we can do that and you can do this, if we joined we would get so much, you name it. But yet there is some tight boundary telling that you can’t do that, let’s shut the door as we have our own team meeting and discuss our own business, and on no account should this information leak elsewhere. That we have this publication coming out and we want to wait that it is ready and
then we publish it, surprise surprise, look at what we have done, instead of asking others if they have something or would they like to join and write something from their perspective. Inside these groups we are clearly extremely careful about what kind of information we give outside.” (3)

All of these listed factors seem to have plenty of consequences making knowledge sharing more difficult. These knowledge sharing barriers can be divided into three groups: unwillingness to share, defective understanding towards the importance of knowledge sharing and circumstantial barriers.

Circumstantial barriers that came up in the interviews of knowledge workers were lengthy problem solving processes, lack of time and sense of detachment in relation to business results. These circumstantial barriers are the most easier to tackle. Remedy for them resides often in work design. Much more difficult is to overcome the barriers arising from unwillingness to share. These are competing cliques hoarding knowledge from each other, uncertainty about the future causing knowledge hoarding and avoidance of responsibility. On a scale between the last two is the lack of understanding resulting in lack of co-operation and lack of dialogue between business units and indifference towards common goals.

**8.6 Management of unavoidable knowledge sharing barriers**

There will always be factors complicating knowledge sharing. Based on the interviewees’ stories the most common and also the most complicate to totally eliminate are difficulties with sharing instruments or tools, lack of time, legislative factors, self-criticism, personality and geography/geographical distance. Nevertheless, research data point out that in those organizations, where communality is strong, also these barriers are dealt with as common problems and made lower or completely tackled by helping others. Although all the barriers are impossible to completely eliminate, their effects can be reduced by cooperating.
8.7 Top management plays a key role

As revealed in the interviews, organizational culture seems to play the biggest role in knowledge sharing behavior. But culture is not static or ready-made, more like built and formed by the people in its orbit.

It was revealed through the analysis of the interview data that management seems to have the key role in shaping the organizational culture as it nurtures the values affecting on the birth and the formation of organizational culture. Especially all new constructs replacing old ones need to be supported by upper management, because new constructions or working methods will not form or survive without the managerial support. Management is responsible for implementation of new methods or practices also in knowledge sharing. Extremely obvious was the fact that the cross-border knowledge sharing demands strong leadership to succeed and thrive.

One important managerial task is to ensure that no one becomes indispensable for the company. No one in the organization should have the exclusive right to any crucial knowledge or information. Hoarding of this kind of significant knowledge should also be strictly prohibited and instructions for sharing it clear and simple. The cause for this kind of knowledge hoarding can be a poor work design, organizational culture not supporting knowledge sharing or individual self-interest. According to interviewees’ and their experiences, whatever the reason is, knowledge hoarding should be eliminated with any given methods.

8.8 Well-tried knowledge sharing practices

Interviewees were asked about their knowledge sharing practices. Many of them could name one or a few practices in place in their companies. The most well-liked were the collaborative learning and teaching sessions or classes kept in turns in order to teach individual and special knowledge to other members of the organization. These were perceived not only the useful way to acquire new knowledge, but also to find out the special fields of know-how of other members of the organization. It was also mentioned, that getting a chance to present and share the results of own work was perceived enjoyable, one way to be rewarded for the work done.
"So, we have this sort of Code Academy-like thing, where anyone can give a presentation, there is a guideline for one hour slot, one hour is recommended, anyone can present something that he or she is interested in -- and gather available people around, everyone who wants to come can come, we have a so-called fun room, where you can for example code together with your co-worker sitting on a couch, so there you gather people around and usually everyone in the firm, little depending on the subject. There have been presentations about digital photography, the basics of a systems camera. And then there has been some very specific stuff about how some of our tools have been encoded. All sorts of things you can be presented there, something your own, something special you have to tell to the others." (5)

Another common and popular way to share knowledge were daily, weekly and monthly meetings. The agendas of them normally are composed of working status updates, issues solved together, experiences and findings like finished projects, business trips and conference greeting and introductions of new areas of interests, like interesting articles and books. Regular meetings and status updates were perceived useful as they, like teaching sessions, expose the expertise of individuals to the rest of the organization. Information flow also

“It is in a way increasing the awareness of what each of us knows. Because it is important that you know where to go, and now we roughly know about these people near and little more poorly about those little further – and we know in what subject to consult who, that if someone has done that I can ask her or him about this. I guess that is the objective. And to maintain the common understanding about what we know as a team.” (3)

“Then we also have the monthly or once in two months happening meetings encompassing the whole firm, what are they called again, the meetings where CEO tells how we are doing and how are the budgets and all the other stuff. Everything is shared, how we are doing economically this quarter year, what we need to do, what is the big client which everyone should help with, for example some support organization which have had a great number of problems, so everybody knows that this client is now particularly important. That kind of stuff, like I said, our information flow is very liberal. At least I know much about what is going on. Or at least I think I know.” (5)

Also some technological solutions were in use and well-proved. In some organizations instant messaging (IM) have almost entirely replaced the use of e-mail. Many interviewees described e-mail as outdated and inflexible way to communicate, which they would not use at all if not necessary. Basically IM allows the real-time text transmission over the internet either between two or several participants. IM
seems to lower the barriers to ask questions or request help as it is fast, straightforward, less cumbersome and unintrusive. It allows the recipient to ignore or postpone the communication request if the time is inconvenient, but makes the real time communication possible at some better time in the near future. One of the advantages of the IM is the possibility to follow the conversations without any other contribution, if the conversations are set to be public and open. Knowledge transfer happens both ways, learning by following the conversations and sharing by taking part when necessary and convenient.
9 DISCUSSION

In this chapter the results of the analysis, presented in more details in the previous chapter, are discussed, linked and compared with the existing research, which was presented thoroughly in chapters 2 – 6.

9.1 Knowledge work and its nature

Knowledge workers think for a living. They “own the means of production”, the knowledge in their brain (Drucker 1999, 87). The special features of knowledge work result in a set of characteristics specific to knowledge workers; autonomy, innovation, creativity, flexibility, adaptability, intrinsic motivation, desire for interesting and challenging work, collaboration, and social networking (Ascente, 2010). In the results of this study, creativity and problem solving were two concepts that were used most to describe knowledge work. Together these two aspects form what was among interviewed knowledge workers perceived to be the most sensible and meaningful part of their work, creative problem solving.

Independency, hand in hand coming freedom and responsibility, the appreciation of talented and skilled co-workers, especially those in managerial positions, were other aspects connected with knowledge work and highlighted in the results of this study. These aspects are perfectly in line with the characteristics listed by Ascente (2010). Work autonomy, flexibility and intrinsic motivation are irremovable part of any work that is based on creative problem solving. Work is conducted autonomously, the working process usually asks great flexibility and adaptability and employee’s work results are significantly dependent of his or her own desire to accomplish the task, in other words, his or her intrinsic motivation.

As Ascente (2010) states, knowledge work requires collaboration and social networking. It explains knowledge workers desire to work with skilled and experienced professionals and managers. With skilled experts, collaboration is fruitful and individual development and learning much more likely.
Scientists, typical knowledge workers, have a strong need to make a recorded contribution to the body of professional knowledge and to the “public good” (O’Donohue et al., 2007). Also in this study the results clearly showed that the meaningfulness and the nature of the work are way more highly appreciated than a high salary. When subsistence is secured and on the satisfactory level, the fluctuation of earnings seemed to be a secondary factor compared with the work satisfaction.

According to the results of this study, work motivation of knowledge workers seem to be all about knowledge work. Sources of the motivation mainly reside in the foundations of knowledge work. The most typical characteristics of knowledge work are also the most motivating ones. The best example is the creative problem solving, which is not only perceived as the most characteristic but also the most meaningful and the most motivating part of the knowledge work. In addition, other motivating factors in knowledge work, like freedom, creativity and learning new things, are combined in creative problem solving.

According to this study in hand, free and relaxed organizational climate, openness and transparency were the main factors in organization climate increasing satisfaction and work motivation. This match with the earlier studied fact that knowledge workers appreciate flexibility and autonomy in their work (Ascente, 2010). In former literature knowledge workers are also noted to be “autonomous people who enjoy occupational advancement and mobility and resist command and control culture” (Horwitz et al. 2003, 24).

Results of this study also showed that possibilities for individual development are highly appreciated among knowledge workers. Getting valuable feedback, having reasonable amount of responsibility commensurate with one’s abilities, learning new things and having possibilities to be successful, and noticed for that, were considered crucial part of the formation of knowledge workers work motivation. Also O’Neill and Adya (2007, 413) propose that knowledge workers’ commitment is more occupational and less organizationally motivated. According to Holland et al. (2002), knowledge workers often direct their loyalty towards their careers and profession rather than to their organization. Also the results of this study prove that without possibilities to further their careers and to ensure their individual development
knowledge workers are not satisfied and their working motivation decreases easily. In addition, this study showed that competent colleagues are valued among knowledge workers particularly as mentors and guides who have ability to contribute to the development of others. Competent colleagues seem to be one of the main factors causing satisfaction towards work community, increasing work motivation and impacting also on commitment.

9.2 Communality

According to results achieved in this study, collective factors in organizations, like collective responsibility, collective learning, collective problem solving practices and positively inspirational and challenging colleagues, seem the best facilitate knowledge sharing. They are also signs of strong communality in organizations. Communality again furthers knowledge sharing by producing climate where the development of others is perceived precious, the apprentice-supervisor relationships flourish, the joy of helping is obvious and the achievements of others something to be proud of.

Former literature uses other terms but tells the same story. Cabrera and Cabrera (2005) present that organizational culture can influence knowledge sharing in two distinct ways, through social norms or through trust.

Strong social norms materialize in organizations when the value of knowledge sharing is expressed, the importance of knowledge sharing demonstrated, the managerial example exists and the benefits of knowledge sharing are communicated (Cabrera & Cabrera, 2005; Haldin-Herrgård, 2000; McDermott and O’Dell, 2001; Lin & Lee, 2006; Riege, 2005). These are the key tasks for knowledge management to succeed in.

Similarly important managerial responsibilities to take care of are the proximity, openness and reciprocity, which in this study proved to be the factors furthering communality. When management is near, communicates openly and employees perceive that costs of the employment relationship commensurate with the benefits, the employers are satisfied and enjoy their work.
On the other hand, the culture of caring, trust and cooperation can be created with the help of open communication, egalitarianism, fairness and support from the organization, co-workers and supervisors (Cabrera & Cabrera, 2005). Consistent with this the results of this study show how the culture of caring is expressed in the joy of helping others, in respecting the achievements and the development of others.

In addition, the results of this study show that communality is achieved through transparency in strategy and decision making. Proximity, openness and reciprocity are not only the characters of the communality but also the factors forwarding it. Communality seems to be both the cause and the effect of these three factors. Similarly, communality and these three factors all demand organizational trust to exist.

Also other cultural factors related to communality and presented in the results of this study are based on trust. Without open communication, egalitarianism or fairness the transparency cannot exist. Also the perceived importance of the development and success of others evidently demands the culture of caring and cooperation. Shared achievements and common success consolidate the fellowship and strengthen the ties between employees furthering future co-operation and knowledge sharing. Communality on the whole helps to overcome many common knowledge sharing barriers.

Gagné’s (2009) model of knowledge sharing motivation combining SDT and TPB proposes that autonomous motivation predicts knowledge sharing intention, which in turn predicts knowledge sharing behavior. This is in line with the result of communality as a knowledge sharing facilitator. As communality furthers the culture of caring and co-operation it awakes the desire to help others for altruistic reasons.

According to TPB, also attitudes and norms toward knowledge-sharing predict intentions to share. Communality works as a mediator also here. Common attitudes and norms, which are defined by the organization and its culture with the help of the top management, are transmitted to and absorbed by the members of the organization when the communality is strong. When common norms define knowledge sharing as crucial part of the organizational life and caring culture flourishes in the organization
its members are more likely to internalize the value of knowledge sharing. Like SDT outlines, people’s attitudes will become more positive if they internalize the value of sharing knowledge.

In Gagné’s (2009) model need satisfaction replaces control beliefs originally existing in TPB. Gagné’s model’s need satisfaction includes the need for competence, the need for autonomy and the need for relatedness. Norms moderate the link between need satisfaction and autonomous motivation. This means that positive sharing norms strengthen the link between need satisfaction and autonomous motivation and vice versa. Also, sharing motivation is expected to moderate the intention-behavior link, meaning that the greater the autonomous motivation the stronger the link.

9.3 Effortless communication

Results of this study undeniably show that effortless communication is the most effective way to facilitate knowledge sharing. This is consistent with former literature. Cabrera and Cabrera (2005) emphasize the importance of two-way face-to-face communication increasing the likelihood of sharing. This form of communication creates familiarity and multiple encounters, which typically assist knowledge sharing behavior. In addition, face-to-face communication seems to be a key for establishing trusting relationships and should not entirely be replaced by information technology in any conditions. (Cabrera & Cabrera, 2005)

Results of this study also showed that effortless communication is based equally on both organizational culture and physical working conditions. Common problem solving models and practices among employees, physical and mental proximity, freedom to ask questions, overall appreciation of knowledge sharing among the members of the organization, low bureaucracy and transparency were the factors facilitating effortless communication.

Former literature on knowledge sharing presents several ways to ensure and improve communication in organizations in order to enhance knowledge sharing behavior. The majority of known factors in organizational structure affecting on knowledge sharing are also the factors related to interactions and communication between the
members of the organization. High hierarchy as barrier to employee interactions (Wang & Noe, 2010; Riege 2005) and too large business units unmanageable to enhance contact and facilitate ease of sharing (Riege, 2005) are the most obvious factors complicating or preventing knowledge sharing behavior. The results of the study in hand also emphasized these two factors.

As in the results of this study, factors in work design have the influence on communication also based on the former literature. A functionally segmented structure (Lam, 1996; Tagliaventi & Mattarelli, 2006) and shortage of formal and informal spaces to share, reflect and generate knowledge (Riege, 2005) seems to constrain knowledge sharing whereas less centralized organizational structure (Kim & Lee, 2006), the use of open workspace (Jones, 2005), flat organizations (Riege, 2005), lateral linkages across functions, geographical locations, business units and companies (Mohrman, 2003) the use of fluid job descriptions and job rotation (Kubo et al., 2001), cross-functional teams (Kang et al., 2007), communication across departments and informal meetings (Liebowitz, 2003; Liebowitz & Megbolugbe, 2003; Yang & Chen, 2007) has been shown to encourage communication and knowledge sharing.

Most of these factors mentioned in the former literature are the results of or have effect one way or another on organizational culture. Transparent, free and informal organizational culture seems to enhance the opportunities to share knowledge causing more interactions in the organizations by increasing the both physical and mental proximity of its members. In addition, as the result of this study showed, the overall appreciation of knowledge sharing improves communication. When sharing is approved and encouraged, freely flowing communication gradually becomes a norm for the whole community.

9.4 Cultural barriers

Certain circumstances in organizations and factors in organizational culture can be harmful for knowledge sharing. These unfavorable conditions can at the worst act as knowledge sharing barriers. The most visible of the factors stand in organization structure high bureaucracy and the use of several support organizations cause the
distance between employees or between employees and managers and lack of transparency or lack of flexibility were found to make knowledge sharing more difficult or in some cases even impossible. These were perceived to result from stiff organization culture and incompetent or unqualified management.

All of these listed factors seem to have plenty of consequences making knowledge sharing more difficult. These factors can be divided into three groups based on the effect they have on knowledge sharing behavior. The groups are unwillingness to share, defective understanding towards the importance of knowledge sharing and circumstantial barriers.

Circumstantial barriers, like lengthy problem solving processes, lack of time and sense of detachment in relation to business results, are the easiest to tackle. Many of these kinds of circumstantial barriers demand improvements in work design. Like discussed earlier work design is a medicine for many cultural problems making communication more difficult. Instead, when work is designed to support communality, for example by team work or common working spaces, problem solving processes become shorter and spare time can be assigned from bureaucracy for more important things.

Unwillingness to share, resulting in competing cliques hoarding knowledge from each other, uncertainty about the future causing knowledge hoarding and avoidance of responsibility, is much more complicated to overcome. These obstacles are the result of the poor motivation and developing the individuals’ motivation seems to be the trickiest task of any management. The management and the whole work community should find the means to improve the internal motivation to share knowledge, in other words, to make the knowledge sharing interesting as such. Using the psychological contract to evaluate every employee’s individual needs and aspirations helps management to understand how to make knowledge sharing more desirable from the perspective of an individual. Using the psychological contract as a management tool is discussed in more details in Chapter 9.6.

On a scale of difficulty between the last two groups of barriers is the group whose common denominator is the lack of understanding. The barriers in this group are lack
of co-operation, lack of dialogue between business units and indifference towards common goals. The solution for overcome barriers of this kind resides in better organizational communication. Rich communication increases transparency, which in turn increases trust and communality.

9.5 **Role of the management**

Difficulties with sharing instruments or tools, lack of time, legislative factors, self-criticism, personality and geographical distance were, according to this study at hand, discovered to be the kind of knowledge sharing barriers which are the most difficult or even impossible to completely overcome.

It was revealed through the analysis of the interview data that management seems to have the key role in shaping the organizational culture by nurturing the values affecting on the formation of organizational culture. Especially all new practices need to be supported and implemented by upper management, especially in cross-border knowledge sharing circumstances.

The results of this study clearly showed that hoarding of any significant knowledge should be strictly prohibited in every organization in order to make sure that no one in the organization becomes irreplaceable. The cause for knowledge hoarding can be a poor work design, organizational culture not supporting knowledge sharing or individual self-interest. According to the results of this study, whatever the causing reason is, knowledge hoarding should be eliminated with any given methods and the management alone is responsible for the task.

The results showed that some knowledge sharing practices were perceived especially useful as they expose the expertise of individuals to the rest of the company. The collaborative learning and teaching sessions or classes kept in turns and daily, weekly and monthly meetings including working status updates, issues solved together, experiences, findings and introductions of new areas of interests were clearly popular and perceived practical among knowledge workers.
These practices not only share the important knowledge but are also forming the organizational culture for their part. Appreciation towards the work of others builds the caring culture, which, like noted before, nurtures the knowledge sharing behavior.

Also the former literature recognizes the phenomenon. Organizational climate that emphasizes individual competition may pose a barrier to knowledge sharing whereas cooperative team perceptions help create trust (Schepers & Van den Berg, 2007; Wang, 2004; Willem & Scarbrough, 2006). According to Cabrera and Cabrera (2005), the culture of caring, trust and cooperation can be created by open communication, egalitarianism, fairness in decision making processes and perceived support from the organization, co-workers and supervisors. The practices described above are embodiments of open communication, egalitarianism and organization-wide support.

Most of the knowledge workers studied agreed that instant messaging (IM) have almost entirely replaced the use of e-mail, which was described as outdated and inflexible way to communicate. IM was instead appraised as fast, straightforward, less cumbersome and unintrusive. Management should make sure that the working methods and the tools used correspond to the needs and do not difficult the knowledge sharing. The tools and working methods should be evaluated with regularity and the introduction of the new approaches or technology should be made as easy as possible. In the cost estimates, the total benefits and expenses should be taken into consideration, not only the direct costs of the investment.

9.6 Psychological contract as a knowledge management tool

Like discussed earlier in Chapter 4., intrinsic motivation more effectively increases sharing willingness and behavior, whereas extrinsic motivation can influence only knowledge sharing behavior but not willingness to share. An intrinsically motivated person will engage in an action because it is enjoyable and he or she finds it inherently interesting (Deci & Ryan, 1985, 2000). According to Deci and Ryan (1985, 2000), intrinsically motivated action should also be accord with the individual’s personal values. For some knowledge workers the psychological...
contract, at least the relational part of it, exists only so long as there is congruence between their own ideology and the organization’s aims (O’Donohue et al., 2007).

As the results of this study showed, knowledge workers intrinsic motivation is based on the quality of the work. Quality for these studied knowledge workers means creative problem solving, independency, skilled co-workers and learning new things. Also free and relaxed organizational climate which advocates openness and transparency proved to be a factor increasing intrinsic work motivation among these knowledge workers. Third aspect building the autonomous motivation of knowledge workers showed to be possibility to the individual development among skilled co-workers.

The psychological contract can serve as a management tool, as it helps management to understand the two fundamental points of both employment relationship and psychological contract: reciprocity and subjectivity (Rousseau 1995, 9). In addition to individual differences in every employee’s psychological contract, managers should understand the special needs of knowledge workers and take care that their expectations towards organization and work are fulfilled. The ongoing negotiations of the continuously changing terms of psychological contracts help to avoid future breaches of them if the circumstances change. According to O’Neill and Adya (2007), managers can better succeed in promoting knowledge sharing if they first recognize the type of the psychological contract of an individual employee. O’Neill and Adya (2007, 430) suggest that “managers must properly assess the nature of psychological contracts maintained by knowledge workers so that knowledge sharing messages may be customized to address individual motivators”.

Relational psychological contracts depend on trust, loyalty, and job security (Rousseau, 2004). According to Abdullah et al. (2011), trust and collaboration, which are components of relational social capital, mediate the relationship also between relational psychological contract and knowledge sharing. Both trust and collaboration have also been studied to be essential elements in promoting knowledge sharing in organizations (e.g. Janowicz & Noorderhaven, 2002; Kotlarsky & Oshri, 2005; Atkinson, 2007; Lester et al., 2007).
Based on the results of this study, trust in the context of knowledge workers seem to mean the independency and freedom to do creative problem solving work in relaxed cultural climate among skilled co-workers. The relational psychological contract of a knowledge worker is in order when the knowledge worker can trust that his or her employer offers possibilities to learn new things, be creative and have a reasonable amount of responsibility in his or her work. However, among the knowledge workers the job security is not as important as is the meaningfulness of the work. Reciprocal loyalty facilitates the collaboration and furthers communality, which is one of the main factors furthering work satisfaction among knowledge workers. The relational psychological contract enhances the maximization of fulfillment of employee’s economic and socio-emotional needs and leads to deeper levels of trust (O’Neill & Adya, 2007). Like mentioned before, many researchers are of one mind that trust is crucial for knowledge sharing. Therefore, in order to enhance positive knowledge sharing behavior, it would be beneficial to lead knowledge workers from transactional contracts towards more mutually satisfying relational contracts.

When the relational psychological contract is strong, the knowledge worker is loyal to his employer and behaves the way she or he knows is the beneficial for the whole organization. If knowledge sharing is supported and the importance of it clearly communicated in the organization, satisfied employer wants to engage in knowledge sharing behavior for the sake of the other members in the organization and his or her employee. This is in line with the Rousseau’s (2004) point of view, as she states that workers with relational contracts are usually the most upset when the contract is violated, but also willing to solve the problem and seek improvements instead of leaving the job or reducing their contributions.

The social exchange theory (Blau, 1964; Emerson, 1981) has been used to describe both the knowledge sharing willingness and psychological contract. Within social exchange theory people evaluate the perceived ratio of benefits to costs. The psychological contract concept can be used as a tool to understand the perceived costs of individuals Regarding knowledge sharing behavior. Understanding the costs helps to estimate the requisite rewards to accomplish desired behavior, also knowledge sharing.
10 CONCLUSIONS

Figure 9. summarizes the results of the study and describes the relationship between them and the selected former literature, the present theory of the knowledge sharing motivation (Figure 2.) and the concept of the psychological contract (Figure 6.).

![Psychological contract promoting knowledge sharing among knowledge workers through collaboration and trust. Adapted from Gagné (2009).](image-url)

The model in Figure 9. combines the knowledge sharing motivation model by Gagné (2009), the concept of the psychological contract and the results of this study. It is built to answer to the research questions asking what makes knowledge sharing desirable from the perspective of an employee and how can the psychological contract help management to promote knowledge sharing performance.

As the model shows and the results suggested the management plays a key role in knowledge sharing behavior. Hence, the management is placed in the lower part of the figure, at the bottom of the whole construction. The disposition describes the role of the management as a initiator and as a supportive structure in knowledge sharing.
In addition, management is responsible for psychological contract negotiations, which can be seen also as a part of HRM practices. These negotiations should ensure that the organizational communication, culture and climate, and the content of the knowledge work measure up to employee expectations and needs. When this is secured, trust and collaboration thrive in the organization and the attitudes, the need satisfaction and the sharing norms engender intrinsic, autonomous motivation for knowledge sharing.

What makes knowledge sharing desirable from the perspective of an employee cannot be answered unambiguously, because the needs and the expectations of every employee are distinctive and hence also the motivating factors differ. However, the study revealed some common motivating factors among studied knowledge workers, which, as the model suggests, reside in the nature of the knowledge work, in supporting organizational culture and climate and in the flawless communication with co-workers aiming to the common good of the organization.

10.1 Managerial implications

The study produced findings that include new managerial insights which offer practical remarks and suggestions for management inclined to improve the amount and quality of knowledge sharing behavior in their organizations. These suggestions are presented in this chapter.

In order to promote knowledge sharing, or any other desired outcome, management should first recognize the individual expectations and needs of knowledge worker by continuously re-negotiating the psychological contract between the employee in question and his employer. By communicating continuously with the employees and keeping the statuses of their psychological contracts up-to-date, management can better identify what makes the desired behavior motivating from the perspective of the employee and so offer the right rewards, incentives or other means to motivate this individual in question.

Knowledge workers are best motivated by offering working conditions that embrace all the inherent characters of knowledge work. First of all management should make
sure that the work of the knowledge workers includes enough creative problem solving and that they can work in relaxed organizational climate with suitable amount of freedom and autonomy.

Management should also tirelessly inform its employees about the expectations it has towards the employee and his or her workings. Employee needs to know how the management wants him or her to act in order to work as expected. Only by communicating regularly about the advantages of the knowledge sharing the management helps its employees to understand the importance of the knowledge sharing. Also, the way that the knowledge is wanted to be shared should also be clearly communicated.

10.2 Suggestions for further study

Within the limits of this thesis it turned out to be impossible to study how different variables of knowledge workers, like age, experience, position or a field of business, affects the knowledge sharing behavior. The majority of the informants of this study work in the computer programming, albeit in very different positions. Hence, the results of this study can be indicative of the way knowledge workers in this certain field of business experience the knowledge sharing in their organizations. However, informants were briefed to answer the questions based also on the former phases of their careers, and therefore very strong conclusions about the field of business as a factor affecting on knowledge sharing behavior cannot be made based on this study. However, all of these mentioned variables would make an interesting topic for future research.

It would be especially important to study the knowledge sharing behavior among the older employees near their retirement. Fulfilling this research gap could help the organizations to overcome the knowledge challenges caused by the retirements of the baby boomers.

Another worthy topic for future study showed to be the relationship between technology and knowledge sharing motivation. The results of this study revealed that technology is increasingly used in knowledge sharing purposes and more
importantly, knowledge workers perceive the use of technology extremely helpful in knowledge sharing. It would be especially fruitful to study the relationship between knowledge sharing motivation and psychological contract in the context of virtual teams and communities.
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Appendix 1

THEMES OF THE INTERVIEWS (IN FINNISH)

1. HAASTATELTAVAN TAUSTA, KOULUTUS JA TYÖKOKEMUS OMIN SANOIN; MITEN TÄHÄN ON TULTU?

2. OPPIVA ORGANISAATIO
   a. Miten organisaatiossa suhtaudutaan oppimiseen?
   b. Miten organisaatiossa huolehditaan oppimisesta?

3. TYÖMOTIVAATIO YLEENSÄ
   a. Millainen on työmotivaatiosi ja mikä siihen vaikuttaa?

4. TIEDONJAKAMISEN ESTEET
   a. Millaisia tiedonjakamisen esteitä olet havainnut omassa organisaatiossaasi ja omassa toiminnassasi?
   b. Mitkä tiedonjakamisen esteet ovat kiinni sinusta itsestäsi ja mitkä ovat ulkoisia esteitä?
   c. Millaisissa tilanteissa päättät jakamisen sijaan pitää tiedon tai osaamisen itselläsi? Kuvaile tilannetta.
   d. Miten omassa organisaatiossasi näitä esteitä voitaisiin poistaa?

5. TIEDONJAKAMISEN MOTIIVIT
   a. Millainen on tyyppillinen tilanne, jossa jaat omaa tietoasi ja osaamistasi muille organisaatiosi jäsenille?
   b. Mikä sinua motivoi jakamaan omaa osaamistasi ja tietoasi?
   c. Miten kuvallisit omaa tiedonjakamisen motivaatiotasoasi?
   d. Omat odotukset tiedonjakamisen suhteen?
   e. Kuinka tärkeäksi koet tiedon jakamisen omassa organisaatiossa?
   f. Miten organisaatiossasi suhtaudutaan tiedonjakamiseen? Rohkaiseeko johto jakamaan tietoa? Onko tiedonjakamiseen kehitetty strategiaa/mallia, jota toteutetaan?

6. PSYKOLOGINEN SOPIMUS
   a. Organisaation odotukset tiedon jakamisen suhteen
   b. Perehdytys ja tiedon jakaminen
   c. Tiedon jakamisen määrittely työnkuvauksessa
   d. Velvollisuus organisaatiota kohtaan