Preface

How does organizational learning occur? From my experience throughout working with this thesis for the last year my previous understanding of organizational learning seems deficient. I have learnt the importance of arranging for knowledge sharing and identifying the processes of becoming a learning organization, as well as recognizing the potential for organizational learning within organizations. Through the last year I have learnt a lot on the academic field also in regards to being a researcher, however, I also learnt a lot about myself and I would characterize the whole process as demanding, inspirational and informative.

This study was based on cooperation between Statoil ASA, division X, my fellow student and I. Our informants were all employees within different Fast Track project teams. In that regard I wish to thank our contacts Linn Iren Vestly Bergh and Siri Hinna for their arranging, contributions, professional insights and discussions. I also wish to thank Halfdan Knudsen and Helge Albertsen for their professional insights. In addition, I wish to take this opportunity to thank all our informants for their participation and sharing of knowledge and experiences.

Furthermore, I wish to thank my instructor at NTNU Anne Iversen for her guidance, critical and constructive feed-back, evaluation and good support throughout the whole research process. Thank you all: family, friends and fellow students, for your encouragement. Especially, thank you mom, Kjerstin, for your support and commitment. Last, but not least, thank you Camilla Torsvik Soulere, my fellow student, for great cooperation filled with laughter and good conversations.

Cecilia Kaland

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Abstract

This study has explored the process of knowledge sharing within an organizational context. Furthermore, it has explored the occurrence of organizational learning and explored the PRIMA method in light of organizational learning. The origin of the study is based on cooperation with a division X within Statoil ASA. In order to illuminate the research question we chose to utilize a qualitative approach. All informants were connected to Fast Track and a total of 8 in depth semi-structured interviews were carried out. Furthermore, grounded theory was utilized as our method and tool for analysis.

The results found indicate that knowledge is mostly shared within informal forums. Nevertheless, both formal and informal structures are utilized as knowledge sharing channels. However, the results also indicate that certain facets are important predecessors for knowledge sharing to take place, such as good relations, trust and motivation. Furthermore, it appears that a positive flow of communication depends upon common understanding and shared mental maps. The results also illuminate a challenge in regards to sustaining knowledge learnt in Fast Track within formal channels. Lastly, results indicate that the PRIMA holds potential for organizational learning, but mostly so when employees are invited to participate. However, in regards to raising awareness it appears to be insufficient beyond the management level.

The results also contribute to illuminate future implications for organizational learning and the PRIMA method. Based on the results it is suggested that the organization arrange for the development of new networks across subcultures like professions and that they arrange for dialogue to create common understandings and shared mental maps to guide their employees' actions. In addition, it is suggested that PRIMA utilize the potential of its workshops to create arenas for dialogue. Most of all the results illuminate the necessity of inviting the organizations employees to participate in the utilization of the PRIMA method.

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1 Introduction

1.1 Background

1.1.1 Statoil ASA

This study is based upon cooperation with the Norwegian owned global energy corporation Statoil ASA and a specific division, X, within their organization. Based on 40 years of experience Statoil ASA utilizes innovative technology and business solutions in the quest to meet the world's energy demands in a liable manner. The corporation aims to maintain a competitive advantage through strict values, an achievement focused culture, ethical demands and personal integrity. Furthermore, Statoil ASA focuses on being a safe and effective organization, and they receive great recognition for their determination to oblige openness, technical safety, anticorruption and respect for human- and working rights (Kort om, 2009).

The division X per se mainly focuses on mapping out, preventing and reducing work related risks, both physically and psychologically. The health and working environment professionals aim to prevent those health problems possibly caused by the working environment and focuses on all aspects of work that could impact employees' health. The professionals promote both a healthy physical and psychosocial working environment as well as focusing on preventing ill-health.

Statoil ASA, as mentioned earlier, aims to offer all employees an occupational health and working environment service. Furthermore, the management of psychosocial work environment is an overall model describing how Statoil promote productivity and quality as well as preventing ill-health and accidents. Management of psychosocial work environment are both preventative and managing actions. These involve assess and follow-up of risk at source, provision of education and training, and providing treatment and improving recovery. The personnel of this division are involved in planning, building and preparing the workplace. For instance, the health and working environment personnel assists, supports and advices the business management in the steps of the psychosocial risk management process (HWE, 2012).

This study is a result of an ongoing quest to improve the psychosocial work environment and reduce psychosocial risk factors for Statoil ASA employees in regards to evaluating one of Statoil's risk management methods also known as PRIMA. Psychosocial

strains and stress are of current interest both in the industry and within the academic field. Psychosocial strains and stress are considered threats and perceived as a serious consequence of occupational related strains and should be handled with great significance, hence Statoil's focus on these facets. Psychosocial demands are increasing, and in the field of occupational safety and health it is identified as a major challenge. Statoil ASA emphasizes continuous work to improve health-, safety- and environmental factors. This implies improving best practice principles and attends to all aspects of the work environment by continuously seeking knowledge from associates and the organization itself. Furthermore, due to a growing concern that working conditions may have a negative impact on associates health, the quality of their work and the innovative thinking that Statoil ASA wish to encourage, the corporation saw a need to adopt a systematic approach to managing the psychosocial work environment. However, applying a new method also calls for an evaluation in regards to the utility value and efficiency of that method, and this need to evaluate the PRIMA method formed the basis for our cooperation with Statoil ASA. Nevertheless, this was our basis for cooperation with Statoil ASA while our precise approach in regards to our specific thesis' were developed as a result of our analysis as will be clarified in chapter three.

1.1.2   PRIMA

Considering the basis of our cooperation with Statoil ASA in regards to evaluating PRIMA it is favorable to shortly clarify the process of the PRIMA method. In short, PRIMA - Psychosocial Risk Management Approach, is the newest addition to the company's health risk management. It aims to prevent psychosocial risks at work and to achieve risk reduction, but with an emphasis on preventative measures. It is a systematic process, an iterative risk management process, which includes four essential steps: identify risk factors, risk evaluation, risk reduction and lastly evaluation. These can furthermore be placed within two main categories: Risk assessment and Risk Reduction. Nonetheless, the method emphasizes how the work is organized, designed and arranged as a foundation or underlying cause for the development of work related strain and health issues (Cox, Leka & Zwetslot, 2008).

The PRIMA method provides a framework for developing a comprehensive approach to psychosocial risk prevention. All strategies aim to comprise plans to prevent and manage stress, and support individual and organizational needs while also being continually evaluated and reviewed. In addition, it aims to promote a participative process involving employees from all levels of the organization (Giga, Cooper & Faragher, 2003).

The process requires a systematic transition and commitment from key stakeholders. When the process is managed correctly it will, at best and hopefully, have a positive influence on the workers' health, job satisfaction, performance and in broader sense contribute to create a vigorous organization. The process, as described, provides an integrated health-, safety- and environmental perspective compliant to the company's values of being open, courageous, hands-on and caring, and in addition it complies with their pronounced emphasis on zero harm to life, health, environment and property, and the organizations aim to become a learning organization (Psychosocial, 2007; Cox et al., 2008). In regard to Statoil's aim to become a learning organization it is also interesting to explore whether this method contributes to organizational learning.

1.1.3   Fast Track

Before clarifying the assembly of this study I will clarify the context in which PRIMA was utilized. This is also the context from which we gathered our informants, as will be explained in chapter 3.

"Well established infrastructure is the key to making also small discoveries profitable"
(Aaasheim, Knudsen, Kindem & Digre, 2011)

Fast Track is the name of Statoil's stake to standardized development of marginal fields. This commitment to standardized development solutions for marginal fields shows that Statoil ASA takes responsibility for maximizing the potential of the Norwegian shelf. In short, Fast Track is the utilization of a seabed scope which connects to an already existing infrastructure, platform, this creates profitability in fields where commerciality has been a challenge. This operating process aims to bisect the phase of development for marginal fields on the Norwegian shelf by accelerating production and reducing costs. Furthermore, the standardization reduces the development time for marginal fields from approximately 5 years to 2.5 years (Aaasheim et al., 2011). However, considering the lack of concept maturity, due to lifespan, accelerating production, precarious lack of resources, a reduced time perspective and feedback from Statoil's general people survey the key stakeholders requested a further evaluation of the psychosocial strains such an operational context might impose on the coworkers health. Therefore, management chose to utilize the PRIMA method within the Fast Track portfolio.

"The changes that have occurred in terms of the organisation of work during the last decades are associated with the emergence or aggravation of psychosocial problems." (HWE, 2012)

As masterstudents, my fellow student and I were asked to exploit the use of PRIMA in a specific context and project. The division X requested an evaluation on the use of PRIMA in Fast Track. Based on the data gathered an evaluation of PRIMA's contribution to organizational learning was carried out. PRIMA was initiated in this portfolio of projects due to concerns about whether the operational context imposes new or worsened strains upon the coworkers. Based on this request the foundation of our project scope and thesis came into existence.

To summarize what was just learnt, the intentions of PRIMA are: to provide and integrate health-, safety- and environmental perspectives; to reduce psychosocial risk factors in the working environment; to have a positive influence on workers' health and satisfaction; and in a broader sense contribute to create a vigorous organization through organizational learning. Foremost, the method aims to have preventative effect. Conditionally, in order for PRIMA to generate a successful outcome organizational learning has to take place.

1.1.4   PRIMA in Fast Track

As mentioned, PRIMA in Fast Track have had an emphasis on primary prevention on psychosocial work environment. The method of PRIMA does give room for flexibility in regards to the context in which it is utilized. This is also emphasized in the European framework for PRIMA. Cox et al., (2008) claim that "*Equivalence allows the overall approach to be tailored to the context in which it is used without losing the opportunity to compare across situations, at one level, and to draw general conclusions at another.*" The practice of PRIMA, in this respect, is not necessarily a reflection of how PRIMA is utilized throughout the whole organization of Statoil. However, it will allow for the results of PRIMA in regards to utilization within different Fast Track projects to be compared.

With a preventative focus the method aims to prioritize interventions that reduce risks at source. This allows for actions to be tailored and it will promote healthiness, social dialogue and participative a participative approach. In addition, it will address issues relating to organizational culture and development (Cox et al., 2008). Through PRIMA the employees' and managements experiences of the work environment and work context were addressed as a basis for implementing changes in the workplace. Some of the measures identified included

changes in normative documentation and the introduction of an *"Ambition-to-action"* scoreboard. Following, throughout this study the exploration of organizational learning and PRIMA should be understood in light of the Fast Track context.

1.2 Thesis

As mentioned, the starting point of our research project was based upon cooperation with Statoil ASA. My fellow student and I had little knowledge of PRIMA beforehand, but after a careful introduction we connected the utilization of PRIMA to Statoil ASAs expressed desire to be a learning organization (HWE, 2012; Hinna, 2012). From this point we took on a wide approach when considering organizational learning, knowledge sharing and the utilization of PRIMA. With this is mind we developed an overall thesis that worked as our foundation for the interview process. This, in turn, gave us rich data to base our process of analysis on. The overall thesis was as follows: *Which factors affect organizational learning?*

The aim of this study is to explore processes or factors that are of importance for growth, development and organizational learning to take place. In order to do so this study also explores the notion of knowledge sharing as a condition for organizational learning. As emphasized by Statoil ASA, these aspects - understanding factors that facilitate or hinder knowledge sharing, sharing of experiences and increased awareness of psychosocial risk factors - are of importance for the organization, the managers and their employees, as well as for academics (Aalerud, Hval, Pettersen & Kjuus, 2012). Nevertheless, I aim to produce knowledge of these processes within Statoil by discussing the data gathered when utilizing the above thesis and the subsequent research process. Furthermore, considering that this cooperation with Statoil ASA is a part of our master's degree program at NTNU my fellow student and I developed our own distinct thesis. This study aims to explore and discuss the in depth topics, based upon the data collected and the theories of: knowledge sharing, knowledge transfer, the learning organization, theories of action, organizational memory and more. This represents the overall theme of our study; organizational learning. The initial arrangement was for us to evaluate the PRIMA method, but based on our analysis of the gathered data alterations were made. Therefore, in this context and with the basis of our cooperation with Statoil ASA the utility value of PRIMA as a predecessor for Statoil's aim to become a learning organization, and the occurrence of organizational learning within the Fast Track context will be explored through the occurrence of knowledge sharing. Furthermore,

knowledge sharing will be explored in regards to which channels the informants choose to share their knowledge within. In addition, this study aims to explore which interpersonal facets affect the occurrence of knowledge sharing. All results should be understood as an evaluation of organizational learning within the specific context of one project type, Fast Track. Nevertheless, the thesis will be further explained in chapter 3.

1.3 The assembly of this master thesis

Chapter 2 will present a theoretical framework. It will, shortly, explore traditional perspectives and historical development within the academic field of organizational learning. Furthermore, it will address central theory that will enhance the understanding of knowledge transfer and organizational learning, and later contribute to enlighten the discussion of the findings presented in chapter 4. Chapter 3 will address the methodology and approach taken throughout this research process. It will clarify and explore the study process step by step, and lastly it will take the researches participation into consideration. Next, chapter 4 will present the results and findings of this study illustrated with quotes from the informants. Finally, in chapter 5 these findings will be discussed and explored in light of the theories presented in chapter 2 and earlier empirical results. At the end of chapter 5 follows a summary and conclusion of the study and its findings as well as an indication of implications for future research.

2 Theory

In this chapter I will present the theoretical framework for this study which will guide the reader through the discussion in chapter 5. First I will establish the theoretical positioning of this study. Furthermore, I will clarify and describe factors which are essential for organizational learning. Hence, I will clarify the notions of different knowledge processes, such as knowledge transfer and knowledge sharing. The concepts of knowledge processes will be commissioned in an organizational perspective, and theories of action and interpersonal facets that affect knowledge sharing will be explored. Therefore, knowledge transfer and knowledge sharing will be clarified through a detailed exploration and clarification of relations that will affect the efficiency of such processes. However, these processes appear to be deeply intertwined and therefore the purpose is not to distinctively separate the notion of these concepts but rather to understand how they function within organizations. The theory that follows is also presented in regards to understand the exploration and discussion of the results gathered in our study.

2.1 Theoretical position

When exploring the literature within the field of work- and organizational psychology it is evident that organizational learning (Argyris & Schon, 1974, 1978; Argote, 2011; Argote & Ingram, 2000) and the learning organization (Senge, 1990; Ørtenblad, 2004) are two distinct phenomena (Ørtenblad, 2004). Additionally, it is comprehensible that both concepts are linked with the concept of dialogue and knowledge sharing within organizations. However, the notion of organizational learning and the learning organization have been closely intertwined, and both concepts are complex areas of interest within the field of work- and organizational psychology (Filstad, 2010; Dymock & McCarthy, 2006). When separated, one may understand organizational learning as how the organization actually learns, while a learning organization can be understood as a description of how the organization should learn (Argote & Ingram, 2000). Following, I will provide a clarification and delimitation of these concepts because this will guide the reader as a theoretical framework for exploring the thesis and theme as previously explained.

2.1.1   The learning Organization

Senge (1990) conceptualize the learning organization as, *"organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together."(p.1).* He further explains that the learning organization is built upon five learning disciplines. These are: personal mastery; mental models; shared vision; team learning; and systems thinking. These will not be further conceptualized here. However it is important to state that each of these disciplines must be mastered, put into practice, and utilized to acquire certain skills and competencies. Furthermore, he also posits that individual learning is not sufficient for organizational learning (Senge, 1990).

The concept of the learning organization is controversial (Dymock & McCarthy, 2006) and has, since its origin, been ambiguous (Ørtenblad, 2004). Yet, when aiming for organizational success, the concept of the learning organization holds the opportunity of being tomorrow's great idea because it aims to respond to the ever changing market (Ørtenblad, 2004). Ørtenblad proposes a model to clarify the concept of the learning organization. He claims that four perspectives of the concept are complementary and that all four aspects have to be attended to in order for an organization to become a successful learning organization. The four complementary aspects are: learning at work, organizational learning, developing a learning climate, and creating learning structures. However, Ørtenblad (2004) points out that there is no need for an equal emphasis on all four aspects, as long as each aspect is accounted for. Likewise, if the organization is neglecting one of these four aspects it is not sufficient to emphasize the remaining three aspects. Nonetheless, without learning at work it would be difficult not to get stuck with an traditional view on knowledge which in turn is undesirable when aiming to respond to the changing market. Also, there would be little learning without a learning climate, and there would be no storing of knowledge into the organizational memory without organizational learning. Lastly, there would be no flexibility, to enhance learning, within the organization without a focus on learning structures. Ørtenblad (2004) posit that organizational learning is a premise for the learning organization and not the other way around.

2.1.2 Organizational learning

The concept of organizational learning is important for innovation, creation and development (Argyris & Shcøn, 1978; Nonaka & Takeuchi, 1995) and predecessors for organizational success. Organizational learning can be understood as a transactional process between individuals and their environment, and furthermore, between the organization and its environment (Kolb & Kolb, 2008). In short, it can be viewed as the processes in which the organization gains new knowledge about its environment, goals and functions Simon, 1997). Traditionally, research on organizational learning can be divided into three main streams. One stream has considered barriers or routines that prevent learning. Another stream present learning as changes in routines, while, a third stream consider how change in characteristics of performance are a result of experience. However, the last decades' research has somewhat conflated (Argote, 2011) and a distinct separation between the academic streams of organizational learning is hard to employ.

Argyris & Schon (1974) see organizational learning as a change in the organizations' theory of action. A theory of action can be understood as a map that guides the organizations' actions. Changes within these maps can be understood as adjustments or correction of error, and Argyris & Schon (1974) emphasize that this change is a result of a deviation between what the organization aim to achieve and what it actually achieves. As a result, this deviation leads to a corrective/learning action pulse. In detail, this can be understood as the interaction between espoused theory and theory in use; respectively, the theory of action to which the organization gives allegiance and the theory which actually governs their actions. Nevertheless, Argyris & Schon (1974) postulate that one can only learn, or change, when one comprehends one's own theory of action. This, inevitably, leads us to the concept of single-loop- and double-loop learning, concepts which will be thoroughly explained in the next chapter.

Additionally, Argyris and Schon (1978) connect the employees' individual world to that of their organization. Through the employees' constructions of maps, their detection and correction of errors, and their awareness of theories in action Argyris and Schon (1978) posit a link to organizational learning. They state that for such organizational learning to take place the individuals' construction of maps, as explained above, should be embedded in the organizational memory. In other words, the employees' knowledge needs to be embedded in

the organization in order for other employees to access it. By embedding their knowledge into the organizational memory you may still benefit from their knowledge when an employee leaves the organization (Argote & Ingram, 2000). As Argote (2011) put it, organizational learning can be understood as the process in which the past affects how the organization functions today and how it will function in the future. She states that *"organizational learning occurs as organizations acquire experience"* (p.441).

However, Levin (2000) suggest we rethink the understanding of organizational learning and learning curves. Initially he defines learning as a process of learning by failure and minimization of error function. Nonetheless, he proposes a redefinition of the learning process within organizations and states that research on the organizational learning process show:

"1) that stable learning curves are not limited to the cost or efficiency domain; (2) that, contrary to prior research in the efficiency domain, some learning curves appear to be more a function of time than a function of cumulative experience; and (3) that improvements to the starting point of some learning curves, when a product is first introduced, are even more important than improvements made during subsequent production" (Levin, 2000, p.644)

From this it is understood that the process of organizational learning and organizational performance includes many distinct organizational goals. Additionally, organizational learning is found to be more complex than initially perceived. The results also show that a learning curve exists both for efficiency as well as for quality, and that organizational learning depends on the passage of time. Lastly, he enhances the understanding of what is learnt when by showing that more learning takes place as a result of product introduction. In addition to these findings – that there is a learning curve for quality, that it is a function of time, and that improvements to the learning curve's starting point are critical – he emphasizes the importance of considering knowledge transfer within organizations (Levin, 2000).

2.2   Organizational and individual knowledge

According to Huber (1991) it is important to challenge traditional and narrow views of organizational learning. He explores four constructs that are integrally linked to the concept of organizational learning. These constructs are as follows: knowledge acquisition, information distribution, information interpretation, and organizational memory. Furthermore, he explains a broader view of organizational learning as: *«An entity learns if, through its processing of*

information, the range of its potential behaviors is changed" (p.89) and he assumes that: *"With respect to the existence of organizational learning… an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization"* (p.89). This is also in accordance to Argyris and Schon's (1974) understanding of organizational learning. Further, Huber (1991) points out that the concept of learning does not need to be conscious nor intentional, it does not need to increase the learning party's effectiveness, and lastly, it does not necessarily result in change of behavior.

Nonetheless, Huber (1991) states that knowledge is an important precondition for organizational learning. Additionally, other academics (Ørtenblad, 2004; Davenport & Prusak, 1998) point out that organizational learning and knowledge within organizations should be understood as two deeply intertwined concepts. Nevertheless, knowledge can be defined as :

"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (p.5)" (Davenport & Prusak, 1998).

By this definition, it is evident that knowledge is of a dynamic character (Tsoukas & Vladimirou, 2001). However, this definition does not make a clear distinction between the concept of knowledge and the concept of information. On the other hand, Davenport and Prusak (1998) acknowledge that knowledge is derived from information, which in turn is derived from data. In order for this information to be conceived as knowledge the individual has to work with the information through knowledge creating activities such as: comparing, connecting, conversations and exploring of consequences. Such knowledge creating processes take place between and within humans (Davenport & Prusak, 1998). Knowledge can therefore be conceived as a mixture of elements. This is also in accordance with Nonaka and Takeuchis (1995) viewpoint. They argue that information can be understood as a flow of messages, while knowledge should be understood as a result of the flow of information and rooted in the beliefs of the receiver. In other words, knowledge is created by a flow of information and furthermore, related to human action. Simply put Bell (1999) states that data require little or no human assessment. On the contrary, knowledge requires maximum assessment. He also

proposes a definition of knowledge which is based upon a continuum of three concepts - data, information and knowledge – depending on the extent to which regard the concepts reflect human involvement.

Tsoukas and Vladimirou (2001) point out that the above definitions of knowledge are useful, but they give little insight into how action and knowledge are connected. Davenport and Prusak (1998) point out that knowledge should be evaluated in light of those decisions and actions it results to. Furthermore, the definitions make no clear explanation of what knowledge really is. Tsoukas and Vladimirou (2001) on the other hand, provide a more detailed definition of knowledge. They separate the concept of knowledge into individual knowledge and organizational knowledge. Individual knowledge can be understood as the individual capability to make distinctions based on either appreciation of context or theory, or both of the above. This can be understood as the individuals' competent use of what constitutes a specific domain.In continuation, organizational knowledge can be defined as:

"... the capability members of an organization have developed to draw distinction in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalizations whose application depends on historically evolved collective understandings." (p.973) (Tsoukas & Vladimirou, 2001).

Polanyi (1975) makes an additional remark. He states that all knowledge is personal, and that personal participation is the universal principle of knowing. Secondly, he states that knowledge has to be instumentalized in order to be used effectively. Considering the above definition of organizational knowledge these features of knowledge, as stated by Polanyi (1975), are valid within the organization. Furthermore, organizations are settings where individual actions take place. It is also a setting in which the individual makes distinctions based upon context and theory, and a setting in which the individuals act upon a set of abstract rules and historical communities. Therefore, knowledge in organized contexts will become organizational. Additionally, there is also the heuristic knowledge developed by employees while carrying out their work (Tsoukas & Vladimirou, 2001).

2.3 Organizational memory

The leap from individual to organizational knowledge concerns knowledge in organized contexts (Tsoukas & Vladimirou, 2001). Furthermore, knowledge in organized contexts can be understood as organizational memory. Organizational memory, as mentioned

above, are one of the constructs that is closely linked to the concept of organizational learning. Memory, in a widely manner, can be recognized as the acquisition, retention and retrieval of knowledge and experience (Anderson, 1980). Such definitions pertain mainly to individuals, however, Loftus and Loftus (1976) argue that some memory functions may be possessed by a great number of things as well. Nonetheless, the extension of memory functions to an organizational level is ambiguous (Walsh & Ungson, 1991). Furthermore, they state that the proposition of organizational memory raise a question regarding anthropomorphism. According to Argyris & Schon (1978) organizational memory is merely a metaphor. However, others (Moorman & Miner, 1998; Walsh & Ungson, 1991) see organizations as information processing systems that exhibit memory which has a similar function to the memory of individuals. They propose that such systems also have sensors that receive information, which in turn is processed, and lastly this processed information can be retrieved. Walsh and Ungson (1991) propose that the construct of organizational memory consist of its occupied instruments, the information captured or stored within it, all processes of information acquirement and recuperation, and its outcome effects. Organizational memory holds many definitions. Put simply, Walsh & Ungson (1991) state that, in its most basic sense, organizational memory can be understood as the stored information from the organization's history that can influence present decisions. Another definition, upon which other definitions are based, state that organizational memory is "*the information and knowledge known by the organization and the processes by which such information is acquired, stored, and retrieved by organization members*"(Anand, Manz, & Glick, 1998. p.796)

Organizational memory is a complex concept that faces challenges. Many variables are likely to influence the effectiveness of organizational memory, such as: membership turnover; information distribution and interpretation; norms and methods for storing information; and methods for locating and retrieving information (Davenport & Prusak, 1998). The human components of organizational memory suffer a great loss when personnel chose to resign or change jobs. This will inevitably affect the organizational memory unless the routines for storing information are adequate. Additionally, if the organization does not anticipate the future need for specific information, this information might not be stored in the organizational memory at all. Lastly, employees might lack the knowledge of the whereabouts of information previously stored by other members. The extent to which the organization can

minimize and handle these challenges regarding organizational memory will further affect the organizations learning ability (Davenport & Prusak, 1998). As previously stated, organizational learning depends upon employee's knowledge being stored in the organizational memory. When stored accurately other employees can access it at a later point. Additionally, by embedding employee knowledge into the organizational memory you can still benefit from their knowledge when an employee leaves the organization (Argote & Ingram, 2000)

2.4   Knowledge transfer and knowledge sharing

Knowledge transfer is an important topic of interest for academics, managers and other practitioners. Furthermore, in order to gain and further sustain a competitive advantage in the increasing global economy, an organization needs to effectively and sufficiently utilize their knowledge resources, also known as individual or employee capital (Joshi, Sarker & Sarker, 2006). Additionally, organizational learning will increasingly be defined according to knowledge processes and knowledge sharing (Vera & Crossan, 2003). The notions of knowledge sharing, knowledge transfer and knowledge exchange are deeply intertwined. In this paper I will not distinctively separate between these concepts. However, I emphasize the notion of knowledge sharing and knowledge transfer within the organization and the exchange of information and cooperation between individuals, groups or departments within the organizational network. Also, as previously mentioned, Huber (1991) claims that different constructs are integrally linked to the concept of organizational learning, including information, knowledge and memory. Therefore, the process of organizational learning will be connected to processes of sharing and transferring knowledge, as well as to the access to- and storing of knowledge, also known as (organizational) memory (Huber, 1991). Nonetheless, it is important to understand the factors that affect knowledge transfer within an organization.

According to Abrams, Lesser, Cross and Levin (2003) there exists little systematic evidence as to which factors may promote the effectiveness of knowledge transfer. Nonetheless, they argue that it is essential for organizational managers to be aware of which factors promote effective knowledge transfer in order to foster profitable knowledge exchanges within the organization. Researchers (Curtis, Krasner & Iscoe, 1988) have concluded that team members whom possess knowledge and are viewed as experts have an ability to control and positively influence the direction of the project and the outcome by

sharing their knowledge with their coworkers. This supports the notion that knowledge transfer may contribute to gaining a competitive advantage.

Knowledge transfer may then be understood as occurring when knowledge is dispersed from an individual, group or department to other entities. This knowledge transfer can be intentional, but it may also be an unintended result of other activities. Additionally, knowledge transfer can occur between organizations' as a whole (Joshi et al., 2006). Boisot (2002) argues that in order for knowledge transfer to be successful, two criteria have to be fulfilled. Knowledge transfer requires both the sending of knowledge of a source and an internalization of that specific knowledge by a recipient. Additionally, Boisot (2002) points out that the transfer of knowledge will depend on the type and complexity of that knowledge, and also it will depend upon the attributes and action of the source and the recipient.

Historically, research on knowledge transfer has been conducted from within three unlike epistemological stances (Venzin, Krogh & Roos, 1998). These stances are: cognitivistic, connectionistic and autopoietic. Hence, these stances view knowledge as, in order and respectively: fixed, contextual, and lastly non-shareable. Venzin et al. (1998) view these epistemological perspectives as reciprocal, but they state that one epistemological perspective could be better suited than the others when studying a specific phenomenon. I believe that in the context of my study that involves project teams characterized by social interaction, cooperation, learning and productivity the connectionist perspective will be the most suitable. From this epistemological perspective, knowledge is viewed as contextual. This means that knowledge should be understood in light of the context in which it appears (Kogut & Zander, 1992). Therefore, it might be hard to share knowledge because local differences in rules and stocks of knowledge most likely will exist. Knowledge transfer requires shared understanding and connections. Such connections could be social interactions, ties and networks. Nonetheless, as Boisot (2000) pointed out, knowledge transfer also depends on the type and complexity of that knowledge. Hence, knowledge is "context-bound", and the appearance of knowledge is critical (Joshi et al., 2006). Nonaka and Takeuchi (1995, 2004) define knowledge as what a person knows, and they argue that it is context-specific and relation-dependent. By this definition, they link knowledge to meaning. Continuously, they argue that knowledge is developed through interaction between individuals within the

organization. In light of this, they posit that knowledge will have little influence on the effectiveness of a group or organization unless the individual share it with their coworkers.

A proposed definition of knowledge sharing states that it is "*the provision or receipt of task information, know-how and feedback regarding a product or procedure" (Cummings, 2004: p. 352).* Furthermore, knowledge sharing has been tied to many different desirable outcomes for the organization. In this thesis, however, the main focus on the "giving side" of knowledge sharing. Nonetheless, many factors influence knowledge sharing, such as: the property of knowledge itself; the property of managerial action; the property of the environment; and the property of the individuals (Nonaka & Takeuci, 1995; Levin, 2000; Cummings, 2004). These factors: type of knowledge, culture, opportunity and attributes of the individuals involved will be further addressed.

In order to understand knowledge sharing within organizations it is appropriate to separate knowledge into two different forms (Weiss, 1999; De Long & Fahey, 2000; Joshi et al., 2006). This dominating distinction, separation of knowledge type, in the literature separates knowledge into tacit and explicit knowledge. Tacit knowledge was first ascribed by Polanyi (1966) in the book "*The Tacit Dimension*" where he states that "we *know more than we can express*" (p.16). Tacit knowledge is non-formalized. It is personal and context-specific, and hard to communicate, anchored in an individuals' actions, experiences, ideas, norms, values and emotions (Nonaka & Takeuchi, 1995;2004). Furthermore, Polanyi (1966) describes this knowledge as "*know-how"* and he argues that this type of knowledge is experience-based and hard to share. On the contrary, explicit knowledge can be described as formal and systematic, recognizable and easy to communicate, and therefore, easier to share with others (Nonaka and Takeuchi, 2004). However, Nonaka and Takeuchi's (2004) understanding of the components of knowledge differentiate from Polanyi's view. Polanyi (1966) states that tacit knowledge can only be rendered visible through our actions, and by no means be articulated. Nonaka and Takeuchi (2004) view these components as supplementary as a result of the interaction between tacit and explicit knowledge through human activities. They argue that the organization can develop and utilize knowledge by transferring tacit knowledge to explicit knowledge and vice versa.

2.5   Organizational knowledge creation and knowledge sharing

Nonaka and Takeuchi (1995) see knowledge sharing as a process involving conversation, reflection, questions and new knowledge based on individual experience.

However, as previously mentioned, they state that knowledge will have little influence on the effectiveness of a group or organization unless the individual share it with their coworkers. Other researchers also state that the organizations ability to utilize knowledge depends upon their employees, and how they develop, share and use their knowledge (Ipe, 2003). Therefore, knowledge sharing appears to be essential for organizational effectiveness and outcome. Another proposed definition of knowledge sharing view the concept as a process involving intentional action where senders' knowledge can be utilized by the recipients (Ipe, 2003). On the other hand, knowledge transfer, as previously described, can be understood as a transfer of knowledge between different entities (Joshi et al., 2006).

The organizational knowledge creation theory can help explain these phenomena and many others within the field of organizational psychology (Nonaka, Krogh &Voelpel, 2006). According to this theory, knowledge holds three components. It holds a meaning justified by the individual based on their unique viewpoint, experience and personality. Further, it is the capability to define a situation and act thereafter, and lastly, it is explicit and tacit (Nonaka and Takeuchi, 1995). Nonetheless, a question of the interrelations between tacit and explicit knowledge led to an examination of the conversion of knowledge. This process is also the second fundamental element in this theory. This conversion can be understood as knowledge creation. It is an ongoing process in which individuals overcome boundaries imposed by existing knowledge by acquiring a new view and new knowledge. As Nonaka and coworkers (2006) state, knowledge creation is the process from being to becoming. Hence, organizational knowledge creation can be understood as the overall process of strengthening knowledge and making it available, explicit, as well as connecting it to the organizational memory. Put simply, what employees learn in their (work-) life could benefit their colleagues and the organization as a whole if handled properly (Nonaka et al., 2006).

Nonaka et al. (2006) propose that knowledge creation develops through a four-stage conversion process. These four processes are socialization, externalization, combination and internalization. Respectively, they aim to share tacit knowledge amongst individuals, articulate tacit knowledge into explicit knowledge, combine different entities of explicit knowledge, and embody explicit knowledge into tacit knowledge. In other words, when interacting and sharing both components of knowledge with others employees it enhance their capability to define a situation and act accordingly (Nonaka et al., 2006). Finally, this sharing

of knowledge may become «know-how" for the employee and at the same time be stored in the organizational memory in order for others to retrieve it when necessary. Nevertheless, through this process personal and subjective knowledge will be validated and connected with others' knowledge (Nonaka & Takeuchi, 1995).

2.6   Theories of action (single- double loop learning / Model 1 and model 2)

Nonetheless, when considering sharing knowledge, Argyrs and Schon (1996) state that organizations can inhibit themselves from organizational learning due to their own actions and awareness. Therefore, the work of Argyris (& Schon) has to be taken into consideration when exploring organizational learning. Argyris has made a significant contribution in the development of the concept of organizational learning, especially with regards to the underlying factors in action when engaging in work behavior and learning. As stated by Smith (2001) *"the ability to engage with others, to make links with the general and the particular, and to explore basic orientations and values is just what Argyris talks about when exploring the sorts of behaviours and beliefs that are necessary if organizations are to learn and develop"*(p.2).

According to Argyris and Schon (1974) people act based upon their mental maps. These maps involve the individuals planning, implementing and the reviewing of their actions. In short, these maps guide individuals' actions. However, this theory of action is rarely the same as the theory of which the individuals claim they act upon. This stems from Argyris' early research on relations between individuals and organizations. Accordingly, Argyris and Schon (1974) propose that there are two theories of action involved; theories in-use and espoused theory. Theories-in-use are those theories that actually govern our actions, while espoused theory are those theories we use to convey what we do or what we want others to think we do; the theories in which we give allegiance. In other words, the distinction is between those theories inferred in what we do (action) and those we speak of, in regard to our actions, to others. Argyris (1985) states that effectiveness can be achieved when there is congruence between these two theories of action. However, in order to explore whether there is congruence between the theories of action you have to reveal the theory-in-use and explore the nature of fit. The possible gap between the theories of action (when not to wide) creates a dynamic for reflection and dialogue. However, organizational learning requires model II and double-loop learning, and a climate of openness (Argyris, 1985; Argyris & Schon, 1974; Smith, 2001). Furthermore, Argyris and Schon (1978) posit that learning must involve both

detection and correction of error, and that in order for organizational learning to occur employees must act as learning agents and all new knowledge must be stored in the organizational memory (Argyris & Schon, 1978).

There are two ways to react to a mismatch between intention and outcome. These responses are referred to as single-loop learning and double-loop learning by Argyris and Schon (1978). Single-loop learning corrects the mismatch by operationalizing governing variables, which is a necessity. However, any reflection done while using this strategy is simply directed towards making techniques more efficient. This is not sufficient for learning. On the other hand, double-loop learning questions the governing variables. It corrects error by the modification and close study of underlying governing variables, such as norms, values, policies and objectives. This is a reflective, creative and considerate approach to handling the mismatch between intention and outcome. Argyris (& Schon, 1974; 1985) also argues that double-loop learning is necessary and vital in order to make informed decisions in the ever-changing global marked.

Continually, Argyris and Shcon (1996) posit two models which in turn describe characteristics of theories-in-use that potentially could inhibit or amplify double-loop learning. Model I describes a common theory-in-use that most individuals apply in problematic situations. It often leads to defensive routines and the theories-in-use are often distinguished by a disposition to winning. The defensiveness of such theories can also be proposed as moving away from something. Consequently, when moving away from something, that something defines you when preferably one should be moving towards a desired situation. This will in turn inhibit double-loop learning and impair the potential for growth and learning (Anderson, 1997). On the contrary, Argyris (1985) posit that model II will enhance double-loop learning because it is open to explore and change governing values. He argues that this give an opportunity to produce new strategies to address the ever-changing marked. This model aims to be explorative and to make theories explicit for further testing. Furthermore, this model aims to provide organizations with common goals, effective dialogue, encourage communication, and combining advocacy with inquiry (Argyris & Schon, 1996).

Nonetheless, Argyris and Schon (1996) suggest that for organizational learning to occur organizational maps should be available to guide the employees' actions and inquiries.

There must be organizational maps of the theories-in-use for the individual to refer to. Additionally, they argue that individuals employing model 1 will create an organizational learning system characterized by defensive routines and self-fulfilling prophecies which in turn will inhibit learning and enhance errors. Consequently, the organization might adopt actions that in the long term go against their interest. The challenge then, is to promote and create an organizational learning system characterized by model II. Such a system would be characterized by inquiries that resolve incompatible governing values by exploring and setting new priorities, or by restructuring norms and assumptions (Argyris and Schon, 1978; 1996). Unlike the previously, but short, introduction to Levin's learning cycle where he state that one learns by trial and error, Argyris and Schon (1996) have made it sufficient to learn by reflecting critically upon and adjusting the theory-in-action.

As pointed out by Argyris and Schon (1996), the gap between theories-in-use and espoused theory call for reflection and dialogue in order to achieve double-loop learning. Schein (2003) states that dialogue has considerably promise as means to or strategy for problem solving. Additionally, followers and spokesmen for dialogue claim that it holds qualities that can enhance a group's consciousness, creativity and effectiveness. Schein argues that organizational effectiveness depends on valid communication. Furthermore, he argues that any form of organizational learning requires shared mental models across subcultures. This is also in accordance with Argyris and Shcon's (1996) statement, as previously mentioned, that organizational maps should be available and guide employees in their actions. Accordingly, Schein argues that dialogue is a necessary first step in learning because it opens for reflexivity and the creation of new, shared mental models. In sum, Schein (2003) posit that dialogue is a predecessor for organizational learning and that it should be a central element within any model of organizational transformation. He even goes so far as to posit that dialogue is the root of all effective group action because this is the only way to determine whether the communication is valid.

Dialogue focuses on getting in touch with underlying assumptions, perceptions and our thinking processes, and hereby creates consciousness of how our thought processes work. In this matter, dialogue also aims to enable groups to reach higher levels of consciousness and creativity through gradually creating shared mental models and common meaning. Through dialogue the individual also learns to explore his/her own thinking and language, and they learn to become active listeners. Additionally, dialogue emphasizes flexibility, openness and

the natural flow of conversation. When it works it is less intense than other communication enhancers and as a result a group can exceed the creative abilities of each individual member. However, in order for dialogue to work certain criteria need to be fulfilled. A facilitator should start by arranging the setting and describing the concept. Thereafter, the facilitator should ask individuals to share with their neighbor; ask them to share with the group; ask them to reflect; let the conversation flow; and intervene if necessary. Throughout the whole process it is also important that each individual feels equal and receives time to establish their identity in the group. Last, but not least, the theme or task for the group in this setting should be to explore the process of dialogue and gain an understanding of the principles underlying the "technology", rather than coming up with a solution to a problem. Seeing how organizational learning can be hindered by subcultural or hierarchical boundaries the need for dialogue to create common understanding is essential. However, dialogue at the executive level is not sufficient for organizational learning. It needs to propagate throughout all subcultures in the organization (Schein, 2003). Nonetheless, Schein (2003) posit that learning across subcultural boundaries is not possible without dialogue.

2.7   Interpersonal relations and knowledge sharing

Earlier research has demonstrated that the effectiveness of knowledge creation and knowledge transfer to a certain extent will depend upon relationships (Levin & Cross, 2004). Additionally, results have shown that the strength of the relations between the sender and recipient(s) also affect knowledge sharing (Hansen, 1999). Boisot (2002) also points out that the transfer of knowledge will depend upon the attributes and action of the source and the recipient in addition to the complexity of that knowledge. As proposed, multiple factors can be involved in these complex casual relations, but, according to Ipe (2003) four factors are identified as major influences on knowledge sharing at the most basic level within the organization – between individuals. They are: motivation, the appearance of knowledge, culture, and the opportunity to share (Ipe, 2003). Considering that I have covered the nature of knowledge I will clarify the concepts of relations, trust, opportunity, culture and reciprocity, and how these factors affect knowledge sharing at an individual level.

According to Stenmark (2001), individuals are most likely unwilling to share personal knowledge without considering profit or return, and unless they are personally motivated to share their knowledge. Furthermore, he states that the motivational factors that affect knowledge sharing at the individual level should be separated into internal and external

factors. External motivational factors consider the relationship with the recipient(s) and possible rewards or return for sharing knowledge. Reciprocity as a motivator includes the individuals' anticipation that sharing knowledge is worthwhile (Schultz, 2001). Furthermore, reciprocity can include aspects of learning, as in enhancing one's own expertise, or being given recognition (Bartol & Srivastava, 2002). Additionally, if the individual receives knowledge from others this may stimulate a mutual give-and-take of knowledge (Weiss, 1999). Another external motivational factor that will affect knowledge sharing at an individual level is that of the relationship to the recipient. Further, this relationship is a result of the recipients' power or status, and whether the individual trust the recipient (Stenmark, 2001). Trust is also perceived to be central to the way the individual chose to share their knowledge (Andrews & Delahaye, 2000). If individuals perceive trust this could facilitate learning and knowledge sharing (Huemer, von Krogh, & Roos, 1998). Nonetheless, if individuals perceive other to be less engaged or not contributing equally in the community this might be a barrier to trust and therefore inhibiting knowledge sharing (Kramer, 1999). In sum, perceived trustworthiness is essential for knowledge sharing.

Another aspect of the relationship with the recipient that affects knowledge sharing involves the power or status of the recipient compared to that of the sender (Stenmark, 2001). Findings suggest that individuals share knowledge with their peers and/or those with more status and power (Huber, 1982), and additionally, they show that individuals screen the information that is passed to their peers in order to withhold unfavorable communication (O'Reilly, 1978). Furthermore, individuals are most likely to share knowledge when they perceive it to be positively related to rewards. On the contrary, knowledge sharing will not appear if such sharing is associated with penalties or negative outcomes (O'Reilly & Pondy, 1980). Therefore, rewards and incentives will enhance knowledge sharing at an individual level. Additionally, monetary rewards might act as an external motivator to knowledge sharing when the knowledge is shared through formal interactions and across work units (Bartol & Srivastava, 2002).

Nonetheless, the opportunity to share and the channels through which the individuals share knowledge will affect the frequency end effectiveness of knowledge sharing at an individual level. The opportunity to share knowledge can be divided into formal and informal systems or channels (Bartol & Sirvastava, 2002). By example, formal systems could be such as training programs, work teams, technology based systems and purposively learning channels through structured environments. These create contexts for which to share

knowledge as well as providing tools necessary for such sharing (Rulke & Zaheer, 2000). However, the knowledge shared through these formal systems are most likely to be explicit (Nonaka & Takeuchi, 1995). On the contrary, informal systems facilitate knowledge sharing through personal relations and social networks. Such systems for knowledge sharing can be understood as relational learning channels (Rulke & Zaheer, 2000). Research indicates that most of the knowledge sharing that occur takes place through informal systems (Truran, 1998), and that individuals rely on informal relationships for communication (Stevenson & Gilly, 1998). Furthermore, informal systems facilitate face-to-face communication, trust, respect and friendship – all of which are essential for knowledge sharing (Nahapiet & Ghoshal, 1998).

All of these aspects, as described above, influence knowledge sharing within an organization, especially on the individual level. However, these interpersonal aspects are also affected by the culture in the organization as well as the work culture in the specific context – the work environment. Organizational culture can be defined as patterns of basic assumptions (Schein, 1985). Furthermore, the norms, values and practices in an organization are reflections of its culture (De Long & Fahey, 2000). In a worst case scenario the organizational culture might inhibit or work as a barrier to knowledge sharing. Researchers claim that culture influences the norms for knowledge sharing and knowledge creation, it shapes assumptions and influences relationships (De Long & Fahey, 2000). Additionally, culture influences the individuals mindset and guides action (Nonaka & Takeuci, 1995). In short, culture suggests what to do, and what not to do (Davenport, 1997). However, subcultures within the organization will also affect knowledge sharing and other knowledge processes. They can be characterized by their own norms and values (Pentland, 1995), and this adds more complexity to the challenge of creating an environment for facilitating knowledge sharing (Ipe, 2003). Nonetheless, these factors, as described, do not exert their influence on knowledge processes in isolation, they are all deeply intertwined, and they also affect each other (Ipe, 2003)

In sum, these factors as described above are all encompassed within the notion of social capital. Social capital (Lesser & Prusak, 2000) is another theory that aims to explain the social relationships that influences behavior, and in the organization also affects economic growth. This theory encompass' structural, relational and cognitive aspects of being a part of a unit, and therefore it contributes with valuable knowledge in regards to understanding the

knowledge sharing processes within an organization. It refers to the resources that the individual draw upon, and that provides value both for them and the organization. These resources can be utilized as needed in order for the individual to perform their jobs. Nahapiet and Ghosal (1998) define social capital theory as *"the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit"*. They identified the three dimensions of social capital. The structural dimension encompasses the informal networks and the identification of individuals as potential resources. The relational dimension refers to the interpersonal dynamics between the individuals within each specific network. Lastly, the cognitive dimension includes those resources that provide shared representations and a common understanding. All in all, the social capital constitutes some aspects of the social structure and facilitates the actions of the individuals within the given structure. Furthermore, social capital is owned jointly by both parties in the relationship. Social capital makes possible what one individual cannot achieve them-selves, it increases the efficiency of action, and it encourages cooperative behavior. Nevertheless, social capital theory provides a basis for understanding intellectual capital and knowledge sharing within the organization, and hereby also an understanding of organizational advantage seeing how this relies upon the individuals' social capital (Nahapiet & Goshal, 1998).

2.8   Summary

In this chapter I have explored the theoretical framework that will contribute to make sense of the data gathered when discussing the results presented in chapter 4. I have propounded the concept of the learning organization and organizational learning. Furthermore, I presented the concepts of knowledge, knowledge transfer and knowledge sharing, and the process of organizational knowledge creation. Lastly I presented factors that influence the effectiveness of knowledge sharing at the individual level within the organization, such as: theories of action; knowledge type; culture; opportunity and interpersonal relations. I have shed light on these factors through an organizational perspective and I suggest that these concepts are not to be understood in isolation but as deeply intertwined concepts that also as affect one another in addition to being influential upon knowledge processes. Furthermore, I have showed that learning and knowledge sharing are both complex processes, and that organizational learning could be fortified if these influential factors, as described above, are taken into consideration and handled effectively.

Additionally, I have shown that knowledge sharing is a result of personal motivation, individual attributes, organizational culture, reciprocity and opportunity (Ipe, 2003). I have shown that learning is the dedication of new knowledge, and that individual learning is not adequate for organizational learning to take place (Senge, 1990). Therefore, the organization should arrange for motivational factors and opportunity to be present in the organizational environment. Furthermore, it is evident that for knowledge sharing to take place this should be associated with rewards and reciprocity (Ipe, 2003). Additionally, I suggest that learning is dependent upon relations and the context in which it takes place. Therefore, the individual learning process can be understood as something that takes place within the organization while at the same time being a consequence of its environment/surroundings. This shows that the organizational members and the organization itself mutually affect each other. Also, by clarifying the concept of single-loop and double-loop learning (Argyris & Schon, 1974), and dialogue (Schein, 2003) I emphasize the use of reflection as a central aspect of learning. Nonetheless, the social capital theory encompasses many aspects of interpersonal relations that effect knowledge sharing. While exploring this theory it will further enrich the understanding of the learning concept and learning processes, what it is and how it takes place.

Based upon this understanding of knowledge sharing and its influential factors I will explore how knowledge sharing and organizational learning takes place in the project Teams within Fast Track in chapter 5. Additionally, I will explore the use of PRIMA and how this tool/method can contribute to organizational learning by acting as a arena for dialogue, and a catalyzer for reflection and awareness. Nonetheless, I will first explain the method utilized in this research process, and then present the results gathered.

Which factors affect organizational learning?

3   Methodical framework

3.1   Disposition of the chapter

In this chapter I will begin with clarifying the methodology of grounded theory and my positioning within this paradigm that I have taken throughout this study. Thereafter, I will thoroughly clarify the qualitative interview method and also explain the process of data collection as executed in this study. Furthermore, I will present the thesis derived from the deduction. Nonetheless, while presenting this chapter it will constantly reflect the processes of my study as a whole. Lastly, I will explore my role as a researcher in this study and reflexive remarks in that consideration.

3.2   Specification of the study

The methodical approach in this study utilizes qualitative methods because of its exploring qualities. Qualitative research aims to describe the world from the" inside out" or "bottom-up" view (Kvale & Brinkman, 2009). It can concern details of peoples' lives and stories, but it can also include research about organizational functioning and social trends. However, a common feature amongst all qualitative research is that it produces data that cannot be quantified by means of statistical procedures. In other words, qualitative research is a nonmathematical analytic procedure (Strauss & Corbin, 1990). According to Denzin and Lincoln (2005) qualitative research implies a focus on processes and research that yields profound description for peoples' understanding of a phenomenon, their life world, their function with others and interaction from a social point of view. They also make a point of seeing this methodological approach as a contrast to measures of amounts, frequency and intensity defined by external variables, also in accordance with Strauss and Corbin's (1990) viewpoint. Although, according to Van Maanen (1985) there is no such thing as a set definition of qualitative research.

Qualitative research mainly holds three major components. These are data, analytic or interpretative procedures, and written reports. The data can be obtained from different sources, in which interviews and observation are the most common. Next, different procedures are used to analyze the gathered material including techniques for conceptualizing data. Finally, the results and implications can be presented in different forms depending on the audience and the intended purpose (Strauss & Corbin, 1990). These aspects for this particular study will be clarified continuously.

The reason for conducting qualitative research in this study is the nature of the research problem. We were interested in personal and intricate details about the nature of coworkers' experience of their working conditions. Further, we attempted to uncover the nature of Statoil's personnel and key stakeholders' experience of knowledge sharing and their experience of working in new contexts/conditions; details that are difficult to convey when applying statistical methods like questionnaires etc. So, in order to explore this area of interest my fellow student and I chose to formulate a wide and open-ended thesis, as follows: *Which factors affect organizational learning?*

3.3 Grounded theory

The grounded theory method is, today, the most widely known and used method in qualitative research methods. Within in the grounded theory method there are many different approaches, but for this study I have chosen to take on a constructivistic approach of Grounded theory. I will elaborate on my chose of positioning later in this chapter. Nonetheless, grounded theory was initially introduced by Glaser and Strauss in 1965 in the publication "*Awareness of dying*", and then, following in 1967 in their acknowledged book *"The Discovery of Grounded theory"* (Bryant & Charmaz, 2007). They claim that one can develop theories based upon the data. This can be understood as a way of constructing abstract theoretical explanations of a phenomenon or social process based upon qualitative data (Charmaz, 2006).

Grounded theory implies ways to reflect upon- and ways to conceptualize data (Strauss & Corbin, 1994). Such a theory is one that is directly built upon the study of the object or phenomenon that it represents. That is, the theory is a result of its discovery of data and verification by data through systematic methodological processes. Consequently, both the data collection and analysis, and therefore also the theory are in a reciprocal relationship with each other. This is also in contrast to the quantitative method where one often begin with a falsifiable hypothesis. Here, the process starts with a widely formulated question and without predefined concepts. In other words, one starts with an area of interest, such as a phenomenon, and then one allows the data relevant to this area of interest to emerge independently (Strauss & Corbin, 1990).

Grounded theory has developed in many directions, but nevertheless, it consists of a set of flexible general requirements to be followed throughout the research process (Charmaz, 2006). The main reason for using this method is to develop theory. In order to do so, the

research question has to meet some criteria. The research question must allow flexibility and also freedom to explore the phenomenon or object of interest in depth. Furthermore, the research question should act as more of a statement that identifies the object of interest. It is to be open, yet narrow, and directed toward action and process. Mainly, the research question leads the researcher to examine a specific something, gets them started, keeps them focused and allows for clarification if one gets loss in the masses of information (Strauss & Corbin, 1990). In regards to my positioning within the contstructivistic approach the use of research questions in my interviews allows for me to interact with the informants in order to get a better understanding of their life view (Charmaz, 2006).

According to Blumer (1969) analysis includes interpretation. This further implies that interpretation does not necessarily precede experience, and that meaning and interpretation are clearly entangled with each other. All research is interpretative. As a researcher one is guided by a set of values, experiences, thoughts and worldviews (Denzin & Lincoln, 2005). In short, the descriptions chosen are consciously or unconsciously selective, and while they are meant to bring credibility they are foremost designed to persuade or convince (Corbin & Strauss, 2008). Furthermore, when carrying out qualitative research demands are laid upon the researcher. These can be classified within interpretative paradigms such as epistemology, ontology and methodology. Respectively, these concern questions about how to reach knowledge about the world; how the world develops; and lastly both of the above (Denzin & Lincoln, 2005). Within qualitative research one has to take a specific approach, and the researchers positioning within the ontology and epistemology paradigms will affect this approach (Mills, Bonner & Francis, 2006).

Within grounded theory there has emerged two main movements, the constructivist viewpoint and the objectivistic viewpoint. While the objectivistic viewpoint see the data as real in itself and that the data convey an objective reality and knowledge about the world, the constructivistic viewpoint also reflect the researchers thoughts. In the objectivistic approach the meaning of the data already exist and the researcher is merely a mean to discovering this meaning. Followers of this approach claim that the researcher stays separate and distanced from the informants view and thoughts of their reality. On the contrary, followers of the constructivistic viewpoint are continually involved with their research and those

interpretations that are made (Charmaz, 2006; Corbin & Strauss, 2008). In this study I have chosen to position myself within the constructivistic approach.

I believe that grounded theory and the constructivistic approach will be useful in discovering and interpreting the informants understanding and attitude towards knowledge sharing within their organization. Based on the definition above and these advantages mentioned I chose to take a constructivistic approach in this study.

3.4 The qualitative interview

In this research project I use qualitative interview in order to obtain descriptions of the informants view of a given phenomenon or object of interest, in order to further interpret the meaning of the described phenomenon while attempting to understand the informants view of life or ideology (Kvale, 1984; Langdridge, 2006). This method, the qualitative interview, is known as one of the most popular methods for collecting data (Langdridge, 2006). This is also the chosen method for collecting data in his study.

The qualitative interview can be divided in two categories: the semi-structured interview and the unstructured interview. We chose to utilize the semi-structured interview. This is a partly structured interview in which the researcher has prepared a set of questions to guide the interview. Implicitly, this does not mean that the list of questions has to be followed closely; it is more likely to act as a directory. You may also choose to elaborate or ask additional sudden questions (Kvale, 1984).

According to Charmaz (2006) this method is also well adjusted to the methodology of grounded theory considering how it opens for flexibility and free for prejudiced meanings. Furthermore, the qualitative research interview is not exposed to a great number of strict rules that the researcher has to conduct oneself to (Kruuse, 2001). This gives the researcher the freedom to alternate the questions and the order in which they are put forth. Additionally, the researcher can focus on the informants' life view and their perception of what is essential to the theme at focus or question at hand (Kvale, 1984; Langdridge, 2006).

For my fellow student and me this method allowed us to focus on specific themes or a phenomenon and still be open for changes and flexibility. This further enabled us to explore the theme at hand in depth. The flexibility especially enabled us to follow leads that emerged in our dialogue, and furthermore, the method allowed the informants to reflect upon their subjective comprehension with regard to the object of interest. Primarily, we wished to

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explore organizational learning in this organization. We were also interested informants' knowledge of PRIMA as well as their experience of whether the organization emphasizes psychological wellbeing or not. The semi-structured interview provided such data from the informants' perspective and it allowed us to obtain nuanced descriptions of the employees' experiences and take on knowledge sharing and organizational learning.

3.4.1   Sample, recruiting and selection

The informants of this study were chosen based on the principle of purposeful sampling. Basically, we looked for informants that could provide insight and elaborate on the object of interest, organizational learning (Langdridge, 2006). Moreover, our informants had to fulfill a specific criterion; they had to have a connection to Fast Track at the time being. Additionally, we wanted somewhat of a variance in demographic variables in order to achieve nuanced descriptions of the working environment. Therefore, we wanted to interview both female and male employees, both newly employed and those with more experience, as well as employees of different localization and rang. Consequently, this made it easier to explore whether position, location and time of service (in Fast Track projects) effects how, and to whom, the employees share knowledge.

Due to our lack of insight in Statoil's procedures and divisions of labor Statoil provided us with a list of possible informants for our study. Because we considered it important that the informants participated voluntarily and not due to press from their management we contacted and planned the interviews with the informants autonomously from Statoil's management. Therefore, we contacted employees whom we thought could give us nuanced and in depth descriptions of the phenomenon of interest. In other words, we considered these informants' to be information-rich cases as they could tell us about issues of essential importance to our research question (Langdridge, 2006). From the total list of candidates we interviewed 8 employees from different divisions and offices. They all met the criteria described earlier, and they were of both sexes with different rank and experience. In order to sustain anonymity the characteristics of the informants will not be explained further. The interviews were conducted at the respective informants' work place throughout different cities in Norway at their convenience. Additionally, we had a conversation with a key informant before conducting our interviews.

3.4.2   Interview guide

The course of the interview can be affected by many factors such as nerves, defense mechanisms, selective perception, leading questions, lack of awareness for the informants' emotions and non-verbal communication and so on (Gordon, 1970, in Kruuse 2001). With this in mind we let our initial research question guide the development of our interview guide and aimed for the questions to attend to the informants' experience regarding the phenomenon of interest (Charmaz, 2006; Langdridge, 2006). We also focused on keeping a well-organized list of questions, as a good foundation for gathering information on your object of interest (Langdridge, 2006). Furthermore, we wanted to ask open questions that could lead to nuanced descriptions of the informants' subjective experience rather than objective facts, and also avoid leading questions. This is also in line with the constructivistic approach recognized by its subjective and reflexive nature (Corbin & Strauss, 2008; Charmaz, 2006).

My fellow student and I started the process of developing the interview guide with asking ourselves what would be typical themes in light of our initial research questions. This gave us a list of themes that generated proposals for questions for our interview guide. Next, we roughly divided the interview guide into sections. In the start we focused on the informants' position and job description. Next, we wanted to make sure we had the same understanding of a couple of central themes like psychosocial work environment and formulated open questions to gather their understanding and frame of reference. Also, we focused on starting with general questions and then moving towards more specific questions when exploring our object of interest. By formulating open questions we were also able to explore specific types of information. In accordance with Langdridges' (2006) guidelines for developing an effective interview guide we concentrated on effect and consciousness. By example, we asked "what made you think/feel that?" Lastly, after having completed our initial draft of our interview guide we sent a copy to our contacts in Statoil. Thereafter, we made some altercations in line with their feedback and also made sure that our questions were formulated in a colloquial way.

According to Charmaz (2006), and as previously mentioned, open-ended questions allows the informannts' to reflect and embellish their response. This allows the informants to deviate from fixed responses. Additionally, these types of questions also contributed to make us, as researchers, assured and focused on the informant. Furthermore, we studied interview techniques and we emphasized neutrality, confidentiality, language and listening. According

to Langdridge (2006) a few guidelines should be obeyed in order to create a good environment to carry out interviews: give the informants' time to talk; know when to be quiet; be comfortable when it is quiet; appear interested, do not dominate; and lastly, do not dismiss answers as unimportant. So, by being well prepared, asking open questions and being genuinely interested in the informants' view we aimed to create a safe and flexible environment for sustaining a good dialogue.

3.4.3   Embodiment

Before we conducted our interviews we had a sit-down with a key stakeholder in Fast Track. We also talked to people responsible for applying PRIMA in different Fast Track projects, as well as a meeting with a "champion", a person who acts as a moderator for utilizing PRIMA in these Fast Track projects. These people were considered important facilitators, either for the Fast Track organization or the PRIMA instrument. The opportunity to talk with these people beforehand was unraveling They gave us a lot of good information and we got the opportunity to explore the background and reason for why they work as they do and why they chose to work with the psychosocial work environment. During these meetings we also learned about the specific phases during a Fast Track project and how these differ, or do not differ, from the traditional way of working with oil extraction. Ultimately, this made us even better prepared before conducting our interviews.

The interviews were conducted over a period of three weeks. We set a side approximately 1,5 hour for each interview to make sure that we had enough time if the informant proved to be talkative. The duration of each interview varied from approximately 35 – 65 minutes. As mentioned earlier we wanted to give the informants an easy start and to create a safe environment for a good dialogue. Therefore, my fellow student and I started by introducing ourselves and the purpose of the study. Next we asked them whether they wanted to continue, if they would allow us to use a tape recorder and if they would sign a consent statement. We distributed these tasks amongst the two of us in order to avoid confusing the informant and in order to create a friendly tone. Additionally, we also emphasized the voluntary aspect and their anonymity. After this, all informants' chose to continue the interview and we felt confident that we had established an open, honest and reciprocal environment. This was also in line with Langdridge (2006) guidelines to achieve a successful environment for interviewing.

Throughout the interviews we partly followed the interview guide, but it acted more as a directory. Gradually, we also made some adjustments in our interview guide and the order of the questions became somewhat spontaneous due to the nature of the situation. However, the context allowed for us to ask follow-up questions and further explore interesting aspects, as well as being attentive to the informants' lead. According to Charmaz (2006) it is essential that the researcher uses open questions and act reflexive. During the interviews both my fellow student and I asked questions and took notes. We did not assign a specific order in how we carried it out because this flexibility enabled us to ask follow-up questions wherever and whenever one of us found it to be necessary.

At the end of each interview we continually informed them about their possibility to change their mind about participating. They also had the opportunity to ask us questions if anything was unclear or if they had any concerns. Lastly, we asked how they felt about this situation and whether the interview had gone well. After the interview ended we experienced a cheerful and positive atmosphere. Many of our informants took time to have a casual talk and we felt that the interviews ended on a positive note. Some of the informants were even interested in reading the final report which led us to believe that they could also have a positive gain from participating in this study. This is also in line with Charmaz'(2006) view; that it is important to end the interview in a manner that is positive for the informant as well.

3.4.4 Transcribing

"Transcribing is to transfer speech to written form" (Langdridge, 2006, p.257)

To transcribe can be defined as the process of writing out. To a certain extent this process is the first step of the process of analyzing when the tape recorded oral speech is transformed in to written form. These transcriptions need to be adjusted to their intent, and how one choose to utilize the transcriptions may vary between different methodologies. Nevertheless, it is desirable to produce clear and concise transcriptions, including the interviewers' questions and comments. This is essential in the process because the context of the interview is important in qualitative methods. It creates an overall view and adequately totality (Langdrige, 2006). Still, as pointed out by Kvale and Brinkmann (2009) transcription of data is not objective as they are representations and abstractions of the actual interview.

Before my fellow student and I started the process of transcribing we agreed upon a few guidelines to follow throughout the process to make sure that the transcriptions were as

reliable as possible. We decided to use a denaturalistic approach that aims to produce a literal report of the speech, but even more, it focuses on the conveyed meaning (). Furthermore, we agreed to include emotional aspect of speech. By example, we noted if they laughed, paused, or raised their voice. This also gave us a better understanding of the atmosphere and the conveyed meaning.

When transcribing speech you have to listen carefully. The process is time-consuming, but when you transcribe it yourself it gives the researcher a proximity to the data (Langdridge, 2006). During the process I felt that this opened for reflexive thinking as well as it gave me a connection between the data and the interview. Furthermore, the process of transcribing also led me to start the next phase of analysis. While I worked on these transcriptions I also started taking some notes, a short memo, for my own benefit, with thoughts and reflections. By doing this I had the opportunity to go back at a later stage in the process and consider my initial thoughts. According to Charmaz (2008) memos are the first important step in the process of analysis and such memos can help later in the process of analysis by providing reflexive information. Memos will help the researcher reflect on concepts and codes, and it will motivate the researcher to start analyzing the data early in the research process. By writing these memos the researcher is forces to consider and reflect on thoughts about the data (Charmaz, 2008; Corbin & Strauss, 2008).

3.5   The process of analysis

Coding are the operations in which data processed. They are broken down, constituted and then assembled in new ways. This process is central in qualitative research. It allows for new theories to take form, which also is the essence of grounded theory – to build theory rather than testing it (Strauss & Corbin, 1990).

The analysis in grounded theory can be divided into three major steps, respectively, open coding, axil coding and selective coding. However, there is no distinct separation between each type of coding. While open- and axial coding usually take place in an early stage of the coding process they might also appear at a later stage. The researcher may also leap between the different forms of coding continuously, as the process of gathering data and analyzing them are closely intertwined (Strauss & Corbin, 1990).

The essence of the coding paradigm is to continuously compare data and develop categories to reach an abstract level. This coding process guided by the raw data material collected and edited at an earlier stage of the research process. Furthermore, the absolute ideal would be to continuously utilize theoretical sampling, an ongoing collection and analysis of data until the concepts reach theoretical saturation (Charmaz, 2006). However, due to the nature of this study and the widespread location of the informants interviews were carried out during a short interval of time, one month, and not repeatedly with any informants. Therefore, the process of constant comparison was intended to guide the development of an emergent theory in this study, the purpose being to check whether the data support the emerging concepts and categories while also contributing to define their properties (Glaser,2003).

Following, I will describe the different phases of coding I applied in this study. My starting point was a dynamic, flexible, and active approach in order to develop concepts and categories that define the data. Although I will present these phases of coding separately, keep in mind that the phases are intertwined and may take place in parallel. I have found myself shifting back and forth between these phases.

3.5.1   Open coding

"Breaking data apart and delineating concepts to stand for blocks of raw data. At the same time, one is qualifying those concepts in terms of their properties and dimensions"(Corbin & Straus, 2008, p.195)

In this phase, open coding, the researcher works closely with the transcribed material and identifying those concepts described. This phase starts as soon as data are collected and is ongoing throughout the process of analyzing (Kruuse, 2001). This coding process stimulates conceptual ideas and by asking questions to the data one may code and verify the categories so that you do not miss out on relevant categories. These questions should be open but direct, for instance: What is happening in the data?; what is the informant referring to?; what is this a study of? The purpose is to break down the data to gain a perspective, width and a variety in the data. By answering these questions above, it will aid us in creating precise codes that capture the meaning and essence of the paragraph or sentence. Another crucial aspect in this coding process is for the researcher to be open-minded so that one does not base the codes on predefined assumptions (Corbin & Strauss, 2008).

When reading our material repeatedly we asked these questions, as mentioned above, and it helped us divide our data into smaller sequences. This enabled us to further identify what each sentence was actually about. Furthermore, it also led to an identification of themes or codes, identified by Corbin and Strauss (2008) as manageable chunks. These codes actually define the experiences or actions that the informants are describing (Charmaz, 2006). By example, we identified codes like frustration, uncertainty, anxiety and time pressure. These codes were linked to some informants' descriptions of how they felt when making decisions based on little knowledge and why they were forced to do so. Additionally, while some codes are directly based on expressions used by the informants, in vivo, some codes are also defined by us, in vitro (Charmaz, 2006). When working in this coding process we found ourselves comparing codes, looking for similarities and differences, especially when comparing the informants' answers to specific and important questions. We allowed the data to guide us. As a result, similar codes that we thought clearly illustrated a specific phenomenon or object of interest were linked together and dedicated in a category. Such a category is intended to grasp the width and variety of all the coeds put together in a category (Charmaz, 2006: Corbin & Strauss, 2008).

3.5.2 Axial coding
"Crosscutting or relating concepts to each other"(Strauss & Corbin, 2008, p.195).

Previously, I just mentioned how we compared different codes while we were in the process of open coding. This can be described as the data leading us in the direction of linking different codes together in a grouping. This naturally led us over into the phase of axial coding. These phases do go hand in hand (Corbin & Strauss, 2008). As the researcher works closely with the data it is only natural that their minds, both consciously and unconsciously, make connections within the data, naturally as the codes and the connections are a result of the data narrated by the informants.

While the open coding breaks down the data, the axial coding puts them back together in categories (Strauss & Corbin,1990). In this process the intention is to find relations between the codes that have already been identified. The process of axial coding is to conjoin the data by combining each category with information regarding conditions, context, efforts, actions, and consequences as well as linking subcategories with main categories (Kruuse, 2001). The name of the category should be more abstract that of those concepts linked under

it. This should also make it easier to see the different connections between the data as the data are given an overall and general explanation. These explanations become apparent when you ask questions like when, where, how and why. This will contribute to specify and fill each category with characteristics and dimensions (Strauss & Corbin, 1990; Charmaz, 2006). By knowing the general components of a category you will also get a clearer view of the variety that might exist within a category. Nevertheless, a category is still a development beyond these dimensions and properties (Strauss & Corbin, 1990). By example, we looked for relations between the codes by asking in which contexts are the codes appearing, and how are they linked together. When looking at how the codes appeared to be connected we started putting them in groups. Nevertheless, as noted by Corbin & Straus (2008), the researcher needs to be open for a change of mind, to explore thoughts and ideas, and to be led by the data without holding predefinitions. Therefore, we went back and forth between codes, and also between the groupings, to see whether each code belonged in their group, and how each category was linked to the other categories. Throughout this process we aimed to keep an open mind, remain flexible and also free to think in new ways in order to be led by the nature of the data. Thereafter, we named each category. By example, we found it purposeful to link the codes knowledge sharing, openness and trust with more, in a category which we named "Actual communication behavior within Fast Track". Other categories we identified were: implicit knowledge that affects behavior; the learning organization; and working conditions in Fast Track etc.

3.5.3   Selective coding and emergent theory

At this point it is about time to move from descriptive analysis towards theoretical and abstract levels by integrating your categories to form a grounded theory. The phase of selective coding is the process of choosing a core category, systematically relate this to other categories and validate those relations. This core category can be defined as "*The central phenomenon around which all the other categories are integrated*" (Strauss & Corbin, 1990, p.116). The core category characterizes all the concepts and the categories in which they belong. It might be understood as a common denominator that binds all the categories in a superior theme. To find the core category you have to identify the category that best describes the variation found across all categories. It can be described as the main theme of the research and it should, with only a few words, be able describe what the research is all about (Strauss & Corbin, 1990). Nevertheless, it might also be hard to distinguish between two categories that seem equally important. By example, initially I found the category "the learning

organization" to be equally important along with the category "Actual communication behavior in Fast Track". However, we decided to make a decision to focus on only one core category to fully develop and integrate the category accurately. We found our core category through a thorough examination of each category. After asking what each category was mainly about we identified the category which we found to be the best common denominator. The core category was identified as follows: "Actual communication behavior within Fast Track".

After having identified the core category the next step was to connect the data with existing theory. This existing knowledge can be applied as a source that can stimulate the thinking process when utilized consciously (Strauss & Corbin, 1990). It can guide the researcher when choosing which concepts to investigate and furthermore for framing their findings. Theory may then represent a conceptual framework that can help the researcher support, explain and expand those findings (Corbin & Strauss, 2008). Nevertheless, the researcher must keep in mind that this theoretical framework is just that, and the data should work as the essential guide when working through the analysis.

Following, I will explain how we let the data guide me through the process of analysis by asking open questions. We tried to remain unbiased throughout the research process, and already during the interviews we were focused on asking open questions. Additionally, we continued stressing this openness during the process of analysis. Furthermore, we aimed at keeping an open mind and we were willing to let go if certain concepts did not fit the core category. Also, Strauss & Corbin (1998) emphasize the importance of utilizing such open questions throughout the process of analysis. They point out how this will enhance the researcher thought processes and contribute to the development of codes and categories. Also, it will make it easier to see relations between the codes and categories, and last, but not least, it will be important for the development of the theoretical foundation (Strauss & Corbin, 1998). By asking questions throughout the whole process we were at last able to identify our core category and also recognize the different phases of the process. Lastly, we considered each category and tried to identify possible theories that could contribute to shed light on our data. This was also an important step when trying to identify the connections between each category, and it enabled us to start developing the theoretical foundation for this thesis. From

this part of the process my fellow student and I continued the analysis and development of a theoretical foundation separately.

3.6 Results of the analysis – thesis

I have previously shown how the research question aims widely, and our initial question was how knowledge sharing occurs in the organization at hand. Throughout the research process the question and interest at hand narrowed due to the analysis that had been done. Furthermore, based on the coding of categories throughout the analysis I identified the following thesis: "*How does knowledge sharing occur in an organizational context, and how can dialogue and the PRIMA method contribute to create organizational learning?*

3.7 Ethical considerations

Historically, attitudes toward psychological research were quite different than they are at present time. Consequently, research was done that according to present ethical standards would never be allowed. Today, psychological research aims to, as far as possible, make sure that all participants are aware of the researchers goal and that they have a certain understanding for his or her work when they choose to participate in a study. As a researcher the most fundamental ethical principle is to treat the participants with the outmost respect (Langdridge, 2006).

Prior to our research we discussed which ethical consideration applied to us in this study. There are many ethical guidelines that should be considered, but they are not necessarily rules to be followed. They are to be considered ethical principles that the researcher has to cogitate (Langdridge, 2006). According to Kvale and Brinkmann (2009) considering such moral challenges will additionally enhance the possibility that the decisions carried out are based on critical and reflexive thought processes. In this study we considered the principles of confidentiality/anonymity, consent, and withdrawal as the most important, and they will be addressed following.

3.7.1 Approval and anonymity

First, this research project had to be approved by NSD, the Norwegian social science data services. The study was reported and approved in November, 2012. This is a measure that aims to secure and attend to guide researchers and students regarding data collection, methods, personal security and research ethics (NSD, 2012).

Confidentiality and anonymity are of utter most importance considering ethical challenges in social science research and also emphasized by NSD. All information regarding the participants gathered in the research process should be treated with confidentiality and respect, unless otherwise has been agreed upon beforehand. This is actually the only ethical guideline that is more than just a guideline; it is required by Norwegian law. Nevertheless, all participants have the right to expect that their information is treated confidentially (Langdridge, 2006). Furthermore, according to Kvale (1996) the researcher has to secure the participants' anonymity in the final report. We attended to both these matters by leaving out the employees' name, localization, division, rang and position in the final report. Also, when, where and with whom the interviews were arranged are only known by my fellow student and I. Additionally, I translated the transcribed material to English. While focusing on conveying the original meaning I kept the quotes anonymous and also restructured the speech in order to avoid dialects and stigmatization of groups, as recommended by Kvale & Brinkman (2009). Lastly, all data, tapes and transcribed material have been saved on a memory stick and locked away, only available for my fellow student and me; although, our supervisor at NTNU has been given partly insight of the transcribed material.

3.7.2 Consent

Another important ethical aspect is consent. Since we chose interviews as our research method we were depending on their willingness to participate. However, all informants should have sufficient and detailed information about the research in order for them to give their consent to participate in the study. Therefore, it is also unacceptable to withhold any information that might initially have led to some kind of aversion, or if communicated at a later point in time will lead to discomfort. If a informant complies to participate without knowing exactly what they are agreeing to their consent will not be sufficient (Langdridge, 2006; Kruuse, 2006).

When recruiting participants for this study my fellow student and I first contacted the informants with a mail introducing ourselves and our background, as well as adding a copy of our information letter. In this letter we explained the reason for initiating this study and how we had planned the continuation. From this point we planned where and when the interview would take place in dialogue with each participate and at their convenience. Before we met them we sent them a compliance declaration. Some of the informants sent it back with their

signature. Nevertheless, we made it a routine to go through both the information letter and the compliance declaration at the start of each interview.

3.7.3 Voluntariness and withdrawal

As previously mentioned, we contacted possible participants chosen from a list of candidates. The background information of the study was conveyed along with a detailed information letter and a compliance declaration. We continually emphasized that it was voluntary to participate and that Statoil, the management they report to, would not be notified whether they complied to participate or not. It was also explained that there would be no consequences for the employees that chose not to participate. We were cautious when contacting possible participants, and arranged for them to be completely anonymous. This is also closely linked to the questions of their consent. As mentioned, we did our best to make sure that all possible participants had sufficient information to decide whether they wanted to participate in this study or not.

As a researcher it is important to keep in mind that you are in a certain power position which might influence the informants. No matter how lightly the pressure, the informants should not be put in a position that they feel pressured to go through with the interview. This should also be emphasized beforehand. The participant should be informed that they have the right to withdraw from the study at any given time. It should also be noted that they are in no obligation to explain the reason for their withdrawal (Langdridge, 2006). Beforehand, during and after the interview we emphasized the participants' right to withdraw from the study at any given time. We also included this in the information letter as well as on the compliance declaration, and we gave them the opportunity to ask us questions if anything was unclear. However, 8 participants complied to participate in our study and none of them have yet wished to withdraw.

3.8   Reflexive view - Researcher's part

According to Kvale and Brinkmann (2009) morally ethical research is more than the knowledge of ethics. It involves morality, integrity, sensitivity, commitment, honesty and fairness from the start to the end. Therefore, acknowledging the role of the researcher is especially important in the research process. Feminists promote the importance of acknowledging that good research arises when you recognize the role of the researcher in this process (Olesen, 2007). Furthermore, qualitative research demands that you consider the role of the researcher during the process of analysis. Additionally, the effect of participants'- and

researchers' expectations, and especially the researchers' attitudes, assumptions, needs and motives can affect the results of the study (Langdridge, 2006). This is also closely related to the disagreement of whether a researcher discovers or constructs meaning (Charmaz, 1990). No matter how you decide to utilize existing frameworks it is important that you are consciously aware of them. Nevertheless, you should avoid pressuring data into these existing frameworks and rather let themes appear from the data (Strauss &Corbin, 1990). Kvale (1984) points out that the problem is not the subjective part of the interpretation; instead the problem is that there are too few well considered interpretations. Nevertheless, because it is neither possible, nor desirable, you do not try to remove this effect of the researchers influence and reflexivity, rather you accept it (Langdridge, 2006).

As mentioned earlier in this chapter, I have positioned myself within the constructivistic approach of grounded theory. When doing so, I aimed to be reflexive in the process of analysis. Reflexivity can be understood as the researcher's acceptance of their role, their experience and their framework, and the interaction it plays throughout the whole research process (Charmaz, 2006). My fellow student and I discussed this aspect already at the start of the research process. We discussed how we, as researchers, could affect direction and interpretation throughout all phases of the research project. This is especially evident and clear by the previously detailed descriptions of how we developed our interview guide, how we carried out our interviews, and how the process of analysis was carried out. Furthermore, the results presented in the following chapter are a result of my interaction with the data narrated by the informants. Furthermore, considering that my fellow student and I do not have close ties to neither the key stakeholders in Statoil nor the informants we find our research t be unbiased. Nevertheless, as pointed out by Kvale and Brinkmann (2009) qualitative interview and the ongoing research process is interactive. However, my fellow student and I tried to maintain a professional distance. Still, I recognize that the results are presented as my interpretations of the data, exemplified with quotes by the informants, and assigned a meaning. The interpretations presented in the next chapter are affected by my reflexivity, and they might have been interpreted differently by other researchers.

3.8.1 Summary

Through this chapter I have presented the methodology utilized throughout this study and explained my positioning within the constructivistic approach. Furthermore, I have

presented the processes of this study, step by step. In addition, I have explored my own role as a researcher and considered the ethical aspects of conducting such a study. Nevertheless, when considering these aspects I remain confident that anonymity and voluntariness has been sustained throughout the study.

4   Results.

4.1   Disposition of the chapter

In this chapter I will present the results of the analysis. I will give detailed descriptions of the categories and clarify the subcategories that emerged throughout the analysis. I will do so by putting forth illustrations from the empirical data. The results foreshow that the process of knowledge sharing emerges over a longer time period and that knowledge sharing can be understood as a condition for organizational learning. It also appears as if this process of knowledge sharing is influenced by the relation of the employees' and their coworkers or/and peers, as well as the context in which this takes place. In addition, it appears as if the perceived experience of their coworkers and the opportunity to share influence the process of knowledge sharing. Furthermore, the results show that the extent of knowledge sharing varies between units. It appears as if the employees share more knowledge within their «base organization» rather than within the interdisciplinary project teams. Lastly, the analysis show that the informants perceive PRIMA to be a method best utilized to raise awareness at the management level.

The structure of this chapter is further organized as follows: first, I will provide a short summary of the utilization of PRIMA in Fast Track. Second, I will give a short description of the working context within Fast Track. Third, I will present the results of the analysis. In short, there the results convey three themes that illuminate how knowledge sharing takes places in this context: First, I will present the results of which interpersonal factors affect knowledge sharing; second, I will present the working conditions that appear to affect knowledge sharing; and then, I will present the results in regards to how knowledge sharing appear to occur within this specific context. Lastly, I will present the results that show how knowledge sharing and specific facets like dialogue and the PRIMA method can be understood as both conditions and predecessors for organizational learning to take place. Nonetheless, all results presented, the core category, the other categories and the subcategories should be understood in light of the context described within Fast Track.

4.2   PRIMA in Fast Track

As previously described, the intention of PRIMA aims to both provide and integrate health-, safety- and environmental perspectives. It aims to reduce psychosocial risk factors in the working environment by detection and correction of errors, but most of all contributing in

a preventative regard. Allover, PRIMA aims to have a positive influence on workers' health and satisfaction, and in turn contribute to create a vigorous organization through organizational learning.

The PRIMA method was utilized in Fast Track as a result of key stakeholders' request of a further evaluation of the psychosocial strains that this operational context might impose on their coworkers' health, and an interest in whether the operational context impose new or worsened strains upon its coworkers'. By the term *operational* context I am referring to the working conditions of Fast Track, as will be explained shortly. Lastly, the result of the analysis, in regards to the utilization of PRIMA, will be addressed at the end of this chapter.

4.3   Working conditions in Fast Track

Fast Track represents a portfolio organization of projects, and it is Statoil's stake of standardized development of marginal fields. Marginal fields should be understood as an oil field/well that is nearing the end of its commercial life so therefore the profitable solution in regards to extract the oil/gas is to connect the well to an already existing infrastructure. These projects in this operational context are represented by interdisciplinary project teams which aim to utilize a seabed scope that connects to an already existing infrastructure. This organizing of project teams aim to achieve a reduction of costs and development time for development of marginal fields, and at the same time it aims to enhance and accelerate production and proficiency. Additionally, it is most likely that personnel contribute within more than one Fast Track project at a time. By utilizing the resources and distribute them across projects Statoil also aim to enhance knowledge sharing.

The working procedures in Fast Track are not new or unfamiliar in itself. However, they posit many restrictions and demands upon the employees that will be explored through this master thesis. Nonetheless, as mentioned previously, all results presented should be understood in light of the context described and as a result of my interaction with and interpretation of the data.

4.4   Conditions for knowledge sharing

The analysis clearly show that knowledge sharing within the organization mainly takes place through two distinct forums for knowledge sharing; informal channels and formal channels, which will be explored further later in this chapter. However, the results indicate that the occurrence of knowledge sharing is affected by both conditions for interpersonal

relations and structural work conditions. Following, I will present these results by using illustrations from the informants' reports.

4.4.1 Interpersonal relations

4.4.1.1 **Network participation:**

Through the analysis there appear to be a tendency reported by the informants in regards to where knowledge is gained or shared. Network participation emerges a foundation for both seeking and sharing knowledge and experiences. From the analysis it appears that there is a common tendency that the informants utilize networks to gather relevant information rather than formal databases. The participation in networks appears to be essential for where and with whom the employee choose to share with and/or gain knowledge from. However, the results propose that network participation is affected by employee relations and whether they perceive trust and openness to be present. Nonetheless, the results indicate that network participation gives the employee an insight and knowledge of whom to turn to when they face a problem.

Relations are described by the informants as a general and important element for knowledge sharing. This is also in accordance to the utilization of networks when searching for or sharing knowledge. It appears as if the informal channels for knowledge sharing, through network participation, is the most utilized channel for knowledge sharing. The results show that that development of relations is a process that develops over time. An informant says the following in regards to knowledge sharing at the work place:

> *The thing is, when you establish a network and when time passes you learn to trust your colleagues. So eventually you know who to trust in which situations, and you sort out who you can trust to turn to in a given situation… You have to use from the people around you and gather information where it is sufficient for your needs at that time.*

In addition, another informant states that:

> *I believe every project has a natural fluctuation in regards to employee satisfaction. It is partly a result of your work tasks and whether it is busy, but mostly it a result of interpersonal relation.*

The upper quote shows that relations take time to build, while the next quote shows that good relations are important for knowledge sharing and therefore also for team proficiency. In

addition, work satisfaction appears to depend on more than interesting work tasks; it also depends on having positive interpersonal relations at the workplace. Relations appear to be important both for developing a positive channel/environment for knowledge sharing and for carrying out good team work. However, the results show that the casual relations between openness, trust and relations are bidirectional. While lack of trust and relations may inhibit the employee from sharing knowledge with coworkers knowledge sharing in itself may contribute to developing such factors in the first place.

Furthermore, some factors might inhibit or complicate the development of positive relations and participation in networks. The results show that the organization of the work tasks and project teams might inhibit the development of relations. In addition this might inhibit the development and sharing of a common understanding amongst team members and consequently knowledge sharing. According to the nature of the work and the organization of project teams an informant states the following:

> *My role is kind of lonely and at times you kind of just float in between, and you just try to give input wherever it is appropriate. But you are not necessarily a part of a team. You the whole team is the whole of (project name), sort of, and it is too big, there is no way you can have relations to everyone. So I think that is a problem with my role as it is today, there is a lack of relations.*

The informant's quote illustrates that loneliness is a consequence of the widespread localization of the project team members as well as a consequence of the nature of the work tasks. While this quote shows that the employee feels that he/she is not fully included in the network due t the nature of the work tasks it also shows that the loneliness of this specific work context inhibit relations to develop and also affects the employees participation. The informant adds: *I think the key in these kinds of projects, where you find yourself alone, often due to the organizing of it, is to rely, as a solo player, on the network you already have outside of the project.* This shows that the informant does not feel as a part of a network when working in these project teams and that the employee rather utilizes his/her network in their base organization. Nonetheless, the informants report that they experience positive relations at their base organization.

The results also show that the informants engage in and contribute within a network if they perceive trust to be present. From this it is clear that trust in this context considers the

conditions of good relations in order to build, utilize, and share within a network. Trust appears important both for confidentiality or familiarity, and also for personal relations.

> *Eventually, it becomes easier, and it has for me. I'm starting to know quite a few people in this organization so I just pick up the phone and ask: how is it, do you know of this? And if no, they might now if he or she has knowledge of it, and then I will call there instead. For me this works.*

Based on this informant's recount it appears that relational ties and trust are closely intertwined and that the employee trusts his/her network to be honest and helpful in their search for knowledge. It represents a give and take kind of relationship that will be beneficial for the individuals in the network and the organization as a whole. Trust is also generally described as a necessary predecessor for openness because trust leads the employees to open up and share their knowledge with their coworkers. However, a lack of trust may result in reduced openness.

Furthermore, the informants also emphasize openness as a critical aspect of communication and knowledge sharing within the organization. It considers the possibility to express concern and criticism, and the ability to get involved in honest conversation with colleagues. In addition, it also considers whether the organization is attentive to constructive criticism and feedback that, when handled correctly, could contribute to organizational learning.

> *We do tell them that we do not have enough time, but there is no room to say: no, there is no time, we have to postpone. Also, we do have our professional pride. Of course you want to be able to deliver and do the best you can. So it is hard. I have tried to express my frustration and at times spoken up and said what the reality is really like for us. Also, there have been surveys and stuff, but they seem to be preoccupied with bringing forth the positive in regards to Fast Track. It is kind of a weakness. They introduce Fast Track and then it turns out that they are not very attentive to anything other than the positive aspects of Fast Track.*

The informant reports that the level of tolerance from the bottom-up in the hierarchy lacks attentiveness towards constructive criticism. The informant also reports that the employees perceive that the organization do not listen to them. In addition, their professional pride put additional pressure on their workload besides time-pressure and frustration. However, as pointed out earlier there appears to be a level of tolerance within the projects itself.

> *We have a good way of communicating, and we talk. We talk to each other in the*
> *department, and there is quite a level of tolerance present. We dare to speak up and if*
> *anyone act outside of best practices or not according to others apprehension of what*
> *is the best way we speak up and we deal with it. However, it is important to use the*
> *right forum or channels to do so, but I think it works really well. That is also the*
> *feedback I have gotten.*

From this quote it is also illustrated that the employees are aware that there are different channels for communication for different causes. The results also reveal that the networks are characterized by openness. However, the quote shows that openness also appears to be related to being heard, which in turn may lead to or be a result of trust or distrust. Nonetheless, it appears that openness is closely related to the presence of positive relations and trust, and that when these factors are present it allows for a positive flow of communication.

4.4.1.2 Motivation

However, the results indicate that network participation in itself is not sufficient for knowledge sharing to occur. It appears that knowledge sharing, by their input, will not take place unless the employee perceive there to be something in it for them as well. By example, it appears as if the employee is willing to share their knowledge with others if they receive feedback, recognition or credit, or if it contributes to creating positive relations to others or being included in a network. From the results it appear that knowledge sharing is affected also by the individuals' willingness to share, reciprocity and the foundation of a common understanding.

The results indicate that in addition to trust and positive relations it is important to have a common understanding at the basis of knowledge sharing. The results show that the employees appreciate sharing knowledge with personnel that have the same background or experience as themselves. They report that knowledge sharing in such settings, based on common experience, also creates a feeling of being a part of a network. However, the results also that relations and trust is not always adequate and that sometimes sharing knowledge with a coworker with the same background also includes an evaluation and comprehension of your own work, and that they value his feedback. An informant states:

> *Well the experiences that I feel have been discussed within Fast Track has been*
> *through the network at discipline level, my base organization. I am a (professional*
> *title), so if I have had any problems I call those with the same profession as me or*
> *people whom I know have worked on this and vice versa. Then we figure it out, we*

> *gossip, chat, let out some frustration and so on. I do not recall any organized feedback or summarization.*

In addition, another informant state that:

> *We are organized from* (town x) *and they are organized from* (town y). *However, we have had the same supplier and similar jobs, and also we know each other well. For us it has been natural to cooperate, but that is a result of him and I knowing each other and not because some superior system was able to maintain it. We have the same profession, and we developed relations. Networks are also personal. In* (town y) *there are two similar, coworkers, beneath me, and they do not have the same working relation.*

These quotes illustrate that knowledge sharing is more common and higher valued amongst equals in the sense that the employees share a profession and are able to give valid feedback to each other. It appears as if there is a tendency to share professional experiences with personnel from the same professional background because the profit is more valued. It seems as if the concept of reciprocity is applicable as many informants claim that they expect the process of knowledge sharing to go both ways. The informants also inform us that they seek to gain knowledge from coworkers of the same profession, or coworkers they know to have been in a similar situation, to get advice and to learn in order to successfully handle their own situation or problem.

4.4.2   Working conditions

While I have just presented interpersonal factors that appear to affect knowledge sharing within the organization, the results also indicate that some factors of the working conditions affect the processes of knowledge sharing which I will present in the following.

4.4.2.1 **Time-pressure:**

The first identified central aspect of work conditions involves time-pressure. From the analysis it appears that the work in project teams within the Fast Track portfolio to a large extent is distinguished by continual work to meet deadlines. In addition, this aspect of time-pressure is most likely an effect of standardization and the reduction of development time/phases as well as a consequence of the lack of resources. Also, the increased number of deadlines that are in action simultaneously could be perceived as a strain or at times predecessors for stress. Furthermore, through the analysis it appears that the time-pressure issue involves three distinct aspects. First, these following quotes show that employees do not

have enough time to prepare their tasks or to explore options and background data when making important decisions:

> *Well, I think, the uncertainty, you just have to live with it because you do not have time to document stuff thoroughly or go through everything you would have wished to explore. I think that makes people stressed and you have to make decisions on a not so good basis. I think that does something to affect some kinds of people.*

This show that time-pressure could affect the quality of work in a negative manner when uncertainty and a lack of detailed analysis characterize the work situation. Thoroughness is forsaken, and these working conditions may result in stress or a feeling of dissatisfaction in regards to your own performance. The following quote also points to the meaning of personal attributes while carrying out work tasks:

> *We see this happening, geologists wish to optimize a template, and we have to come in and say that "no. no, no, no, we do not have the time, this is good enough as is and now we have to move on".*

This quote high lights that perfection is not sought for because it is time consuming. It also shows that the employees have to be satisfied with delivering something that meets a lower standard then they normally executed. This is perceived as a necessity in order to overcome the work overload in a short manner of time and to deliver subsidiary objectives in time to withhold the set date for each project phase. The next quote also show that the project has to move forward regardless of whether all details and background information has been covered and considered:

> *It was sort of forth hand. There was no time to do everything we should have done and*
we *did not get time to check out the details and stuff.*

In light of the informants view, this shows that moving forward with the project development exceeds the importance of detailed task fulfillment.

Second, the time-pressure affects the execution of their tasks. At some point, some employees state that they have to prioritize their tasks and that the first thing to be neglected is documentation. The following quote show that the lack of resources enhances the individual's workload so that they have to prioritize their tasks and neglect the least important one:

> *You either have to put on more resources and do the same job, just faster, or you have to work smarter, cut something out. To an extent you have to say that those parts, those things, are not reasonable to do because it is not important, and there is no time,*

so therefore we forsake it. So there is a greater risk for not such a good outcome, but in the long run you can overcome that by getting the oil up of the ground faster.

This quote also high light the fact the organization aims to achieve profitable outcomes in the long run and that this exceeds the necessity of carrying out less important or smaller tasks that one usually would follow-up. In addition, the next quote also shows that documentation is forsaken as a result of the time-pressure:

To be compliant in regards to documentation, to document everything you do, I do not think we have been able to do that sufficiently. I feel like that has been problematic, that there is no time to do things in regards to Statoil's processes. If you consider the demands of how to plan a well, in regards to risks etc., and all, it is incredibly much and it takes a lot of resources and a lot of time. So considering the lack of resources and the shortened amount of time, it is evident that you cannot make it, you cannot get through it all.

This quote also show that the employees themselves have to make the decision of whether to prioritize some tasks over others and at the same time to be under pressure from the organization's demands to follow job sequences and terms of reference.

4.4.2.2 Work-family balance and resources

Another identified aspects that appear from the analysis the effect that a precarious lack of resources have on the work-family balance. Some employees state that the lack of resources in addition to accelerated deadlines and shorter phases presents the employee with a work overload that creates a negative spillover-effect to the home domain as a result of time not being sufficed. The following quote shows that it is hard to separate the strains from work-life from spilling over into the home domain:

Professionally and in regards to my career it was an interesting and a smart choice to join Fast Track. In regards to family and personally it was perhaps not so good. It has been a little bit too though and I have actually said that I want a reduced position, not to blame Fast Track, but I did. I came in here and it is a little bit much. I am really dedicated to work, so when it is really hectic I kind of use up all my energy at work and there is nothing left in me when I come home to take on the responsibility that is demanded from the home domain. So that is kind of though.

This quote also shows that the employee is aware of the spillover between the work- and home domain, and the individual's solution to this challenge is to cut back on work because work-strain like work-overload and time-pressure exceeds their capability. The next quote

also highlight how the organization is aware of the fading division between these two main life domains:

> *The separation between work and home it is a little bit extended, they kind of cross over…We have a working agreement that says that we have to be here (at work) for 7,5 hour each day. However, we stretch that, but what we see is that people work plenty. So we see that the organization profits on that.*

It appears that the organization profits from the employees' work exceeding after time. Nonetheless, some employees state that they see the utility value of these portfolio projects for developing marginal fields. However, the following quote state that these projects should be covered by experienced workers in order to fulfill the potential for proficiency, for both parties:

> *So does it feel responsible to work like this? I think we need a little more time, that would have been favorable. A year extra, I think we could have done a lot in that time. Also, it would make sense if we brought in more resources. But, then again, having too much time is not an advantage either because then you will discuss the same things over and over again. So I think that the Fast Track portfolio is a good method, but in fields where you have experienced people and organizations that are matured.*

The informant implies that, considering the time-pressure and continuously ongoing important decision making, the nature of this working arrangement is more suitable for experienced workers and that both the employees in the project team and the organization would benefit from this. The informants also report that they believe these experienced workers will master the time-pressure without neglecting less important tasks such as communication across part-projects and knowledge sharing through formal reports.

4.4.2.3 Composition of project teams and localization:

The results also show that the project team composition effect interpersonal relations which in turn effect knowledge sharing, and that conditional factors such as work overload and time-pressure result in frustration. It also appears that project team composition is a result of scarcity in regards to available resources. In addition, the results show that knowledge sharing through informal channels also appears to be affected by the localization of team members and the chemistry between coworkers. The informants clearly state that they perceive the composition of project teams to be random and without thoroughly consideration in regards to fit between team members. The results show that this lack of fit in the composition of team members may reduce network participation, works satisfaction and

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knowledge sharing across professions. As previously stated, the results show that knowledge sharing within the employees' base organization appears to work sufficiently, but the employees also point out that it would be preferable if they participated in the same degree across professional networks. An informant states that:

> *I often collect experience from the network within Statoil. You could say that the production engineers represent a network within the company, and it is organized, by structures, in such a way that you establish contact over time and it becomes natural to utilize that network when in need… I think the key is that you utilize the network, also outside of the specific project.*

In this regard another informant points out:

> *This makes knowledge more of a common capital, and that is a great thing especially for new employees. There is a pool of knowledge available if you just talk to your colleagues. There is plenty of verbal knowledge transfer, but we also share documents.*

These quotes both illustrate the beneficial aspects of employee participation in different organizational networks. It appears that employees know how to utilize and to gather sufficient knowledge and they emphasize the importance of these networks. However, some informants also point out that utilization of networks comes down to personality and localization. As one informant state:

> *We are organized from* (town x) *and they are organized from* (town y). *However, we have had the same supplier and similar jobs, and also we know each other well. For us it has been natural to cooperate, but that is a result of him and I knowing each other and not because some superior system was able to maintain it.*

As I have explained above this quote showed that knowledge sharing is highly valued amongst equals of the same profession, yet, the quote also clearly illustrates that the utilization of network is a result of the employees' personal attribute to utilize his/her network and not as a result of the organizations intention to arrange for knowledge sharing. In addition, another informant states that:

> *People are located at their base organization and they gain knowledge from other projects. While, on the other hand, you are not located with the ones you are solving the project with.*

This shows that the localization of team member for a specific project might direct communication towards base organization and professional sub-networks rather than

contacting project team members. However, participation in networks with professional coworkers appears to be a good source for knowledge gaining. From this quote and the common results it appears that the utilization of networks and the degree of knowledge sharing is most profitable and proficient within the base organization. Furthermore, the informants describe how the organization aim to enhance knowledge sharing within teams by sustaining "warm teams". They explain that warm teams are an attempt to keep the same coworkers within the project team throughout the lifespan of the project. They state: *We aim to create organizational knowledge by keeping the employees internally in the portfolio.* The organization aims to embed the employee knowledge into the organizational memory. However, this may be a challenge if the employee decides to move on or if turnover is high due to a lack of fit between the employee and the working conditions in Fast Track. The analysis show that the recruiting process is important in regards to sustaining a fit between the employees and work tasks, as well as between the employees and their coworkers. An informant states that:

> *I believe the teams are put together by chance. There is little focus on the psychosocial, and no evaluation beforehand as to whether people may function together or not. I believe such factors are highly underestimated.*

This illustrates that employees perceive the focus on chemistry and match between coworkers to be of importance, however lacking in this arrangement. In addition, other results show that a lack of resources results in recruiting by chance and a focus on full flex of resources. This formal management task appears to influence interpersonal relations. Another informant states that:

> *It is a challenging setting, and if you wanted more focus on the psychosocial work environment one should have prioritized differently. It is now more like the organization is based on matrix organization with a full flexibility of professional resources.*

This quote also indicates that the informants' perceive a positive psychosocial work environment and interpersonal relations to be down prioritized in Fast Track due to the precarious lack of resources, which is a first priority. In addition, the results show that the lack of fit, as a result of the precarious resource situation that affects the recruiting process, also illustrates an important challenge in regards to the quality of the performance when under a great time-pressure. The employees explain that their experience show that Fast Track should

hire experienced manpower. An informant states the following after having explained how the recruiting process falls short:

> *The challenge within Fast Track is that they need experienced workers, experienced teams. By example, they need experienced people that know well planning and know how to perform over a short time-period. It is not optimal to have inexperienced workers come in, people with no experience with well planning, and in addition the demands are to complete a complex well in a short amount of time. It is not optimal.*

This quote appends to the previously mentioned results in regards to the lack of fit in the composition of project teams. In addition, it clearly illustrates the lack of fit and consideration in regards to the demands of the working conditions; a result that appears to be a common perception of the recruiting process linked to Fast Track. Accordingly, the results show that these demands and the resulting work overload limits communication between part-projects and across professions. Lastly, the results indicate that conditional work factors such as time-pressure, deadlines and work overload result in frustration and inhibits an efficient flow of communication which will be further explained in the next section. However, in regards to work satisfaction an informant states that conditional factors create tension:

> *Rearrangements, it will remove some of the tension that exists. If you only push on the time perspective and do not make any improvements in the way you work, it will create- and there will surface a lot of frustration and stuff. People will not get their work done on time and you will continually be backlogged.*

This shows that the new working arrangements are lacking an equal focus on improvements in the working condition compared to the focus on time reducing. In addition, this lack of focus results in work overload and neglecting of tasks which furthermore may result in frustration. According to the analysis, perceived frustration appears to be a result of many intertwined factors such as: the portfolio's lack of maturity; uncertainty regarding responsibility and power to make decisions; lack of precarious resources; lack of control; and work overload. Furthermore, this frustration appear to result in lower participation across networks which in turn inhibits information sharing and communication, thereby delaying knowledge creation processes to take place. In sum, the facets presented, interpersonal relations and working conditions, affect how knowledge sharing take place within the Fast Track projects.

4.5 Knowledge sharing

From my analysis I have found that the previous facets and conditions for knowledge sharing to take place, interpersonal relations and working conditions, affect how knowledge sharing takes place within the organization. With the factors of interpersonal and working conditions for knowledge sharing in mind I will now present how the process of knowledge sharing actually occurs within the organization based on the informants' reports.

Through the process of analysis a core category emerged. *Actual communication behavior within portfolio project organizations* appeared to be central when exploring which factors contribute to organizational knowledge. The core category embraces other categories such as: forums for knowledge sharing; information sharing and communication. From the analysis it appears that the type of forum for knowledge sharing utilized, the type of information shared and the amount of communication that takes place will affect whether knowledge sharing creates innovative processes, knowledge creation processes, and organizational learning.

From the analysis it appears that knowledge sharing take place through two forums; formal and informal channels. However, it appears that the interpersonal relations, as presented above, such as relations and trust are present and in turn allows for a flow of communication through informal channels. Accordingly, informants also report that while the interpersonal relations support the utilization of informal channels for knowledge sharing the formal channels are perceived as less effective and rigid. Following, I will present the informants perception of how these channels or forums are utilized and whether they appear to be effective channels for knowledge sharing.

4.5.1 Formal channels

Based on my analysis formal channels are identified as one of two forums for knowledge sharing to take place within. However, a recount from one of the informant's clearly shows that the demands for knowledge sharing appear somewhat mandatory and all-encompassing:

> *Yes, we are obligated to write down our experience, to document everything. So, when you start the project you are asked to document which experience you seek to enroll in the project. We do that, and there are a lot of aspects there, you almost feel like there are too many aspects.*

The quote illustrates that the formal forums for knowledge sharing at times are perceived to be an extra burden for the employee. The following quote shows that these channels are forced upon the employees and developed from a top-down perspective:

> *Yes, it is mandatory to write experience reports for all and for everything. You can find them, the documents, if you specifically search for them, but will you take the time to read them? Will you interpret them correctly? So the best is to get a presentation of it so you can put it in a context and have it explained in detail.*

This also shows that the documenting demands and the mandatory process for knowledge sharing can be perceived as a strain. In addition, the result convey that if you take the time to search for specific knowledge you may actually waste your time or even be misguided and knowledge may get lost in the pool of documentation. This appears to be the result of not being able to discuss or communicate the specific context of which these experiences were originally made. Furthermore, it appears as if such formal procedures are put forth by the management without considering the efficiency and utility value of such reports and other documentation, and additionally they make their employees spend time and effort following up on such procedures. Another informant also emphasize these procedures as being time-consuming, and I quote:

> *What limits knowledge sharing is time. We have the tools and we have DBR* (Database for reports) *and we put in experiences and we save it. The challenge is time and capacity; getting things done and still have time to attend network meetings. But considering the short amount of time Fast Track uses you do not have the time. You do not even have time to document in accordance to ruling documentation. You do not have the time to go on field excursion, especially if you have family in addition.*

Results show that due to time consuming activities and employee capacity time is not suffice and one is not able to follow-up on all the documentation. The results also show that the database and the demand for reports and formal documentation do not appear to be functioning as intended. However, it appears that some parts of the formal knowledge sharing work excellent. Workshops and monthly meetings that are mandatory for the project teams are formal forums for knowledge sharing that appear to work as intended. An informant puts it this way:

> *Nowadays, there are five projects that are completed this winter so there will be conducted five workshops within each discipline; drilling, facility, PTEC* (petroleum technology) *etc. in these workshops central employees from the five projects meet. We*

have already had one workshop where employees from topside complications met. So, the five projects meet and have a workshop where they discuss and share their experiences. They also come with suggestions for improvements which in turn are brought along as actions.

Another informant also points out a similar aspect:

The other thing we have had is, we arranged a set of meetings with the management team in the portfolio, and then we meet every other month. In the meeting we go through what has been done, what needs to be done, what do we need to do more of, what do we need to do less of, and why.

These quotes show that the mandatory meetings and workshops as a formal channel for knowledge sharing holds a greater utility value than that of documentation and reports. In addition, it appears that these formal knowledge sharing forums may suited for a group or department as a whole, rather than for the problems or questions that an individual may have. The following quote shows this:

There are a lot of challenges at my level. We have our own sessions for experience transfer for the whole project, and we invite others and other projects to share and tell about their project and processes. The employees at the level beneath us can do the same and have sessions for experience sharing with their like-minded from other projects. So knowledge sharing is foremost transversely or between employees at the same level. It is experts and experts, like-minded. Then there is the whole project as such. But it is more likely to be general problems rather than concrete questions or issues that the individuals might hold.

4.5.2   Informal channels

As previously stated, but not elaborated on, the analysis reveals that there is a common tendency to utilize and appreciate the informal forums for knowledge sharing rather than the formal forums. From the analysis it appears as if this forum for knowledge sharing is essential for knowledge creation processes to take place. An informant states that the formal forums are useless, while, on the contrary, the employee view the informal forums as a strength within the organization. The informant state:

When using databases to gather experience and knowledge, like if I have a specific question and I search for it, the results will show everything from heaven to earth that somewhat deals with this. However, it never answers my question per Se. It is never precise in the search results. So it is a lot easier to just ask the next person, pop in to your neighboring office, ask the question and get the answer, without it being based on

one search word. So the organizations use of databases it probably does not work as intended, but the informal here is really the strength.

This implies that knowledge sharing is likely to be utilized across the same level or within the same profession, and that employees turn to colleagues and their close network when they have a question rather than looking for answers in databases. In addition, as previously mentioned, informants point out that after a while you learn to know your colleagues and how to utilize your network and their knowledge. The following quote was used to highlight the informant's view:

The thing is, when you establish a network and when time passes you learn to trust your colleagues. So eventually you know who to trust in which situations, so you sort out who you can trust to turn to in a given situation… You have to use from the people around you and gather information where it is sufficient for your needs at that time.

However, this quote also illustrates that the use of different channels is also partly dependent on the individuals attributes; whether one asks around or chooses to look it up. In addition, results show that the arrangements of projects in portfolios enhance knowledge sharing and learning because the portfolio opens for informal contact between the employees. Some informants also put it this way:

It is a portfolio of projects and a lot of the employees work on multiple projects. There are few that work only on one Fast Track project. And I believe this is an advantage because it increases the flow of knowledge and you can exploit employees in a good way.

This points out the advantage of being connected with more than just one Fast Track project at a time because it contributes to an enhanced flow of knowledge as well as it expands the employees' network. Another informant also explain that being connected to more than one project and on different levels, also enhances communication and the use of informal inquiries:

We see a great effect of that within the portfolio. By example my role is across the portfolio team, and in addition, I have a management role. Therefore I work on many levels, so I discuss projects and challenges with many project leaders and technical leaders. So I get to discuss things in a productive manner and there is no lack of constructive criticism.

This shows that the portfolio organization creates a culture for openness and communication, and it allows for constructive criticism. This in turn, can be understood as an opportunity to question routines and the fundamental framework, also known as model II. However, the way the organization chooses to handle the feed-back is a different aspect from encouraging openness as will be addressed later in this chapter.

4.5.3   Information sharing and communication.

Another central aspect identified through the analysis is information sharing. This is an important aspect because it helps set the agenda and create a common understanding in regards to achievement of objectives. Information sharing, like knowledge sharing, can be understood as the diffusion of knowledge from one entity, individual or group to another entity (Joshi et al., 2006), however, knowledge is the result of the flow of information. Furthermore, results show that information sharing is a predecessor or condition for successful cooperation. In turn, it appears as if this can enhance participation and the employees perceived including in and value for the project team. The results also show that information sharing is a necessity in order for the employees to see the whole picture within the organization and in regards to work execution. The following quote is a great example of the gathering effect that information sharing may have on the organizations employees:

> *There are a lot of aspects, and it is interdisciplinary to such an extent that it is not given for any individual to see the totality at all times. But there is no way you can arrange information meetings continuously. However, you rely on having great initiating meetings, interdisciplinary meetings including all subprojects. Those are good initiatives, to get everyone together and set the agenda; what to do more or less of and what comes next. However, there are still challenges.*

This shows that in order for the projects to be successful and for the collaboration to work the project team members need to establish a common understanding of the ground and the goals in order to move in the same (and the correct) direction. It also appears that the information shared in interdisciplinary networks, such as in this meeting, appear to be project specifics. On the contrary, knowledge sharing in informal channels, as previously shown, appears to be profession specific. In addition, the results show that when putting forth an agenda this type of information establishes a common understanding so that everyone has a better understanding of their deliverable and interface. Nonetheless, these meetings enable the employees to understand the background for the deliverables and the reason why they are what they are. Furthermore, these results can be interpreted as contributing factor to enhance the potential

for learning by allowing for collaboration. On the contrary, the results show that lack of information sharing might have detrimental effects as pointed out by this informant:

> *As I see it there is a lack of contact between parts of the project. That is also due to the fact that we have not been good enough to gather the information we need, or even at providing the information others need, and so we get backlogged.*

However, the results show, as this informant state, each subproject is responsible for both seeking and providing information to its colleagues on other subprojects. Nonetheless, from the analysis results commonly reveal that knowledge can be derived from information sharing when employees communicate and get innovative. This is also congruent with presented theory in chapter 2 where Davenport and Prusak (1998) state that in order for this information to be conceived as knowledge the individual has to work with the information through knowledge creating activities such as: comparing, connecting, conversations and exploring of consequences. Furthermore, based on my analysis it appears that a flow of communication enhances knowledge sharing through cooperation and collaborate work between sub-networks and part-projects, which in turn allows knowledge creating processes to take place as explained. In addition, it appears that communication considers conditions for cooperation and the opportunity for sharing knowledge within the Fast Track portfolio, and that the presence of good communication is a predecessor for cooperation and knowledge sharing. Results also showed that the project in which communication was reported to work successfully was also the project that received the best feedback from management. This project was especially focused on sustaining a good flow of communication between the subprojects. A flow of communication is essential for knowledge sharing and information sharing, as mentioned above; however, some factors may inhibit it from working successfully:

> *The communication that should be present at the starting phase of the project, between subprojects, is lacking. People are so focused on the time-pressure and on completing their own tasks, and suddenly there are many decisions and clarifications to be made towards the end of the project, on the connections of those tasks that were developed in the start, which is challenging because there lacked communication. As I see it, there is a lack of contact between subprojects.*

This shows that work overload and stress keeps the employees preoccupied and focused on their task within a subproject rather than also contributing to a flow of communication between these subprojects. It appears that the lack of communication in the starting phase may

result in rework or delays toward the completion of the project. Another informant also points out that localization affects the communication and knowledge sharing:

> *People are located in their base organizations and receive knowledge based on others experience from other projects. But the cost, however, is that you are not placed with those you work on the task or project with. That is how it is and you just have to make it work. However, we all probably wish that-and think it would have been easier in regards to communication and you would have gotten to know one another better if we sat together. We choose to work it out by having video meetings and then meet if it is regarding bigger problems, but then we gather for a day, not for an hour.*

The informant recounts that the lack of communication between the different resources or subprojects could result in detrimental effects and the tail production, and that this lack of communication is a result of their localization away from the other resources on the project. However, it appears as if they can gather a lot of knowledge from their network in their base organization that will be useful for their task completion, but it does not necessarily contribute to coordinate the different subprojects. In addition, the results also show that dialogue and contact between the subprojects will contribute to ensure progress, and that a lack of contact between part-projects might result in backlogging or misunderstandings, as previously illustrated. In sum, the facets first presented above and the occurrence of knowledge sharing, how it takes place, in turn affect the conditions for organizational learning

4.6 Conditions and predecessors for organizational learning

The interpersonal relations and the working conditions are shown to affect how the process of knowledge sharing takes place. Furthermore, it appears that the process of knowledge sharing play a vital role in regards to the organization's aim to enhance organizational learning. Based on the analysis it appears that this facet is a predecessor or condition for organizational learning to take place. As previously shown, the results also reveal that networks are characterized by good relations and that informal forum allows for a positive flow of communication and information sharing which could create potential for organizational learning. This implies that cooperation allows for knowledge creating processes. As so, when knowledge sharing frequently occurs and is sufficient it also holds a great potential for organizational learning. The organization states that they aim to utilize this potential to its fullest. On the other hand, the results also show that the working conditions are characterized by time-pressure, a lack of resources and work-overload that in turn may detriment the potential for organizational learning. However, the results reveal that dialogue

and the PRIMA method are processes that hold learning potential within Fast Track, but the organization does not appear to take full advantage of this potential within the Fast Track organization.

While I have previously presented the conditions in which knowledge sharing takes place and through what channels it occurs I will now present the results on the organizations performance in regards to organizational learning. Recall from the theory chapter where I presented Argyris and Schon's'(1978; 1996) theory of action learning and they state that organizations can inhibit themselves from organizational learning due to their own actions and lack of awareness. The results also indicate that there exists a culture of openness in regards to contributing with constructive criticism within the organization. Yet, based on the results it also appears that one does not, or not often enough, question the underlying foundation behind structural conditions and formalities. Furthermore, it also appears that there is a lack of responsibility taken in regards to handling such inquiries. In sum, the results show that the organization, according to our informants, do not exploit the learning potential to its fullest.

4.6.1   Dialogue and double-loop learning

Based on my analysis a tendency that encourages openness emerges. It appears that this tendency also hold potential for organizational learning to take place. It regards the employees' perception that the organization encourages its employees to engage in an open environment. The informants report that the organization expresses their appreciation for feedback and constructive criticism. Nonetheless, an informant state that in order to express and handle feedback there has to be a level of tolerance present as well as respect. The informant states:

> *We have a good way of communicating, and we talk. We talk to each other in the department, and there is a level of tolerance present. We dare to speak up and if anyone act outside of best practices or not according to others apprehension of what is the best way we speak up, we deal with it. However, it is important to use the right forum or channels to do so, but I think it works really well, and that is also the feedback I have gotten.*

As pointed out earlier in this chapter this quote shows that the employees are aware of the presence of channels for communication and feedback, and that there are ways to go about it. However, from this quote it is also evident that the informant appreciates the opportunity to

contribute (and receive) with constructive criticism in regards to achieving the best possible outcome for the project. Furthermore, from analyzing other results it is clear that informants perceive that there is a lap between expressing what appears important to the organization and following up on it. This appears as a common tendency and an informant state:

> *Actually it is expressed, from time to time, that it does not get us anywhere if we just put in our experience in a database. You have to extract it and handle it, do something. And it is expressed that we should do that. That it is important. But then again, from saying it to actually doing it, that is different.*

In addition, another informant high lights the same point:

> *There was a really positive attitude towards it, them handling it. So the management got positive feedback that the employees appreciated it. The employees sort of felt taken care of. But, then again, there is the difference of going from mapping out the work environment or psychosocial risks to actually handling it. That is some serious work, and it is hard to make it happen.*

The quotes illustrate that it is easy to say something, in order to appear in a certain way or even if the organization actually aims to improve, but it is something else to actually go through with that which was just proclaimed. However, this illustrates that in regards to the psychosocial work environment informants appear to thrive. The results also show that some employees acknowledge the managements' focus on such psychological factors even though there was no pressing need for it beyond the GPS survey. However, others also report that information put forth is not necessarily handled in regard to utilizing the learning potential. Therefore, the despite the encouragement in regards to participation in form of feed-back and openness that holds potential for organizational learning the results show that the management display little attentiveness and action behavior in regards to employees' feedback on the structural working conditions of Fast Track. Also, this is in line with the previously explored results in regards to the interpersonal relation of openness where, despite encouraging openness, results reveal that the organization is mainly focused on the positive aspects of the portfolio projects. Furthermore, from these results this can be understood as a neglect of questioning the underlying framework for the new working conditions. If one holds the belief of the foundation of dialogue this is one way that the organization may be in position to inhibit organizational learning to take place because it does not open for detection and correction of error. Nonetheless, for espoused theories to become in-use theories and for intention to be fulfilled informants call for utilization of learning potential. They state that:

> *The question remains, have anyone learned from the mistakes we have done? We do make a lot of mistakes. There are a lot of things we could have done better. I think we have had a lot of discussions so some people definitely learn. But documenting it, and then make sure that those actions are taken further I really do not know.*

And:

> *I do not understand that if you start a project like this, and you have a project management, should there not be a great amount of focus on development and improvement, to make sure you do not make the same mistakes again? I would say yes, but then again I cannot see that that is the case, not that I know of.*

These quotes give the understanding that there is potential for learning and that the informants perceive a lack of action in regards to exploiting this potential. In addition, informants call for leadership foundation as a condition for implementing and fulfilling the full potential of guidelines and different tools' intentions. In regards to utilizing a full potential an informant points out that leadership foundation appears essential. The informant states:

> *Rooting the process is really important. To have high leadership foundation is like a number one. It implies a will, from the management, to actually do something with the challenges that have been mapped out.*

This illustrates that the informants perceive leadership foundation to be necessary in order to successfully implement measures to attend to psychological factors. It appears that commitment and engagement from the management appear especially essential for working with psychosocial factors. At the same time, the results also show that measures taken should be adequately communicated and expressed within the organization in order to enhance awareness and to be embedded in organizational memory.

In sum, the results reveal that the within the Fast Track projects the organization do not recognize the potential for organizational learning present. However, the results also reveal that the organization successfully take advantage of and emphasize those aspects of the working conditions and interpersonal relations that appear to be working in regards to knowledge sharing processes. Yet, at the same time they do not appear to detect and correct the facets that the employees' reports states are not working as intended. Based on the analysis it appears that this lack of attentiveness as well as a lack of knowledge sharing across networks are factors that may have a negative effect on organizational learning.

4.6.2   Learning potential - PRIMA

Nevertheless, the aim of our study was also to evaluate and explore the use of PRIMA. While the re-evaluation of the risk areas show that measures were developed and implemented based on detection and correction of error which indicate that organizational learning took place when utilizing PRIMA in Fast Track the results from my analysis reveal that the method is relatively unknown for employees outside of management. Furthermore, informants report that awareness in regards to psychosocial factors and work environment is insufficiently emphasized, and the method's aim to create awareness at all levels appears to be unfulfilled. Yet, it appears that there is knowledge of PRIMA at a management level. Therefore, in order for this method to contribute to organizational learning within Fast Track both awareness and measures, in regards to reducing psychosocial risks, has to be embedded in the organizational memory. However, at this point it seems as though only the latter is the case.

Despite the fact that there appear to be a widely apprehension of work satisfaction amongst the employees within Fast Track it appears as if this is independent of the application of PRIMA. According to the results based on the analysis of the informants' reports there do not appear to be an extra focus on psychosocial wellbeing from the management's point of view. In response to a question regarding whether there has been any focus on psychosocial work environment an informant state that:

> *I do not believe there has been anything. I mean, that there has been extra attentiveness towards it, no, I do not think so. Quite the contrary, I believe. Lately, there has been no extra resources, no understanding of there being strains. They actually got a few extra people with experience and some backup, but support or leadership foundation, I do not think so, no.*

This quote illustrate that the psychosocial work environment is not perceived as something the management is extra focused on working towards improving. On the other hand, some informants report that they have knowledge of PRIMA and measures taken in regards to reducing psychosocial risks. Once again, they report that leadership foundation and a flow of communication is essential for the implementation of measures to succeed. When reviewing the post reassessment our key informant states the following:

> *We saw it, early on, there was this project that was really good at communication between part-projects. They also had high ownership to the PRIMA process itself. They spent a lot of time on it; teambuilding, working wisely and complying to those*

> *risks that were present. It appeared to reflect on the management within that team…*
> *Their feedback from the corporate management at that time was that they were the*
> *best working project, and in addition it was recognized, from several ranges, that they*
> *had control of their risk management.*

This illustrates that the best effect of PRIMA occurred where there was a positive flow of communication and where the employees were included in the workshop phase. In accordance to the results presented earlier, it appears that leadership foundation is perceived to be essential for successful implementation, and when successful the management receives credit for the implementation. Yet, the results also show that there appears to be a perceived lack of knowledge as to who is responsible for carrying out and following-up on the measures implemented. Informants speak of an "Ambition-to-action" scoreboard, but knowledge of measures appears to be a consequence of the individual employee's interest to look them up, as stated by an informant:

> *Responsibility is typically appointed to the leader. They put in the Ambition-to-Action*
> *scoreboard which is sort of an action-board, and the leader is responsible for that and*
> *updates it. From this you can also recognize who is responsible for the specific*
> *measure, and that probably depends on the nature of the measure. So individuals are*
> *responsible, but the leader has a superior responsibility and delegate tasks.*

Another informant points out:

> *It is the individuals' responsibility, it always is. Just like with other safety measures.*
> *You see it, you own it.* And the employee adds on: *But, do they dare to speak up? I*
> *think they do, to me it is pretty clear. However, that these people,management, dare*
> *not to do anything with it, that is to me a big surprise.*

The quotes illustrate that the informants perceive distribution of responsibility to be unclear. Also, the results show that there appear to be a self-imposed duty to take care of oneself, but that the division, to some extent, is characterized by repudiation. The responsibility to follow-up or in regards to decision-making is perceived to be out of the individuals' control. In addition, it appears, from the analysis, that the responsibility of following-up on these measures, when appointed to a division's leader, may exhibit an extra workload in addition to the employee's already busy schedule. Despite the report of successful implementation mentioned before the overall tendency throughout the analysis shows that the PRIMA method in regards to raising awareness is, at best, a tool for consciousness- raising at a management level. The results reveal that, within Fast Track, the method does not include the important

predecessors for successful knowledge sharing such as trust, good relations and fortifying informal channels previously undergone. On the other hand, re-evaluation show that organizational learning did take place and had a positive effect as a result of the implemented measures previously mentioned. Yet, the results of my analysis convey that most of our informants are unaware of these measures and the associated focus on psychosocial risk-factors. In sum, both dialogue and the PRIMA method could be predecessors for organizational learning. Furthermore, organizational learning could be an effect of well-functioning knowledge sharing processes.

4.7   Summary

In this chapter I have presented and explored the results accompanied by illustrations from the informants. The analysis reveals that the informants have a common understanding of the processes of knowledge sharing within the organization and that they perceive the informal channels for knowledge sharing to be more easily and more commonly utilized than that of the formal channels for knowledge sharing. Furthermore, the results reveal that the occurrence of knowledge sharing is dependent upon relational ties and motivation. At the same time working conditions perceived as strains may detriment participation and knowledge sharing. Furthermore, the results reveal that knowledge sharing is a condition for organizational learning to take place, and the successful utilization of dialogue and the PRIMA method could indicate that organizational learning takes place because it contributes to detect and correct errors. Lastly, it seems that organizational learning potential depends upon common understanding and a positive flow of communication which appear most likely to occur within informal forums. In the next chapter I will discuss these results in light of the previously explored theory and earlier research.

5 Discussion

5.1 Disposition of the chapter

According to Charmaz (2006) the aim of utilizing grounded theory is to develop abstract theoretical frameworks that explain the processes of the concept of interest in a study. In this study I will utilize a conceptual analysis in which I aim to explain the processes of knowledge sharing based on the categories developed through the analysis. The aim of this study is to illuminate which factors contribute to create organizational learning by exploring knowledge sharing processes that take place within the organization of our study (in Fast Track). In detail, the study also aims to explore which factors influence this knowledge sharing processes which in turn is perceived to be a condition for organizational learning. Furthermore the study aims to explore the utility value of the PRIMA method within Fast Track projects.

Through the analysis and in light of the results previously presented it is evident that knowledge is shared through both informal and formal channels. However, the results indicate that the informal channels for knowledge sharing are the most utilized and successful channels, and that the formal channels for knowledge sharing do not fulfill their potential. In detail, the results show that the development of motivational aspects, through network participation, trust, relations, belonging and reciprocity, are essential for the individuals' motivation to share knowledge, and that this leads to knowledge being shared within informal channels. Furthermore, the results of the analysis show that PRIMA as a method for psychosocial risk management contributes to create awareness at a management level, and that leadership foundation is essential in regards to implementing measures. However, the PRIMA method appears to fall short of its intention to raise awareness amongst employees in general. It appears as if it shares the same destiny as that of the formal channels for knowledge sharing within the Fast Track organization as it falls short of fulfilling its expressed potential which also includes raising awareness amongst all employees. Lastly, it appears that knowledge sharing is a condition for organizational learning to take place.

Accordingly, throughout this chapter I will go in-depth exploring the processes identified in the analysis. Furthermore, I will discuss how network participation and motivation are highly dependent on trust and relations, and how these facets affect knowledge sharing. Thereafter, I will discuss how PRIMA can facilitate dialogue which in turn may

contribute to enhance organizational learning and model II action plans within the Fast Track context. In short, I will discuss the main findings from the analysis in light of my thesis and compared to central theory and research on the field. Lastly, I will present implications for future research. Nevertheless, keep in mind that the results and implications discussed in this chapter are based on my interaction with the results and they are only representing the specific context of Fast Track. Therefore, these results should not be generalized from this setting to the whole organization of Statoil ASA.

5.2   Actual communication

From the results of the analysis it appears that processes connected to employees' knowledge sharing is related to the communication in the specific working context and throughout the organization as a whole. Actual communication, as the flow of communication recognized by the employees, emerged as a common theme throughout the results and was identified as a core category. However, the foundation of actual communication within the organization depends upon and is deeply intertwined with other factors such as forums for knowledge sharing, network participation, opportunity to share and reciprocity. Furthermore, as implied in the first chapter, knowledge sharing can contribute to learning by arranging for dedication of knowledge and personal development (Vera & Crossan, 2003). From the results knowledge sharing and cooperation also appears to be the most central aspect for knowledge creation processes and organizational learning to occur. It appears that knowledge sharing contributes to utilize the existing knowledge within the organization, and in addition the occurrence of knowledge sharing can create learning by contributing to innovation when different knowledge, viewpoints and experience are shared amongst different people.

5.2.1   Formal and informal channels for knowledge sharing

Based on the analysis it is evident that knowledge sharing within Fast Track takes place within two different forums; formal and informal channels for knowledge sharing. As it appears from the analysis informal channels for knowledge sharing could for instance be conversations with colleagues and different aspects of network participation principally amongst colleagues within one's own profession or mainly within different subcultures, and not so much across networks. On the other hand, formal channels for knowledge appear to be such as mandatory documentation, reports and mandatory participation in workshops etc. The common denominator for both these channels is that they open for knowledge sharing within the organization. However, results clearly indicate that the informal channels are the most

commonly used and that the employees perceive these channels to be more efficient than its alternative. These informal channels can be understood as a structure for knowledge sharing that arises through processes created and developed by the employees based on their personal relations. This can be understood as social networks. Furthermore, it is of great importance for the management to understand the concept of such social networks and the social capital they aspire (Nahapiet & Ghoshal, 1998). A common understanding is that such networks are partially understood as a positive aspect within organizations. However, unless these networks are managed they may result in impractical structures in regards to the organizations goal (Waldstrøm & Lauring, 2006).

Social networks: Nonetheless, from the analysis it appears as if the social networks are functional in regards to knowledge sharing. They appear to be characterized by trust, reciprocity and openness. These factors will be discussed in detail later in the chapter. However, from the analysis there appears to be an expressed tendency that knowledge is mainly shared within networks of close colleagues from the same profession. It appears as if a common understanding, shared language and a similar context facilitate both gaining and sharing knowledge within these subcultures. From the results it also looks as if people are attracted to or appear appealing for people of similar characteristics. However, the occurrence of knowledge sharing through informal channels such as the professional subculture also appear to be a result of the localization of the project team members of Fast Track. They are situated with their base organization instead of being located with their interdisciplinary colleagues also known as their fellow project team members. As a consequence, ineffective group processes may occur because knowledge may become single-minded or exploited to groupthink (Waldstrøm & Lauring, 2006 ; Stevenson & Gilly, 1998). They propose that knowledge sharing may be reduced and fragmented into subgroups. This is a result of employees within the same social network sharing the same characteristics such as knowledge and experience, and in turn knowledge is kept within this subculture. In addition, social networks may have an excluding effect if an individual is situated outside it. Such social networks may be perceived as a closed group and in a worst case scenario it may enhance groupthink (Waldstrøm & Lauring, 2006). However, my analysis shows no tendency that the employees set out to keep knowledge from colleagues of other professions. In addition, the results do not convey that groupthink occurs, and the networks appear to be open for new employees. However, the results show that this may depend on the new individual and their

will to engage in or participate in social activities. Nonetheless, to sum up, it does not appear that the informal structures developed within this organization have resulted in impracticalities. Following, I will discuss the assembly of the two forums for knowledge sharing, and thereafter I will discuss which interpersonal facets affect knowledge sharing.

Formal channels: Based on the analysis the results illustrate that the formal channels for knowledge sharing do not work as intended. While the organization may have great intentions for the utility of these formal channels they appear to be somewhat of a strain especially when they are put forth as mandatory. The informants also state that documentation, in form of reports and sharing of experience in written form for databases, are the first tasks to be neglected when employees face time-pressure and/or work overload. The formal channels for knowledge sharing may contribute to organizational learning when it fulfills its intention, because the formal channels store information for others to retrieve. Also, when considering that the Fast Track portfolio to a large extent is in a maturation process, characterized by time-pressure, deadlines and a resource allocation problem it is essential to attend to and embed knowledge into organizational memory through formal channels for others to retrieve. However, this appears to be a challenge. The results from this study show that these formal channels are neglected, hard to employ, and that when you utilize these channels to seek knowledge it is hard to get an as appropriate answers as you would achieve when utilizing informal channels for knowledge sharing, such as asking a colleague etc. In addition, research has shown that knowledge shared through these forums is often explicit (Nonaka & Ghoshal, 1998). Therefore, the majority of the employees first turn to the informal channels for knowledge sharing when in use of information as it is more efficient and to the point. In addition, talking to or watching colleagues may allow for tacit knowledge to be shared (Nonaka & Ghoshal, 1998). Based on the analysis, evidence also show that knowledge containing personal experience is more likely to be shared within informal forums rather than through formal channels for knowledge sharing. In addition to being hard to employ the formal structures appear to be perceived as a barrier for knowledge sharing because it does not involve relationships of trust.

As mentioned in the second chapter certain conditions within the organization can enhance or inhibit knowledge sharing. Furthermore, it was shown that knowledge sharing enables knowledge creation processes to take place which in turn holds great learning potential. However, the results show that the lack of efficiency of the formal channels for

knowledge sharing within this context reduces the potential for knowledge sharing in this forum, and in turn may detriment its organizational learning potential. This is also in line with researcher's view on knowledge processes as a circular process that may reduce or fortify itself. As stated by researchers, the process of knowledge sharing itself may contribute to enhance and further develop these processes (Nahapiet & Ghoshal, 1998), and these processes appear to have a more positive effect within informal structures.

Informal channels: On the contrary, as stated by several informants, the informal channels for knowledge sharing appear to be their strength. From the results it is evident that the informants find the informal channels to be useful and easily applicable. In addition, they state that the utilization of informal channels provides more direct and understandable information than the data gathered from formal channels for knowledge sharing. It also allows for a comprehensible understanding of contextual factors.

The informal channels for knowledge sharing provide employees with the opportunity to share information and experiences. Furthermore, I believe that knowledge sharing through informal channels can contribute to learning, and also organizational learning, through learning by/of others. In addition, when a positive flow of communication and network participation is present retrieval of relevant knowledge through colleagues and such informal channels will contribute to learning. Nonetheless, the informal channels appear to benefit from the freedom offered to the individual employee. In continuation, I will discuss which factors contribute to arrange well-functioning informal channels for knowledge sharing within this organization.

5.2.1.1 Interpersonal facets that affect knowledge sharing within informal forums

Through the analysis several factors that affect knowledge sharing emerged. I identified the following as important predecessors for knowledge sharing within informal forums: network participation and motivation. However, I also believe that these facets can be understood in light of the structural, relational and cognitive dimensions of social capital as well. In sum, considering how these interpersonal facets are essential for knowledge sharing to take place they also have an indirect effect on the occurrence of organizational learning. Nonetheless, these factors appear to be deeply intertwined; therefore it is hard to establish the casual relations. They may have their individual influence on the process of knowledge sharing within the organization, but they are more often (than not) related to each other.

Nonetheless, considering how knowledge sharing within this organization proves to be most rapidly and successfully occurring within informal channels, as mentioned, these factors will be discussed in regards to their effect on knowledge sharing within informal channels.

5.2.1.1.1 Network participation

Informal forums involve arenas in which personal relations may develop (Ipe, 2003). This also implies that trust may develop over time. Network participation, by example within professional subcultures, holds the potential for open communication. Researchers also suggest that these networks can be understood as relational learning channels (Rulke & Zaheer, 2000). These networks appear to create a safe environment for knowledge sharing. The results of the analysis support this notion. As previously stated findings reveal that valued information is more likely to be shared within informal forums based on self-organized and spontaneous interaction. This is most likely due to the presence of trust. Furthermore, in accordance to Nonaka's statement trust appears to develop when knowledge is being shared. The analysis also indicates that these systems, networks, facilitate knowledge sharing when they are based on relations and trust. Based on the analysis the results imply that relationships of trust are a predecessor or reason for the employees' choice to share knowledge within informal forums, and that the extent of involvement and network participation is affected by employee relations and whether they perceive trust and openness to be present. This notion is also supported by Tyler and Kramer's (1996) research stating that relationships high on trust have employees willing to engage in exchange and cooperative ensembles. However, trust is both a necessity for knowledge sharing, and at the same time a result of knowledge sharing (Davenport & Prusak, 2000). Furthermore, the analysis indicates that network participation gives the employee an insight and knowledge of whom to turn to in regards to facing a problem.

Additionally, the same relational aspects are of importance for social capital which also effects innovation and exchange of information. Prusak and Cohen (2001) emphasize the importance of mutual trust in order for knowledge sharing to take place. Central findings of the analysis showed, as mentioned above, that trust takes time to develop, but it also indicates that the openness characterizing the subculture speed up this process. Furthermore, research has shown that tense relations, or lack of relations, are barriers in regards to transfusion of best practices within an organization (Szulanski,1996). Therefore, a safe environment based on good relations like that of informal structures will more commonly be utilized in regards to

knowledge sharing than through formal structures. Additionally, one may assume that while being a part of and belonging to a network allows for good relations and trust to develop over time, good relations and trust will also enhance participation and lay the foundation for knowledge sharing. The results also show that good relations are a foundation for openness which in turn enhances knowledge sharing within informal channels. This is also in line with Bourdieu's notion of social capital; it resides in relationships which in turn are created through exchange. Once again this shows that casual relations are hard to establish and these facets are deeply intertwined. Nonetheless, these networks can be understood as informal clusters of people who work together (Lesser & Prusak, 2001), and they play a critical role as building blocks for organizational knowledge to be applied and embedded into organizational memory. As stated in chapter two, whether knowledge is embedded in the organizational memory appear to be an important aspect in regards to defining the process of organizational learning (Anderson, 1980; Tsoukas & Vladimirou, 2001).

5.2.1.1.2 Motivation

In addition to the relational aspects and trust as factors affecting network participation discussed above, the analysis shows that motivation to share knowledge affects the flow of communication. As shown in chapter 1, individuals are unlikely to share personal knowledge without considering the returns (Stenmark, 2001). The analysis reveals that motivational factors to share knowledge depend on mutual trust, as explained above, opportunity to share, reciprocity in regards to feedback, and an individual gain for the employee. From the analysis it also appears that the employee share knowledge within informal structures when they believe in their colleague's good intent and concern for each other. This trust may also indicate openness and motivation, and a willingness to experiment, and thereby create potential for valuated innovative thinking, knowledge creating processes, and organizational learning to take place through combined efforts.

Lastly, the opportunity to share could also be linked to the notion of a common frame of reference. This is also in accordance to the cognitive aspects of social capital (Lesser & Prusak, 2001) and shared mental models (Argyris and Schon, 1996) as explained in chapter 1. The analysis reveals that knowledge is more commonly shared within the subculture of professional networks. This indicates that the employees holding the same references and experience are more likely to share knowledge with each other and that this takes place within

informal channels. However, as mentioned above, if knowledge sharing mostly takes place within subcultures the downside is that group processes may occur or innovation suffers. All in all, considering the differences of project team members within Fast Track and a fear of criticism within formal forums knowledge sharing is most likely to take place within informal channels unless the organization provides arenas for common understandings to be developed across subcultures.

5.2.2 The efficiency of informal knowledge sharing in regards to organizational learning.

Based on the analysis the individual employee's willingness to share and eagerness to learn from his/her colleagues appear to contribute to enhance individual learning. Furthermore, from as a result of the openness and trust that distinguishes the networks the knowledge shared most likely will be embedded into the organizational memory of each profession by being available for others whom seek it. However, a lack of efficiency of knowledge sharing through formal channels may inhibit correction of errors in the organizational action maps, thereby also partly inhibiting the potential organizational learning to occur. In detail, I partly question whether knowledge sharing within subcultures, such as professional networks, contributes to model II action plans. Considering the amount of knowledge shared within subcultures it appears that "lifting" this knowledge to higher levels above the professional networks itself, to management or employees with power to act upon it, is demanding and difficult. In addition, this effects the questioning of underlying rudiments which appears to be inadequate. Furthermore, the analysis show that the management is not perceived to be attentive to the voice of their manpower. Consequently, I believe that the concept of model II action plans is unfulfilled. However, the manpower has a good eye for detection of error and the potential for corrections to be made are present. The organization however, needs to make plans for both achieving and handling such feedback, and they need to make sure that these formal channels for feedback are known and available for the employees. Nevertheless, in order for organizational learning to take place the organization needs to preserve the process of knowledge sharing.

5.2.3 Arranging for learning oriented attitudes, motivational aspects and good relations

In light of the evidence that was just discussed a need for the Fast Track organization to arrange for learning oriented attitudes to arise, and create a climate for motivational aspects

and good relations to develop over time emerges. I suggest that in order to achieve this, the organization would benefit from arranging communities or networks that allows employees to meet face-to-face (Prusak & Lesser, 2001) especially across subcultures. The analysis also shows that "loneliness" at the work place is an actual concern. In regards to the project teams it would be beneficial to arrange for more frequent interaction. Furthermore, organizing for relations to develop will enhance social capital which in turn encourages cooperative behavior and facilitates development of new associations. It also appears that if the organization manages to sustain openness and provide the tools needed to recognize and welcome new members good relations seem to develop more rapidly. Prusak and Lesser (2001) also point out that in larger networks key experts, those whom people seem to turn to first, should be given support and resources from the organization in order to support the group sufficiently. These kind of investments from the organization as a whole should be perceived as an encouragement and appreciation of innovative cooperation and an organization that value dynamics and creativity (Nahapiet & Ghosal, 1998). In turn, this focus will hopefully lead to exploiting, sharing and creating knowledge, both within and across subcultures. These aspects of knowledge sharing and knowledge creation may then contribute to create organizational learning.

5.2.4   Arranging for knowledge sharing across professional boundaries

While the evidence and theory show that relations and trust are important facets for social capital some researchers suggest that strong ties can result in groupthink (Stevenson & Gilly, 1998). As previously mentioned, in light of the analysis this does not appear to be affecting our informants. Nonetheless, strong ties could imply that employees always turn to the same colleague(s) instead of developing and exploit new networks. This may in turn impair knowledge sharing across professions or other subcultures. As the analysis reveals, this is in fact a challenge that the project teams of Fast Track is experiencing. Due to their participation in the subculture of professional networks and localization the project team members in Fast Track turn to their well-known colleagues within their professional network rather than developing new networks.

While I have just shown that the organization should arrange for social interaction and development of new networks I also propose that development of shared meanings will enhance communication across subcultures. Considering how the Fast Track project teams are

composed of team members from different professional subcultures the notion of shared meaning is especially essential. The concept of dialogue is recognized by Schein (2003) as a predecessor for organizational learning. The method will prove to be especially useful in a setting characterized by trust and positive relations as explained by Schein. From the results previously presented knowledge sharing within professional boundaries appear to work efficiently because trust and positive relations are common denominators within their social networks. On the contrary, knowledge sharing across interdisciplinary boundaries do not prove to be as efficient; perhaps because professional belonging within the organization can be perceived as representing subcultures. In addition, it is an interesting aspect that Schein (2003) points out: he states that learning across subcultures boundaries is not possible without dialogue. Therefore, in light of this it is logical to assume that the organization will struggle to enhance knowledge sharing across professional boundaries if they do not engage in arranging arenas for dialogue within their interdisciplinary project teams. However, the utilization of workshops or arena's for dialogue may prove beneficial in order to arrange for the creation of common understanding and thereby create potential for learning. Most of all, the participation and including of employees, by example in the workshop, can be understood as important tool in regards to developing common mental models, as explained in the theory chapter. By allowing for the creation of mental models the organization enhances the opportunity for valid communication to take place. Furthermore, the employee participation in PRIMA, in workshops or arenas for dialogue, also allows for shared mental maps to develop across subcultures, which according to Schein (2003) will enhance organizational learning. This is also in line with Argyris and Schon's (1996) view that organizational maps should be shared and available in order to guide the employees' actions. The common understanding as a foundation for knowledge sharing appears to be central reason for why knowledge sharing occurs mostly within subcultures, by example within professional networks. In line with Argyris and Schon's view Naphaiet and Goshal (1998) acknowledge that knowledge is embedded in the context and sustained through the relationships in these collectivities (Boisot, 1995) and that a common language and codes facilitate access to information. However, a different approach also recognizes innovation as a result of the combining effort of different knowledge and experience, and by utilizing diversity. Nevertheless, in order to achieve innovation some contextual factors and understandings must be shared by the employees.

Therefore, creating arenas for the employees to develop network ties and common understandings should be of great interest to the organization. I propose that these network ties will enhance knowledge sharing because it provides access to resources and channels for information transfusion. After all, as argued above, relationships facilitate trust and exchange, and vice versa, and in turn creates potential for knowledge learning, innovation and organizational learning. Furthermore, the organization should note the importance of facilitating environments characterized by openness, teamwork and cooperation rather than merely competitiveness, as well as willingness to value diversity and tolerate failure. However, there appears to be a fine balance between letting these guidelines turn into exaggerated rigidities that may result in groupthink and exploiting them in regards to creating room for a positive flow of communication and innovation. Additionally, sustaining somewhat of interdependence within networks may also encourage the employees to extend their circle of exchange, thereby increasing cooperation across subcultures (Nahapiet & Ghoshal, 1998). The analysis also show that the employees perceive the culture to be open, and if it also allows for differences to coexist and the employees value the innovative learning potential present this may allow for differences across subcultures to create development and learning (Wenger, 1998).

5.3   Dialogue - a predecessor for model II learning cycle and organizational learning[?]
As acknowledged when analyzing the results knowledge sharing appears to be a condition for organizational learning to take place. Furthermore, different arenas for knowledge sharing, such as dialogue, also hold great learning potential and could be understood as a predecessor for organizational learning. In regards to the utilization of PRIMA it appears to offer a scenario that holds great potential for organizational learning. By the arranging of workshops as a mean to discover and handle risks and other challenges, the method invites employees to participate in the process. PRIMA reports (internal documentation) from Fast Track also show that input from PRIMA workshops used employees'- and the management's experiences of established work methods as a basis for making changes. However, as the analysis show, when utilizing PRIMA different management teams will prioritize the participation of their employees to a different extent. Nonetheless, this form of participation resulted in measures that following were implemented within Fast Track and came out with positive results. Furthermore, this should be understood as an act of learning. It gives both the employees and the organization an opportunity to

explore the mental maps in which they act upon. Furthermore, the workshop presents a resemblance to the concept of the dialogue. It uses facilitators to guide the process, and it lets the employees speak their mind freely and participate in the making of measures to be implemented. This process, as the example show, should include both detection and correction of errors, and consequently result in double-loop learning (Model II action plans) as explained by Argyris and Schon (1996) because it questions underlying assumptions.

However, from the data gathered it appears as if the employees are less frequently invited to participate in this part of the process when PRIMA is utilized in Fast Track compared to other projects within the organization. Beyond the statement previously made, that management prioritize differently, my analysis show that this is also partly due to the widespread localization of project team members and time-pressure. However, when employees are included the results from the organization's reevaluation also showed a positive effect on the measured outcomes. Yet, employees were not invited to participate in the same process in the divisions'' next interference with PRIMA. These results however, from the reevaluation, indicate that correction did take place and supports the notion of dialogue and organizational learning taking place. Therefore, once again, I propose that the organization should organize for the employees to participate when PRIMA interventions take place within Fast Track. Through this process new knowledge can be created through combination and exchange amongst the employees. As noted by Naphaiet and Goshal (1998) the development of shared mental models, codes and a common understanding that may take place in the process of dialogue could possibly make the tacit knowledge within the organization to become an organizational advantage and create organizational learning.

5.4   Implications for PRIMA

In light of the facets discussed above I propose that communication and employee participation is essential for PRIMA to generate awareness and contribute to organizational learning. Furthermore, I suggest that enhanced awareness also holds great potential in regards to achieving and sustaining the preventative purposes of PRIMA. However, when we explored the use of PRIMA and the employees' knowledge of PRIMA in Fast Track it became evident that the method and measures developed was not a well-known focus. Actually, most of our informants claim that they have no knowledge of PRIMA. This however, might be intentional from the managerial viewpoint. Statoil emphasize that they do not focus on the label PRIMA. Rather they focus on the process of consciousness they aim to

achieve with regard to psychosocial welfare. Therefore, it might be difficult for the employees to recognize the effect of PRIMA and measures taken in the Fast Track organization. However, as the results show, the informants were not well-informed on this subject. This does not necessarily indicate that learning did not take place considering that detection and correction took place when developing specific measures mentioned in the introduction. Therefore, I raise the question of whether it is positive or negative that they chose not to mention PRIMA. Is the preventative focus and the aim to create awareness well integrated in the employees' workday and the organizational memory, or is it the contrary, non-existent? Nevertheless, due to the turnover within Fast Track it is not a given that the employees one evaluate our gather information from, when utilizing PRIMA, are the ones the organization implement their measures upon. This is an interesting and challenging aspect which in turn calls for organizational learning to take place through embedding knowledge into the organizational memory, most preferably through formal channels, another mentioned challenge within Fast Track. Furthermore, considering the context of Fast Track, it is hard to conclude the casual relation of possibly positive outcomes and developments in regards to psychosocial welfare. The positive results may have been generated by PRIMA as a result of organizational learning, however, it may also be a result of the natural maturation process and the standardization applied to Fast Track. Nonetheless, from the reevaluation it appears that the implemented measures have had a positive effect. On the other hand, a risk could prove to be that these measures may have left other considerations to be neglected so that other risk factors may have worsened. I propose that the organization should further explore this dilemma. Nonetheless, amongst the employees (outside of management) there appears to be little or no knowledge in regards to the measures developed and implemented. However, as stated in the European framework all lessons learned should be communicated to a wider company audience (Cox et al., 2008). As a result, this knowledge could be embedded in the organizational memory. Nevertheless, I propose that the PRIMA method holds potential for organizational learning within its workshops and development of measures, as stated previously.

While I have previously shown how knowledge sharing mainly takes place within informal forums characterized by good relations and that this in turn allows for knowledge creation processes and organizational learning taking place, I propose that the organization exploit these facets when aiming to fully benefit from the PRIMA method within Fast Track

projects. Employees should be included in such a regard that they may exploit their social networks, have the time to develop relations and utilize their social capital. Based on my analysis this appears to be even more important within Fast Track projects because of their interdisciplinary composed team. Besides, results show that the project with best results when implementing their PRIMA actions was the one project that to a greater extent involved their employees in the process and had a positive flow of communication. In addition, the measures developed and successfully implemented proved to be based on the employees' and managements' own experiences in regards to their working methods (internal reports) as stated. This is also in line with Elkjaers (2003) statement that social learning processes cannot be seen independent from the context in which it takes place. Furthermore, in light of theories on work satisfaction and belonging (Solbakken, 2011), one may also assume that being included in this process will enhance belonging, willingness to change, and awareness of psychological risk factor. As argued earlier, these factors will also enhance willingness or motivation to share and participate, which in turn holds potential for organizational learning. Earlier research also supports the notion that being included enhances willingness to change and increases job satisfaction (Solbakken, 2011).

As shown in the European framework for PRIMA knowledge of the outcomes of the PRIMA process is an important input for the continuous assessment, the next "cycle" of the psychosocial risk management process and the long-term orientation essential for the method to generate organizational learning. The PRIMA method should be understood as a self-fortifying cycle, much like that of the process of knowledge sharing (Cox et al., 2008). In sum, by including the employees and arranging for dialogue through PRIMA workshops and participation the organization allows for relational ties to develop. In addition, I suggest that this will enhance awareness in regards to PRIMAs preventative purpose, most likely result in applicable measures and ease implementation. Furthermore, the workshops as an arena for dialogue should be understood as an arena for enhancing knowledge sharing, questioning underlying assumptions, creating common understanding and contributing to knowledge creation and innovation, while, in turn, implemented measures in this setting reflects organizational learning.

5.5   Methodical reflection

While I have previously clarified some methical reflections and taken a reflexive view on this study I want to illuminate tow aspects, the composition of our sample and the

context of our study. A last remark should be made in regards to the uneven composition of leaders and non-leaders in our sample. I previously explained that our sample varied in demographic variables and their experience with Fast Track. In addition, our sample has an uneven distribution of leader's vs. non-leaders. Considering the results of the analysis, it proves that knowledge in regards to the PRIMA method, measures developed and awareness is more common at management level. This resulted in a lack of data gathered on PRIMA and an even distribution of leaders and non-leaders would have been preferable to get a nuanced view of PRIMAs utilization value within Fast Track. Nonetheless, the data gathered (or lack thereof, in regards to PRIMA) gave us an interesting take on the common understanding of PRIMA. Furthermore, I note that the results based on 8 interviews and one conversation does not necessarily give basis for generalizations to be made outside the Fast Track context. As previously mentioned, the research and the considerations made are a result of the interaction between the informants, the data gathered and I. Therefore, the results should not be understood as independent of the context they arise in and the theory developed reflects the situation in which it has its basis. Throughout the study I have acknowledged the context of our study within Fast Track and that the results should be understood in light of the exploration of organizational learning within these Fast Track projects. Despite the point made above in regards to a lack of basis for generalizations, relevant theory will, to some extent, validate the findings so that they can be of interest within other organizational contexts.

5.6   Implications for future research

The findings of this study revive some possible approaches to future research. In regards to PRIMA as a learning measure it would be interesting to further explore the effect of the employees' active participation in the workshops in detail, and to which extent this encourages knowledge sharing across and outside of professional networks. However, the study also reveals some other opportunities for future research. In depth research on knowledge sharing should continue to focus on which factors contribute to knowledge sharing within these two forums, and the results can be compared to give indications as to which factors are predecessors for successful knowledge sharing in both forums.

First and foremost, it would be interesting to further explore which factors affect the efficiency of knowledge sharing within formal channels. The findings revive a need for

differentiating research on knowledge sharing within formal and informal forums. Foremost, it is of great interest to explore how the organization can attend to embedding knowledge within the organizational memory in the specific context of Fast Track given its tempo and turnover though formal channels. Furthermore, it would be interesting to explore in detail whether relations, trust and motivational aspects have a different effect on knowledge sharing through formal forums than within informal forums, if they have any at all. Second, an interesting aspect to explore is what type of knowledge is being shared through the informal and formal forums. Third, based on my analysis I suggest that future research also explore the effect of subcultures on knowledge sharing throughout the organization. Furthermore, it would be interesting to explore the effect of groupthink and possibly which group-processes that operates within the organization. Fourth, these findings do not give a clear indication of the strength of the relations present within the organization. However, it would be interesting to explore the significance of relations on knowledge sharing in further detail. Although good relations appear essential for knowledge sharing it is also proposed that strong ties may inhibit knowledge sharing (Stevenson & Gilly,1998). It would be useful to explore this fine balance of relations and ties to knowledge sharing in future studies. In regards to the social capital theory it would be interesting to explore the interrelations between the three dimensions: structural, relational and cognitive, and their individual effect on knowledge sharing. Lastly, it would be interesting to compare the results of the reevaluations of PRIMA within Fast Track to results of the reevaluations of PRIMA within other projects in which employees were invited to participate to a larger extent. It would be interesting to explore the effect of employee participation when utilizing PRIMA.

6 Conclusion

The aim of this study was to explore processes that are of importance for growth and knowledge sharing within an organization, which factors contribute to create organizational learning, and to exploit the organizational learning potential of PRIMA in a specific context. We utilized a qualitative method in this study in order to achieve in-depth and nuanced descriptions of the employees' every day work life, their perception of psychological risk factors and the organizations actions in regards to reducing or preventing psychological risks.

It is evident that there is a great potential for individual learning and furthermore organizational learning through knowledge sharing within this organization. Based on my analysis it is also clear that the organization benefits more from the positive flow of communication via informal channels for knowledge sharing, and that the potential of knowledge sharing through formal channels face a challenge in regards to sustaining viable knowledge when the Fast Track portfolio face turnover. The factors that affect knowledge sharing processes has been discussed and trust, relations, network participation and motivation have been highlighted as central predecessors for knowledge sharing within informal forums. Additionally, it has been shown that the process of knowledge sharing itself contribute to enhance and further develop these processes. Furthermore, the process of knowledge sharing is complex and dialectical, created and sustained through exchange, and in turn, the process itself facilitates exchange to occur. Knowledge sharing, per se, seems to be a condition for organizational knowledge to take place. Results also show that PRIMA as a learning measure appears to hold potential for organizational learning in the development of measures (when embedded in organizational memory) to reduce and prevent psychosocial risks, but mostly so when employees are invited to participate in the process.

In sum, the results of this study suggest that the informal channels for knowledge sharing are the most successful in this organization, but to an even larger extent when network participation, trust, relations and motivation are present. The employees appear to engage in knowledge sharing more often when they experience social interactions with knowledge keepers. According to these findings one should organize for social interaction and make sure that all employees are, especially those that report having a lonely work context, enter into some form of network. Furthermore, in accordance to social capital theory the organization should arrange for employee interaction because interaction is a predecessor for developing

social capital. Nonetheless, as previously stated, organizational learning will be enhanced if the organization also arranges for dialogue so that knowledge can be lifted up to a higher level. From there, detection of error may result in correction because those that hold the information have the power and means to act on it. Additionally, arranging for dialogue may possibly enhance knowledge sharing across different subcultures, thereby leading to organizational learning. Lastly, in order for PRIMA to function as a learning measure I suggest that PRIMA presupposes active participation from their employees so that the collective whole of the organization can learn from each other's experiences. However, even when PRIMA results in organizational learning based on the development of measures within Fast Track it appears that it only managed to raise awareness at a management level

As mentioned in the previous chapter, it is necessary and relevant to consider the context in which this study was completed in regards to considering the transferability of the results. The organization is a leading innovator in its field and a large internationally accredited organization that emphasize the use of full flexibility of its resources. Nonetheless, the findings were discussed in light of theories on the academic field of work psychology in regards to organizational learning principles. In regards of PRIMA and Fast Track specified organizational material was used. I propose that the findings in regards to knowledge sharing and organizational learning that were discussed could hold relevance for other large corporate organizations, however influenced by the context. In regards to the findings of the utility value of PRIMA and the working context of Fast Track I suggest that these results are not relevant outside this specific context because the special conditions they work within would have influenced the results.

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Appendix

Vedlegg A: Information paper

Informasjonsskriv masterprosjekt

Vi er to masterstudenter i organisasjonspsykologi ved Norges teknisk-naturvitenskapelige universitet (NTNU) i Trondheim, og vi skal skrive masteroppgave i samarbeid med TPD TEX HSEC Statoil ASA, Health and Working Environment. Temaet for oppgaven vil være organisasjonslæring og kunnskapsforvaltning i Fast-Track prosjekter. Vi ønsker å undersøke hvordan organisasjonslæring finner sted, og hvordan organisasjonen forvalter kunnskapen og erfaringene innad i og mellom Fast-Track prosjekter.

Vi ønsker særlig å dra nytte av din erfaring fra Fast-Track prosjekter. I tillegg er vi interessert i å undersøke dine opplevelser med og deltakelse i forbedringsprosesser knyttet til psykososialt arbeidsmiljø. Det er ønskelig at denne undersøkelsen bidrar til utvikling av organisasjonslæring i Statoil ASA. Dette er derfor en anmodning til deg om å ta stilling til hvorvidt du ønsker å delta i undersøkelsen vår.

For å samle inn data til prosjektet vårt vil vi gjennomføre intervjuer. Vi beregner at intervjuet vil ta ca 1 time, med pauser etter behov. Vi vil presisere at det er frivillig å delta i denne undersøkelsen, og at du kan velge å trekke deg når som helst uten å oppgi grunn.

Som masterstudenter har vi taushetsplikt og eksterne lesere vil ikke kunne identifisere informantene som enkeltpersoner. Personidentifiserbare data vil kun være tilgjengelig for undertegnede masterstudenter og vår veileder. Persondata og opplysninger vil anonymiseres og senere slettes når oppgavene er ferdig, innen utgang av 2013.

Studien er meldt til personvernombudet for forskning, norsk samfunnsvitenskapelig datatjeneste (NSD).

Veileder på masterprosjektet er Anne Iversen ved NTNU: Anne.Iversen@svt.ntnu.no

Med vennlig hilsen,

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Vedlegg B: Consent declaration

Samtykkeerklæring

Organisasjonslæring og forbedringsprosesser knyttet til psykososialt arbeidsmiljø.

Jeg har lest og mottatt informasjon om undersøkelsen og har samtidig hatt anledning til å stille spørsmål. Jeg samtykker herved å delta i prosjektet.

Selv om jeg skriver under på dette svarskjemaet kan jeg når som helst trekke meg under intervjuet uten å måtte oppgi noen grunn.

……
Navn   Dato/Underskrift

Leveres til:

Cecilia Kaland (NTNU)
Camilla Soulère (NTNU)

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Vedlegg C: Interview guide

Det siste FT-prosjektet du deltok i - her ønsker vi å skape en trygg ramme og samtidig få en innføring i hvordan medarbeideren vil karakterisere et fast track prosjekt.

1. Kan du fortelle oss litt om det siste FT-prosjektet du var med i/ er med i?

2. Hvordan deltok du i dette prosjektet?

3. Hvordan opplevde du det å være del av dette FT-prosjektet?

4. Dersom det finnes et typisk FT-prosjekt, hva kjennetegner dette?

Implementering av tiltak - her ønsker vi å undersøke medarbeidernes individuelle opplevelse av utfordringer knyttet til psykososiale arbeidsmiljøfaktorer og hvordan disse håndteres.

5. Hvilke effekter har den nye arbeidsorganiseringen i FT hatt på det psykososiale arbeidsmiljøet?

a. Dersom utfordringer: Hva har blitt gjort for å ta tak i dette?

6. Hvilke tiltak ifht psykososiale arbeidsmiljøfaktorer ble utarbeidet i PRIMA prosessen?

a. Hvordan ble tiltakene utarbeidet?

b. Hva var din rolle i denne prosessen?

7. Hvordan opplevde du at disse tiltakene ble implementert i prosjektene?

a. I hvilken grad har det fungert?

b. Hvilke erfaringer gjorde du deg? Utfordringer?

c. Hvordan tok du dette med deg videre til nye prosjekter?

d. Hvordan har dette påvirket din arbeidshverdag?

8. Hvordan har tiltakene blitt overført til nye prosjekter?

9. Kan du beskrive hvordan tiltakene har påvirket miljøet i prosjektgruppen?

a. Hva fungerer/fungerer ikke?

10. Hvordan vil du beskrive leders rolle for gjennomføring av implementering av tiltak i prosjektgruppen?

Etter FT-prosjektet - her er vi interessert i å undersøke medarbeidernes opplevelse av

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erfaringsdeling og kunnskapsforvaltning i og mellom Fast-Track prosjekter.

~~11~~ Hvordan blir erfaringer fra tidligere FT-prosjekter delt i nye prosjekter?

~~a~~ Hvordan opplever du denne erfaringsdelingen?

~~b~~ Hvem har ansvar for erfaringsdelingen?

~~12~~ Hvilke erfaringer tar du med deg inn i nye FT-prosjekter?

~~13~~ Hvordan har du delt dine erfaringer fra tidligere FT-prosjekter med nye medarbeidere?

~~a~~ Hvem er den mest naturlige for deg å dele erfaringer med?

~~a~~ Kan du gi et eksempel på en gang du ikke ønsket å dele erfaringer med andre? Hvorfor unngikk du å dele erfaringene?

~~b~~ Hvordan får din erfaringsdeling konsekvenser? Hva skjer dersom du deler erfaringer om noe som har eller ikke har fungert?

~~14~~ Hvordan opplever du å lytte til kollegaer som har erfaring fra arbeidsorganiseringen som gjennomsyrer FT?

~~a~~ Hvillket utbytte opplever du at du får av det?

~~15~~ Hvordan opplever du at miljøet eller kulturen i prosjektgruppen påvirker hvordan man deler erfaringer?

~~a~~ Hva tenker du er den viktigste arenaen for læring i organisasjonen?

~~16~~ Hvordan har arbeidsorganiseringen i FT-prosjekter endret seg i dag i forhold til hvordan det var når du først inntrådte i slike prosjekter?

~~a~~ Positive/negative? Kan du gi eksempler?

~~17~~ Hvordan opplever du det å jobbe for en organisasjon som har kontinuerlig fokus på forbedring og læring?

~~18~~ Hvordan har du opplevd denne samtalen? Er det noe du ønsker å tilføye/rette på?