The Role of Organizational Culture on Knowledge Transfer – a Case Study of Two Project-Intensive IT Organizations
Master Thesis

BI Norwegian Business School

The Role of Organizational Culture on Knowledge Transfer – a Case Study of Two Project-Intensive IT Organizations

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Abstract

Purpose – The purpose of this thesis is to investigate the impact different aspects of culture have on knowledge transfer in project-intensive IT companies.

Design/methodology/approach – Multiple case study of two IT consultancy companies. The data was collected through in-depth semi-structured interviews with 12 participants.

Findings – Findings have identified five main categories of factors within organizational culture that has a significant effect on knowledge transfer in project-intensive IT companies. These categories are organizational values, relationships and communication, leadership, projects, and individual factors.

Research limitations/implications – Future research should further investigate the categories identified in this study. Especially, the role of leadership and age distribution in terms of organizational culture and knowledge transfer.

Practical implications – The role of organizational values, cooperation, and leaders’ behavior are all crucial for successful knowledge transfer. Knowledge transfer must be supported by organizational values, cooperation creates the best environment for knowledge transfer, and leaders must be aware of their own behavior.

Originality – This study contributes to an increased understanding of how organizational culture affects knowledge transfer, especially in the context of project-intensive IT organizations.

Keywords Knowledge transfer, Organizational culture, Project-intensive IT organizations
Acknowledgments

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Lastly, we want to thank our friends and family for their encouragement, patience, and support during this period, with a special thanks to Håvard Thom.
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Introduction

Projects are today becoming an increasingly popular way to organize work (Lindgren et al., 2014; Söderlund et al., 2008) and are characterized as being temporary units aiming at achieving a specific goal. However, the temporality of projects has raised the problem of knowledge loss (Ekambaram, 2008). It is becoming a widely accepted fact that knowledge is one of the most important assets for organizations in today’s knowledge-based economy (Andreeva & Garanina, 2016; Granitzer et al., 2008), and it is a non-imitable capability and a competitive advantage that is crucial for organizational success (Kim & Trimi, 2007). Although projects provide an opportunity for organizations to generate new knowledge, their characteristics, such as temporality and resource limitations challenge their ability to transfer this knowledge to the rest of the organization (Bartsch et al., 2013; Defilippi & Arthur, 1998; Söderlund et al., 2008). Thus, it is important for organizations and especially project-intensive organizations to have a clear and formal focus on knowledge transfer (Ajmal et al., 2009). The IT industry provides an excellent context for studying knowledge transfer, as it is defined as a knowledge-intensive industry where knowledge is the core input material (Mishra & Bhaskar, 2011; Reich et al., 2012). Furthermore, fast-changing environments and rapid technological development (Mishra & Bhaskar, 2011) make this industry especially interesting as the need for new knowledge is very high.

Facilitating knowledge transfer in organizations has proven to be challenging (Anantatmula, 2010), and over the recent years, it has become apparent that one of the most prominent obstacles for successful knowledge transfer is the organization’s culture (Ajmal & Koskinen, 2008; Wiewiora et al., 2013). A lot of research has been devoted to understanding the role organizational culture plays in encouraging knowledge transfer in different organizational settings (Ajmal et al., 2009; Ajmal & Koskinen, 2008; Wiewiora et al., 2013). However, there is still a need for more research on this topic in project-intensive organizations (Yazici, 2010), and especially on which cultural elements have the greatest effect on knowledge transfer (Wei & Miraglia, 2017). Additionally, others have argued that there is a need for more research on the relationship
between organizational culture and different knowledge transfer mechanisms, as this is relatively complex and unknown (Wiewiora et al., 2014). Lee et al. (2016) recognize that little research has been carried out to understand the impact of organizational culture on knowledge transfer in software development. Hartmann and Dorée (2015) also emphasized that previous studies on knowledge transfer in project-intensive organizations have had too much emphasis on studying projects from a knowledge sender and receiver perspective while neglecting the organization as a whole. They also highlight the importance of considering knowledge transfer from the social and cultural context in which these projects operate. Hence, we are studying the following research question:

How does organizational culture affect the process of knowledge transfer in project-intensive IT organizations?

To answer this question, a qualitative multiple case study of two project-intensive IT organizations is presented and discussed. In these cases, we look at which cultural aspects influence knowledge transfer within the organizations.

The rest of the thesis is structured as follows: the relevant theoretical background will be provided before discussing the method used to collect data. A description of how the data analysis have been conducted is discussed before presenting the two cases. Then, findings from each case are presented individually and in a cross-case analysis. The findings are then discussed in light of previous research before we discuss some limitations and implications for this study and provide a conclusion.
Theoretical Background

The aim of this chapter is to introduce theory that is relevant to the research question. A definition of the concepts knowledge, knowledge transfer and organizational culture are provided and previous research on how organizational culture and projects affect knowledge transfer are presented.

Defining Knowledge

Defining knowledge is a topic that has occupied minds throughout history, and there is still little consensus on the specific aspects that are included in the concept (Alavi & Leidner, 2001). Wiig (1998, p. 1) defines knowledge by saying “knowledge consists of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how and is possessed by humans, agents, or other active entities and is used [...] to determine what a specific situation means and how to handle it”. This definition provides a broad picture of knowledge and the different aspects, as well as not restricting knowledge to only individual agents. Kamara et al. (2002, p. 206) takes a more organizational perspective of knowledge and defines it as something that is “vital for task completion and future repetition of the task”. In this thesis, we use the term knowledge in regard to Alavi and Leidner (2001, p. 109) who defines it as a “justified belief that increases an entity’s capacity for effective action”. This definition, in comparison to Kamara et al. (2002) is less specific, in that knowledge is not necessarily tied to a specific task. It also highlights the role of knowledge as a prerequisite for effective, and thus often more successful actions. Furthermore, it is common to distinguish between tacit and explicit knowledge. Whereas tacit knowledge is unarticulated knowledge gained through experience, for example, knowledge of wine tasting, explicit knowledge is the knowledge that you can put into words and sentences, for example, a user manual (Nonaka & von Krogh, 2009). This thesis does not distinguish between tacit and explicit knowledge.

Knowledge is considered to be a significant organizational resource that can provide a sustainable competitive advantage for organizations (Love et al., 2005). The success of organizations depends on how effectively they manage
tacit and explicit knowledge. Organizations that are able to take advantage of knowledge can experience benefits such as reduced cost, reduced time spent on problem-solving and increased quality of work (Dave & Koskela, 2009). In contrast, knowledge loss has many negative effects such as; low productivity, strategic misalignment of the workforce, resource cuts, reduced work quantity and quality, work outputs not being used, and slower task completion. Due to the negative effects of knowledge loss, organizations should strive to prevent this from occurring (Massingham, 2018).

**Knowledge Transfer**

There has been confusion when it comes to the terms knowledge transfer (KT) and knowledge sharing (KS), which has led to them being used interchangeably. Although several researchers have made attempts to distinguish and define them, the terms remain blurry concepts (Kumar & Ganesh, 2009; Paulin & Suneson, 2012; Tangaraja et al., 2016). Kumar and Ganesh (2009, p. 162) define KT as “a process of exchange of explicit or tacit knowledge between two agents, during which one agent purposefully receives and uses the knowledge provided by another”. Here KT is seen as a twofold process, where knowledge is first shared and then reused. KS is only concerned with giving or contributing and not the receiving and reusing element that can be seen in KT. As the name suggests, KT is the process of taking knowledge from one place and applying it to another (Karlsen & Gottschalk, 2004). We argue that KT and KS cannot be used interchangeably, because KS is a part of the broader KT process. This study is concerned with the whole KT process as it is important for organizations that employees both share knowledge and take advantage of existing knowledge.

The definition provided by Kumar and Ganesh (2009) also describes KT as a process that occurs between two agents. They further describe agents as being either an individual, a team, an organizational unit, the organization itself or a cluster of organizations. The exchange process can also occur between agents at different levels, i.e. organization to individual or team to unit.
Organizational culture is by numerous academics considered to be the most significant determinant of successful KT (Ajmal et al., 2009; Alavi et al., 2005; Karlsen & Gottschalk, 2004). Although the concept of organizational culture is well-known, it is hard to define. Some definitions are more broadly recognized but there is no definition that is generally accepted (Bang, 2013; Janićijević, 2011). Schein, a researcher well known for his work on organizational culture, defines it as;

\[\text{[...]}\text{a pattern of shared basic assumptions learned by a group as it solves its problems of external adaptation and internal integration, which has worked well enough to be considered a valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 2010, p. 18)}\]

According to Schein (2010), organizational culture can be studied on three levels; artifacts, values, and underlying assumptions. The first and most visible level is artifacts, and this includes what you can see, hear and feel within a culture, such as the physical environment, language, technology, clothing, and behavior patterns. These artifacts are visible and can easily be observed but are very difficult to interpret and understand. The second level values, are concerned with what is perceived to be important, valuable and strived to achieve in an organization (Bang, 2013). Although these values reflect the principles and standards that are valued by the members of the organization, it is important to note that these values are not necessarily reflected by their behavior (Bang, 2013; Du Toit & Roodt, 2003). For example, an organization can state that they value teamwork, while at the same time they reward individual competitiveness (Schein, 2010). The last level, basic underlying assumptions are taken for granted presumptions that directs how members behave, perceive and act (Schön & Argyris, 1996). To gain a comprehensive understanding of organizational culture, Schein (2010) argues that one must attempt to understand basic assumptions. However, as these are implicitly part of people’s perceptions, they are hard to understand and articulate, thus making them challenging to study.
(Schein, 2010). In other words, organizational culture tell us about basic underlying assumptions that the organizational members share, and can, therefore, influence how, why, when, and by whom things are done (Ajmal et al., 2009).

A central aspect of organizational culture deals with assumptions on how individuals interact and the relationships between employees. It is common to distinguish between cultures that are individualistic and competitive or collectivistic and cooperative. The nature of relationships within an organization or group forms the rules and norms of interactions and what is accepted behavior (Schein, 2010). Good relationships and interactions between employees motivate them to increase communication and cooperation within the team and to accomplish organizational goals. This will, in turn, have a positive effect on job satisfaction and create a healthy and happy work environment (Tsai, 2011).

According to Schein (2010), leadership and culture are fundamentally intertwined since leaders have a substantial influence on organizational culture. Leaders have their own distinct values and assumptions that they transfer to the organization and if these prove to work well, they will gradually become shared values and assumptions. Once the organizational culture is formed, a leader can continue to influence the culture through different embedding mechanisms. These mechanisms include what leaders pay attention to, measure, and control, how leaders allocate resources, deliberate role modeling, teaching and coaching, and how leaders allocate rewards and status (Schein, 2010). Through all these mechanisms, leaders can communicate to their employees what is important and what they should prioritize.

**Organizational Culture and Knowledge Transfer**

An appropriate organizational culture that focus on KT can shape social interactions and determine how knowledge will be used in particular situations (Ajmal et al., 2009; De Long & Fahey, 2000). Without such a culture, there is a risk of losing valuable knowledge (Ajmal et al., 2009).
With leaders’ ability to influence organizational culture, they can also influence whether KT is seen as important in the organization. When KT is central in leaders’ values and assumptions, they transfer this to the culture through embedding mechanisms and can directly impact how the organization manages KT (DeTienne et al., 2004). Thus, leaders should take an active role in promoting and ensuring successful KT (Ling et al., 2009; Oliver & Kandadi, 2006). Through rewarding and recognizing KT behavior, leaders can encourage these behaviors and send strong signals to employees that this is an important value in the organization. Rewards and appraisals can also help reduce employees perceived cost of KT because when these behaviors are evaluated and recognized, employees are more likely to see them as an integrated part of their job responsibilities (Cabrera & Cabrera, 2005). Leaders also play an important role in facilitating KT in the organization through encouraging activities such as sharing lessons learned, exchanging stories and expertise as routine-jobs, and allocating sufficient time and resources for KT (Ajmal et al., 2009; Islam et al., 2011).

Organizational values play an important role in facilitating effective KT amongst employees (Alavi et al., 2005). Values take a role in deciding what is important and how things are done in the organization. Previous research has established that values such as trust, openness, collaboration, sharing, support, and understanding have a positive effect on KT (Alavi et al., 2005; Durmusoglu et al., 2013; Finestone & Snyman, 2005; von Krogh, 1998). When employees trust each other, they are more willing to cooperate and share insights and knowledge with each other, which in turn can lead to KT. von Krogh (1998) argue that an open and trustworthy culture facilitate higher communication speed among employees who share their personal knowledge and concerns more freely.

The strength of the relationship between knowledge sources and recipients have an impact on KT (Hansen, 1999). The researchers Levin and Cross (2004) argue that a strong relationship is beneficial to KT because employees are more accessible and willing to help. Moreover, Reagans and McEvily (2003) highlight that the frequency of interactions and emotional attachment influences KT behavior. Individuals who communicate frequently are more likely to transfer
knowledge, and when emotionally attached they are more likely motivated to be accessible and supportive (Reagans & McEvily, 2003).

Projects and Knowledge Transfer

More and more organizations are conducting their business operations through projects and it has become an important determinant in order to stay competitive in a fast-changing business environment (Defillippi & Arthur, 1998; Schindler & Eppler, 2006; Söderlund et al., 2008). Most definitions of projects include aspects such as temporality, uniqueness, specific tasks, and goals and limited resources (Disterer, 2002; Ekambaram, 2008; Sydow et al., 2004; Todorović et al., 2015). A well-known and frequently used definition by Project Management Institute (2000), describes projects as a “temporary endeavor undertaken to create a unique product, service or result”. Similar to the organization as a whole, projects also have their own unique culture (Ajmal & Koskinen, 2008).

The unique characteristics of projects provide an ideal basis for learning, which has become one of the main reasons why this way of organizing work has become so popular (Swan et al., 2010). Furthermore, Söderlund et al. (2008) point out that projects do not only generate new knowledge and learning, but they also provide opportunities for organizations to use and re-use existing knowledge. Yet the characteristics, especially the temporality and resource limitation pose challenges for institutionalizing the knowledge created within the project (Defillippi & Arthur, 1998). Experience and knowledge that is gained through projects are easily lost because time and cost restrictions do not motivate the project team to store and transfer this knowledge (Bartsch et al., 2013). Projects are composed of team members with different backgrounds, experience, and skills (Sydow et al., 2004). When projects end, these team members will proceed to other projects or go back to their usual work, taking their knowledge and experiences with them (Ekambaram, 2008). Dealing with KT in a project setting can be challenging because the time and cost restrictions inhibit the project team’s ability to spend time on knowledge sharing activities. Projects’ focus on short-term goals and fast deliverables does not align with the long-term goal of organizational learning (Bresnen et al., 2003; Lindner & Wald, 2011).
Although projects pose some challenges for KT, they also enable it. Projects often create opportunities for close cooperation between project members and thus more KT. Team members have to work together to solve problems and will, therefore, seek out information and share what they find with others (Cabrera & Cabrera, 2005).
Research Methodology

The aim of any study is to create new insight into a phenomenon and the research question should be the basis for designing the data collection process (Jacobsen, 2015). In this chapter, the method for collection and analysis of data that has been used is discussed. First, the choice of research design and method are argued for. Thereafter, the basis the case selection, data collection, data analysis, data evaluation and ethical considerations is discussed. Lastly, a description of the two cases that have been studied is provided.

Research Design and Method

In this thesis, we have selected a qualitative case study design to investigate the nature of the relationship between organizational culture and KT. The qualitative approach created an opportunity where we could gain insight into individuals’ perceptions and perspectives by allowing for flexibility in the data collection process and providing more nuanced and detailed data. Yin (2017) argues that case-studies are the preferred strategy when answering research questions with “how” and “why”, and since this study concerned with the “how”-aspect of the research topic, a case-study is appropriate. As context is highly relevant in this research, a case-study makes it possible to study this in-depth.

As an attempt to make the data more robust and get a more holistic perception of the research topic, we have chosen to do a multiple-case study with two cases. According to Yin (2017), a multiple-case study will almost always be preferred to a single-case study because you can compare and contrast findings from the cases and therefore improve the generalizability of the findings. Multiple-case studies also provide a more in-depth understanding of the phenomenon because the cases can emphasize complementary aspects (Eisenhardt, 1991).

Case Selection

The cases were selected based on the principle of purposive sampling. This implies that the cases were selected because they were able to provide information relevant to the research question (Bryman & Bell, 2015; Maxwell, 2013).
According to the research aim, we wanted to study project-intensive companies in the IT sector, and that was the first priority when selecting case-companies. Furthermore, it was relevant to select cases where the infrastructure for KT was already well-established to ensure that a lack of this would not hinder KT. For practical reasons, the two case companies needed to have offices in Norway, where we collected the data. We also wanted to find two cases that were comparable in terms of size, products and/or services. Thus, the second case was chosen because it shared the same characteristics as the first case.

**Data Collection**

The data collection consisted of semi-structured interviews with informants from both cases. Interviews are one of the most common methods for gathering data in case-studies because they provide rich and detailed information about a phenomenon and the context in which it occurs (Yin, 2017). Interviews are particularly useful when (1) few units are studied, (2) when we are interested in the informant’s personal opinion, and (3) when we are interested in how the individual interprets and makes sense of a particular phenomenon (Jacobsen, 2015). The interviews were semi-structured, as it followed a predefined interview guide, while at the same time being flexible and allowing for follow-up questions and changes in the sequence of the questions (Bryman & Bell, 2015). The interview guide should not be regarded as finished at any point in the data collection process (Adams, 2015). Therefore, we revised the interview guide between the interviews and added, removed and changed the sequence of the questions as we observed the quality of these and what the informants emphasized. We chose to send the interview guide to the informants prior to the interviews, in order to give the interviewees an opportunity to prepare and hopefully provide more thought-through and nuanced answers. Despite this benefit, allowing the interviewees to prepare may compromise their answers and add unnecessary bias.

A total of twelve informants were interviewed and the interviews lasted from half an hour to one hour. There is no right answer to how long an interview
should last, but approximately one hour should be sufficient to avoid fatigue for both the interviewer and interviewee (Adams, 2015; Jacobsen, 2015). All interviews were held in the offices of the case companies, during office hours, and conducted in Norwegian, which is the native language of most of the informants. Those who were not a Norwegian native speaker were offered to have the interviews in English for their convenience and to make a comfortable environment. The interviews were conducted face-to-face which allowed us to capture the interviewees’ body language and facial expressions and helped to identify any confusion (Jacobsen, 2015). Both researchers were present for all interviews, both asked questions and additional follow up questions. Audio recorders were used to record the interviews. By recording, we could concentrate on the interview and maintain a natural conversation instead of focusing on note-taking (Jacobsen, 2015).

Informants
The informants were selected based on purposive sampling. To ensure that we would get a comprehensive understanding of our cases, we wanted a sample with variation, so we sampled informants that varied in terms of position, projects, professional background, and seniority. Participation in the research project was also dependent on the willingness and accessibility of the employees. We sampled a total of 12 informants, 7 (5 male and 2 female) from Case A and 5 (4 male and 1 female) from Case B. These 12 interviews provided sufficient data, since no new themes emerged toward the end of the interview process and further interviews would arguably not provide any more insight (Bryman & Bell, 2015). The informants and interviews are summed up in Table 1 and 2.
Table 1

*Interviewees in case A*

<table>
<thead>
<tr>
<th>Informant</th>
<th>Position</th>
<th>Date</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Consultant</td>
<td>February 18th</td>
<td>½ hour</td>
</tr>
<tr>
<td>A2</td>
<td>Project Manager</td>
<td>February 18th</td>
<td>1 hour</td>
</tr>
<tr>
<td>A3</td>
<td>Developer</td>
<td>February 19th</td>
<td>1 hour</td>
</tr>
<tr>
<td>A4</td>
<td>Architect and Partner</td>
<td>February 22nd</td>
<td>1 hour</td>
</tr>
<tr>
<td>A5</td>
<td>Consultant</td>
<td>March 4th</td>
<td>1 hour</td>
</tr>
<tr>
<td>A5</td>
<td>Architect</td>
<td>March 11th</td>
<td>1 hour</td>
</tr>
<tr>
<td>A7</td>
<td>Architect and Partner</td>
<td>March 11th</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Table 2

*Interviewees in case B*

<table>
<thead>
<tr>
<th>Informant</th>
<th>Position</th>
<th>Date</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Architect</td>
<td>February 21st</td>
<td>1 hour</td>
</tr>
<tr>
<td>B2</td>
<td>Consultant</td>
<td>February 21st</td>
<td>1 hour</td>
</tr>
<tr>
<td>B3</td>
<td>Technical Manager and Sales</td>
<td>March 5th</td>
<td>½ hour</td>
</tr>
<tr>
<td>B4</td>
<td>Developer and Architect</td>
<td>March 5th</td>
<td>1 hour</td>
</tr>
<tr>
<td>B5</td>
<td>Sales</td>
<td>March 5th</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

**Data Analysis**

The data analysis was based on Hesse-Biber and Leavy’s (2010) four-phase-model that consists of 1) data preparation, 2) data exploration, 3) data reduction and 4) data interpretation.

In the first phase, data preparation, we transcribed all interviews and each of us went over the transcriptions individually to resolve any discrepancies. During the data exploration phase, we read through the transcribed interviews individually and made notes and keywords before meeting and discussing the data together. Once the interviews were discussed, we printed out all the transcriptions. We started the third phase, data reduction, by looking for patterns,
making keywords and color-coding these. This enhanced our understanding of
the raw data and enabled us to compare cases and determine similarities and
differences between them (Eisenhardt, 1989). We also went through the data one
more time to ensure that all relevant findings were coded. The first round of
coding was very broad and ended up with almost 50 codes. During the second
round, we started reducing the data by either merging or leaving out less relevant
categories, which left us with 15 codes. We further reduced the data by splitting
up or merging categories and we ended up with five main categories, which are
presented in Table 3. In each round of this process, we started by analyzing case
A before analyzing case B to ensure structure and to become familiar with the
data in each case. The last phase, data interpretation, is highly connected to both
data collection and the other three phases of data analysis, which are often
performed simultaneously (Hesse-Biber & Leavy, 2010). The results from the
data analysis are presented in the Findings chapter. We have presented several
quotes from the interviews that were selected because they are representative,
descriptive and highlight interesting findings (Kvale & Brinkmann, 2009; Yin,
2017).

Table 3

<table>
<thead>
<tr>
<th>Categories that emerged from the data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories</td>
</tr>
<tr>
<td>Organizational values</td>
</tr>
<tr>
<td>Leadership</td>
</tr>
<tr>
<td>Projects</td>
</tr>
<tr>
<td>Relationships and communication</td>
</tr>
<tr>
<td>Individual factors</td>
</tr>
</tbody>
</table>

**Data Evaluation**

When evaluating the quality of studies, the most commonly used paradigms are
validity and reliability. The applicability of these in qualitative studies has been
under debate and there is little agreement among qualitative researchers (Bryman
& Bell, 2015; Golafshani, 2003). Despite this disagreement, Patton (2001) argue
that validity and reliability are two criteria that should be considered when
addressing the quality of a study. One of the most widely accepted methods for evaluating research quality are the four aspects of trustworthiness by Lincoln and Guba (1985) which include credibility, transferability, dependability and conformability. These form the basis for evaluating this research and are closely linked to validity and reliability.

**Credibility**, which is an alternative to internal validity, concerns whether the conclusions that are drawn actually represent the truth (Guba, 1981; Lincoln & Guba, 1985). The credibility of this study has been ensured through several actions. First, we selected informants who had knowledge and experience on the topic of interest to be sure that the data we collect is based on actual experience on the topic. Second, we distributed the interview guide to the informants prior to the interviews in order for them to get the opportunity to be prepared and clarify if something is not clear. Third, we recorded all interviews to ensure that we at all times had access to the raw data and to be able to go back and review our interpretations. Lastly, all informants were given the opportunity to review and approve the transcribed data.

**Transferability**, which parallels to external validity, refers to whether the findings can be generalized to other contexts or situations (Guba, 1981; Lincoln & Guba, 1985). Case studies, such as this, generally have low transferability due to the fact that we are studying a phenomenon in a specific context (Guba, 1981). However, as this is a multiple case study with two cases, the transferability is higher to some degree (Eisenhardt, 1991; Yin, 2017). The transferability of case studies can be increased by collecting and providing a detailed description of the context, to be able to distinguish what is context related and what is not.

**Dependability**, or reliability, is concerned with whether the results would be consistent if the study were to be replicated in the same setting (Guba, 1981; Lincoln & Guba, 1985). Dependability can be ensured by providing thorough documentation and transparency in the thesis (Guba, 1981). We have documented our work throughout the whole research process, which has been presented in this chapter, and the interview guide is attached in the appendix.
Confirmability, or objectivity, refers to the degree the findings actually represent the informants’ views without being influenced by the researchers’ biases (Guba, 1981; Lincoln & Guba, 1985). Ensuring complete objectivity is not possible, but certain actions can be taken to reduce biases (Bryman & Bell, 2015). Both researchers were present during each interview and have both conducted all transcriptions and coding. All interviews were recorded and transcribed without corrections, where all pauses and hesitations were included. Lastly, we have identified and acknowledged the shortcomings of the study in the limitation part, to be as transparent as possible.

Ethical Considerations

The Norwegian National Research Ethics Committees (NNREC) (Fangen, 2015) have outlined general guidelines for ethics in qualitative research. They stress the importance of complying to certain ethical principles such as confidentiality, informed consent and protecting the research subjects’ integrity. To adhere to these guidelines, we have kept both cases confidential, by the wishes of the companies themselves. This means that we are restricted to providing any type of information that can be traced back to the companies and their employees. All informants signed an Informed Consent Form prior to the interviews. This informed them about the purpose of the study, their rights as informants, as well as the fact that participation is voluntary and that they can withdraw without consequences at any point in the process. In relation to the informants’ integrity, we have made sure that as little information about the informant as possible can be linked to their respective data. We have stored personal information and data separately and used codes to preserve the informants’ integrity and anonymity. The informants were not provided any information about other informants.

Before beginning the data collection process, we applied to The Norwegian Centre for Research Data (NSD) and the research project was approved.

In relation to analysis and interpretation of data, NNREC has emphasized the importance of a clear distinction between direct quotes from the informants and the researchers own interpretations. We have attempted to respect the
informants’ own interpretations as much as possible by presenting the raw material before making any claims about these.

**Description of Cases**

In this thesis, we are studying two companies which are referred to as case A and case B. Due to confidentiality, some of the numbers are rounded down and facts are generalized to remove identifiable information. Thus, these numbers do not provide an exact representation of the companies, but it provides an understanding of the context of the findings.

Both cases are multinational IT-companies with over 100,000 employees globally, and over 500 employees in Norway. Case B is a consultancy company. Case A is both a consultancy and is also developing and distributing their own products. We only studied the consultancy part of case A. The two consultancies provide their services to a broad range of industries. The projects that they sell vary in size, both in terms of manpower and duration, however, case B has more consultants and can, therefore, offer larger projects in terms of manpower.

There is a clear focus on KT in both cases, and they have many different channels and arenas for sharing and retrieving knowledge. Case A has several databases for knowledge that are available globally to all employees. This includes a platform for sharing presentations, videos, documents and other types of information, a platform for sharing methodologies, standard formats and generalized, processed code, and a document sharing platform where employees can access and share folders with documents. In addition to these platforms, case A offers an abundance of training in the form of online courses and seminars, with internally developed content. The online courses are always accessible, and employees get allocated time on training, which there is also a requirement to spend a minimum number of hours on this. Several local initiatives have also been developed to promote KT, such as afternoon sessions and communal meetings where employees for example can present projects or specific topics. The purpose of these activities is for employees to gain insight into new topics or projects and knowledge on who they should contact if they need more
information. KT is formally encouraged in case A through employees’ performance evaluations and is included in one of their five goal-dimensions, and can thus affect both salary, bonus and career advancement.

Case B has one main knowledge platform where employees can share and retrieve all sorts of knowledge. They also have research centers and labs that develop new products and technology and share this with the rest of the organization. Employees at case B also get allocated time and budgets to spend on training, and both online courses and seminars are frequently used. In contrast to case A, employees at case B does not have a formal minimum requirement for training. There also exist several local initiatives, such as communal meetings, conferences, and hackathons. On larger projects, project members also organize their own initiatives and have for example project internal breakfast meetings. The performance evaluations in case B does not have a specific goal dimension that captures KT, these evaluations are instead adjusted to the individual employees with clear priorities. These priorities give an opportunity to encourage KT in the organization and that employees are being rewarded for this with opportunities for promotions and increased salary. Employees who contribute substantially to the KT platforms are also recognized for this.

Both case companies have a clear focus on methods and best practices which are shared within the organization. Communities of practice are common, where employees can organize themselves and create forums to share knowledge and expand their networks, both locally and globally.
Findings

In this chapter, the findings that resulted from the data analysis are presented. The data is structured according to the five categories that emerged from the data analysis; organizational values, relationships and communication, leadership, projects, and individual factors. The findings in case A and case B are presented separately before comparing them in a cross-case analysis.

Case A

Organizational values

Talking to interviewees, several organizational values were discussed in relation to KT. Most notably helpfulness was an important value in the organization. Interviewees described a culture where people and knowledge are accessible and there is trust between colleagues (A1, A2, A3, A6).

\[\text{[...]} \text{no one knows everything and there is no prestige in that. We all dive back and forth into each other’s work and help each other. That has been very positive (A3)}\]

Low thresholds and honesty were also valued, where it should not be difficult, frightening or intimidating to ask for help, admit struggles and knowledge gaps (A3, A4). All interviewees reported that helping others is a vital part of their job. A3 even said that helping others was the best part of the job and two other interviewees said that they have not experienced that their colleagues are ever reluctant to help (A6, A7).

\[\text{[...]} \text{I have never experienced that someone has said ‘no, sorry I don’t have time for that, I can’t talk to you about that’ and if they are busy, they usually say ‘you can talk to him or her’. They will refer you to someone else (A7)}\]

It was highlighted in the interviews that a focus on new technologies and adapting to these were crucial to stay relevant. Thus, novelty and continuous learning are highly relevant values in the organization (A2, A6)
There is a lot of focus on learning. People are encouraged to learn, especially since we are an IT or ICT-organization [...] there are new methods, new machine learning, all of the new concepts that we see in the market. I would say that there is a culture for using time to get to know these concepts (A2)

Because of this rapid advancement in technology that characterizes the environment of Case A, sharing knowledge is also seen as fundamental.

[...] nobody knows everything. You can perhaps become very good at one thing, but there are a lot of other things that you cannot become good at because there is simply not enough time for you to learn them. So, if we are to succeed as a company, we must share, we cannot keep things to ourselves (A7)

Interviewees said that sharing needs to be integrated into work life, and that taking advantage of the available knowledge and tools is necessary to have a culture where knowledge transfer is not only encouraged, but also flourishes (A3, A6, A7).

**Relationships and communication**

Throughout the interviews, all interviewees emphasized that the social environment at work and the relationship and interactions between colleagues are of importance in regard to KT. They also informed us that through social and professional networks they are able to access knowledge across the organization.

*I have a really big network of colleagues around here and I try to keep myself up to date on what they are working on. Through this network, I can navigate myself to find an expert that has the knowledge I need and that I can talk to (A4)*
Networks develop over time and as you have been in the organization for some time you get to know more people and learn about their knowledge and competencies (A6). A7 described how one can use their leaders and other resources to navigate and find the right people if your own network is not sufficient.

As a leader I have a pretty good overview so if you do not have any clue on where to ask you can ask your leader and maybe your leader knows. If you know roughly what kind of technology is used, what client it is or maybe someone that worked on that project then it is easy to find. Or you can speak to the sales department. Since they often are responsible for the clients, they usually know the client history as well (A7)

Overall, networks were the preferred method for acquiring knowledge. It was acknowledged by A7 that there are several benefits of using networks instead of formal KT platforms, such as time convenience and the ability to understand the context.

I am not really sure if the documents would have been as useful if they had just been uploaded somewhere and I would have accessed them there, like ‘oh here is a list with a lot of interface specifications’. I would have needed to talk to that person anyways. So, there is a question of what takes the most time. Either looking and searching for one document among thousand others - would I have been able to find it? Or is it quicker to just go directly to the project manager at that other project and ask about who worked with interface and just talk to him directly (A7)

A7 points out that using networks saves her time, because searching through archives and databases is time consuming. In addition, talking directly to the source will provide context to the document, and as she stated in the interview, you are better able to avoid pitfalls and copy-paste mistakes. Moreover, all interviewees said that working together by exchanging ideas and thoughts was important to achieve results and that there is a culture where they work together
toward collective goals rather than having sharp elbows and focusing on personal gain.

There is room for everyone and there is no one-man-show. We need to work together and that is what works best (A6)

It was emphasized that cooperation is important because it increases the quality of the work, while also providing a platform for KT (A3). It was explained to us how this can be done in practice;

We have something called peer work [...] we put two people together to do one task, it can be writing a report, a program or whatever. Then you have two sets of eyes, you get a discussion. It might take about 20 to 30 percent more time because you have two resources on a task that was supposed to be done by one. However, the quality you get is much higher [...] people have different viewpoints and different skills. It might be that one of them takes charge within certain tasks, like 'I've done this before, we can do it like this or this', while the other has other skills and can contribute more on other tasks. So, in that sense, both of them can enhance their skills (A3)

When it comes to the social interactions between colleagues, the organization is informal. The interviewees described instances where they can eat lunch together with everyone in the organization without planning that ahead (A6), and where it is allowed to show emotions such as cheering when finally finishing a difficult task (A3). The informal culture can also be reflected by the casual dress code (A6).

I would say that the culture is informal, you rarely see people here with suits and ties and no matter how high up in the organization. It is relaxed and informal (A6)

As a result of their informal culture, it is easier to get to get acquainted with colleagues, and spending time helping each other has become the norm, and
according to A7 this is what sets them apart from other consultancies. Due to this informal culture, a lot of the employees are even friends outside the office, and especially the younger employees (A4, A5, A6, A7). One example that explained these close personal relationships were mentioned;

*I can see that the young employees are a close-knit group. For example, five of them were supposed to attend a seminar abroad in two weeks. Then one of them was told that he could not go because of a situation in the project he was working on. So then two of the others came to me and asked if they could also withdraw because they did not want to go without him (A5)*

Moreover, five interviewees (A2, A3, A4, A5, A6) brought up that being in the same location is important for KT. Colocation is important both because it lowers the threshold for asking questions, and because it facilitates random interactions between colleagues.

*By the coffee machine, it is normal to ask people you meet how things are going, what they are working on, and like ‘that’s interesting’, and then you can follow up on that later (A4)*

It was also stressed in relation to project teams where members live at opposite sides of the country, or the world, where meeting each other establishes trust, which can be difficult when you do not meet in person (A2), and also in relation to allowing for home offices (A5).

*What may hinder the sharing, is the fact that people here live in a lot of different places [...] so it is not that people are reluctant to share their competences, but they are not physically here [...] that is sort of a negative side of allowing for home offices. Usually, those days where we have the most time to share, are the days where we do not sit together. I always try to encourage people to always come to the office, because I personally feel that they are missing out on a good opportunity to learn. For example, you are here and drink coffee and then someone*
approaches you and asks you about something. That does not happen when you are at your home drinking coffee in your kitchen (A5)

Leadership
It became evident during the interviews that the leaders have a clear expectation that employees should acquire new knowledge and transfer it, as they are dependent on that to succeed (all interviewees). Three interviewees (A2, A3, A4) explicitly said that leaders have an impact in making sure KT occurs.

*If your leader, for example, does not think that it is important, then it will not become important either. Then people will not focus on it. If it is not measured or facilitated and communicated clearly from the top management, it becomes very difficult to create a culture where knowledge transfer happens (A4)*

Although leaders have clear expectations and impact on KT, interviewees (A2, A5) also raised the concern that there might be some room for improvement in regard to their involvement in the process. As it was mentioned in one interview, leaders cannot simply expect KT to happen without taking an active role themselves (A2). Another interviewee explained;

*They expect it to happen. But I think that the responsibility might be left to the individual sometimes. That leaders want it to happen, but it might not be what they spend the most time on. Instead, they hope that someone else takes responsibility. Or they might encourage it, but I do not feel that it is very top-down, so the top management in my department do not control to see that we transfer knowledge. I have more the impression that they just hope that it happens. Having said this, the department manager quite often attends evening activities, so she is visible in that sense, so that is a plus (A5)*
Nevertheless, KT is well facilitated and there is no shortage of archives, databases, online courses, seminars, and other KT channels. These are all very accessible (A5, A6, A7).

There are many opportunities in [case A] to acquire knowledge. There is a vast amount of opportunities for training such as online courses that you can take whenever it suits you. There are no limits there. You get some allocated time each year for training, so during the year you can spend a week or two on these (A5).

Despite all the formal KT channels, two interviewees suggested that the number of channels might even hinder KT (A1, A7). They pointed out that there are so many channels that can be used, that it becomes difficult to navigate and argued that having clear guidelines on where and how to store knowledge could have lowered the threshold to transfer knowledge.

So, for me, there are barriers to using [databases]. It is kind of like a black box since I have not really understood how they work and put any effort into using it. So, if uploading a document is demanding and requires any additional adjustments, then I guess I would not prioritize spending any time on it. It has to be easy and it has to be fast [...] sometimes people do not always know where they should upload things, and I would not say that there is a culture where we would say that I have finished this product, and now I will publish it where everyone can find it (A7).

Budget constraints were brought up as a potential hinder to KT. First, it was mentioned by two interviewees that budgets had at times prevented them from attending courses that were relevant to the projects they were working on (A1, A2). Second, the tiring application processes for money makes arranging events that primarily focus on exchanging knowledge difficult.

They could have made it easier in terms of money. It should be easier, just ordering pizzas. We constantly have to apply for money [...] it should
just be ‘here you go, take whatever you need, because you are spending your spare time at work outside your normal hours’ (A4)

Overall, employees in case A are measured on five dimensions, which contributed to a more comprehensive approach to performance measurement. In regard to KT, especially one dimension was brought up because it includes collaboration and responsibility towards colleagues. More specifically, this means that helping each other and showing personal interest in colleagues’ career and development is highly valued and formally encouraged (A2, A3, A4, A5, A7). This has not always been the case, A7 explained:

That is why our performance goals are better now than they were before, because now we are measured on five dimensions, so instead of being measured only on business results, we are also measured on other aspects such as showing that you are able to build teams and give back to the organization [...] it is a more fair way with better distribution of what you can show off and spend your time on (A7)

Thus, sharing knowledge and scoring highly on that dimension influences the overall assessment as employees must be able to document their contributions to each dimension. It was emphasized that those employees who do not share knowledge are noticed, but there are no direct negative consequences (A4, A7).

It is individual, which means that those who do not want to take part in knowledge sharing, well, it is not considered as positive, but it is okay (A4)

There are however positive consequences for sharing knowledge as A5 said:

[Helping others] can affect bonuses, salary, and the opportunity for promotions, and will for sure affect opportunities to be included in other projects. People notice who contributes both socially and professionally in the projects (A5)
As mentioned, KT and continuous learning are important in Case A, and all employees are given allocated time which they can spend on training and other KT activities. In addition to allocating time, this focus is also reinforced by the fact that employees are being measured on the number of hours they spend on this and given a minimum number they need to reach (A1, A3, A4).

*We also have goals in regard to how many hours we should spend on training each year, and we have a program [...] where if you do not complete your [xx] hours, you have a problem. Usually employees spend a lot more hours than that (A4)*

On the other hand, consultants’ billable hours are usually more prioritized than hours spent on KT, and that is how they make a living (A2, A3, A4, A5, A6, A7).

* [...] I have a choice. I am in a position where I can work for a customer and in this way generate income for [Case A]. On the other side I have done some work, a task maybe or a project I have been part of where we have gathered experiences, tacit knowledge, explicit knowledge that has not yet been processed - that needs to be processed and shared with others [...] When such a conflict arises, then there is a culture that everyone understands, generating money is more important (A2)*

The interviewees described that they are being measured on how many billable hours they have in the same way as they are being measured on training, and they have a goal that they need to reach. Billable activities should take up most of the time and combining this with KT can at times be demanding.

**Projects**

One of the recurring themes that were brought up was how projects and their characteristics affected KT. Most prominent was how time restrictions made it challenging to spend time on activities not related to the project (all interviewees).
[...] sometimes when you are working on a long and demanding project that really takes up all your time. When you are working on projects like these, then achieving the [training] goal can seem a bit impossible, when am I supposed to find time for that? I work all week, with overtime and maybe even during the weekend. And then on top of that I am supposed to complete [xx] hours of training. Where can I find those hours? Please give me those hours (A1)

As A1 described, spending time on KT activities are challenging when you are working full time on a project. In these cases, spending time on training and other KT activities, which they are measured on, are hindered because of the project situation. One interviewee, A6, mentioned that during projects, you do not necessarily control your own time and sometimes you must ask the project manager for permission to spend time on helping others. Whereas A4 said that if KT activities fit well with their project, and the project can benefit from it, then it is worth spending time on.

People usually evaluate whether it fits in with the project and if it does, they go ahead. If not, then they focus on the billable and that is really common sense (A4)

Time restrictions especially affect KT when projects are close to their deadline. Such time pressure affected both the amount of time spent on acquiring knowledge (A6), and whether you are open to listening and trying different approaches. A3 explained;

[...] a couple of years back I was sent to help a team, but the project manager did not have time to listen to me. He did not have time to involve me in discussions because deadlines were approaching. He was so focused on meeting deadlines that he did not want to rethink; he did not want to take a chance on spending any time on knowledge transfer. A couple of weeks went by and the deadline was really, really close, it was almost a crisis, when I finally got to talk to him one-on-one [...] we spent
an hour going through alternatives and evaluating what we could leave out, what would be accepted by the stakeholders? We had to check with the stakeholders if it was good enough and it turned out okay in the end. So that is probably the clearest example of how a lack of knowledge transfer can make it difficult to reach goals (A3)

Although projects present some challenges towards KT, there are also aspects of them that encourage it. First, two interviewees (A3, A5) discussed how projects are the best arena to learn and that they themselves had learned notably more during projects than for example any document or course.

I learn most when I am working on projects, because then you are thrown into things you have not done before, or at least there are new requirements and needs that we have to just figure out ourselves, together. That to me has the largest learning effect (A3)

The interviewees indicated that projects present arenas for learning new knowledge and skills and gain new experiences. They also provide an arena for cooperation and sharing of knowledge and experiences. It was pointed out that working closely together provides opportunities to help team members and transfer knowledge through cooperation (A1, A2, A5, A6, A7).

After all, we are a team, really. And especially within the projects, then we solve tasks together and you support each other. If you are good at it then you help the other and so on (A1)

A3 and A6 recognized the role of project methodology as a factor that influenced KT. The increased focus on and use of agile methodology has facilitated KT because, as the interviewees said, this require more cooperation, meetings and discussions, as it involve being flexible to ideas and finding solutions together.

[…] the old way of organizing, where bosses would say, ‘we have to cross the river, build a bridge’. That is how things have been done throughout the years. Now the boss should rather say, ‘we have to cross the river,
find the best way over’. Then you have an autonomous team where the team is supposed to find the solution, be in charge of that decision because then you get better results [...] The new way of organizing work is based on the idea that we sit together, and everything is visualized. 
What has to be done, people’s concern, and even people’s mood (A3)

Increased focus on agile projects was also indicated to have affected the organizational culture. As A6 explained;

_It becomes more informal automatically because then everyone can voice their opinions, it is like a forum where we sit and discuss with each other and get to know our colleagues and the project on a completely different level (A6)_

Working agile have lowered the threshold for voicing ideas and concerns, increased cooperation and interaction between colleagues creating a more informal culture (A3, A6).

_Individual factors_
The last main theme that emerged from the interviews is the effects that individual factors have on KT in the organization. The topic personality was brought up by most interviewees (A1, A2, A3, A4, A5, A7), either in respect to how their own personality or other people's personality has affected KT. A1 explained how her introverted personality had made sharing knowledge more challenging.

_As a person I am a little bit introverted, so because of that I might be a bit hesitant when it comes to sharing, it is not because I do not want to. When I am working in a team, we are closer and that makes it easier, then it is natural to share (A1)_

While A1 is more hesitant to share, other interviewees argue that they personally find it more natural to share (A2, A3, A5, A7). This does not mean that
introverted people do not value KT, but their personality can hold them back. These interviewees indicated that enjoying and seeing the value of KT motivates KT behavior. A5, for example, does not find knowledge sharing challenging, and expressed that he might even want to spend more time on it than what is allowed.

(...) I feel like someone has to do it, kind of. It is extremely important and especially when there are many new hires in the department that need knowledge, so it is important to spend time on it. I would almost say that I am willing to spend even more time than I am allowed to, sometimes I even try to bend the rules and do more than what I am allowed to because I find it so important (A5)

Furthermore, age was also brought up in relation to both culture and KT. First, interviewees explained that younger employees were generally more interested in the social aspects and spending time with each other outside work (A4, A5, A6).

There are a lot of us who are friends outside work, especially the young ones, they are very close (A6)

Second, young employees also have fewer commitments outside work making evening seminars and other KT activities after work hours easier to attend than the older employees that for example have families (A4, A5).

I think that there is a problem in regard to the fact that most of the knowledge transfer must take place outside working hours. It is probably easier when you are young and do not have that many commitments. And then there are a lot of people with a mindset where they work eight to four, and that is it. So, if things do not happen during work hours, then it will not happen at all [...] Our evening seminars start at four thirty in the afternoon (A4)
A5 mentioned that Case A has an age distribution where most employees are either older and close to retirement or recent graduates. This distribution has had a positive effect on employees’ willingness to share and transfer knowledge.

_We have a very odd distribution of age in our department. There is a lot of people who are over forty-five, and a lot who are under thirty, and almost no one in between. Actually, a lot of those over forty five, are also over sixty [...] what I think is positive about this age distribution, is that those who are older are not threatened by a twenty five year old, and then they are more willing to share with them, than with those who are almost the same age. They are not threatened in a way because they know that those who are twenty-five are not going to replace them (A5)_

Furthermore, A5 explained how they have tried to exploit the age distribution in a way where it facilitates KT.

_We have always tried to pair employees together so that we have one junior working together with one senior. In this way, the senior can spend his time explaining and talking, while the junior can use this time to document, and we have worked like this throughout the project. So, this is a way for people to learn (A5)_

**Case B**

**Organizational values**

Organizational values also played a major role in determining KT in Case B. Openness, freedom and inclusiveness were important elements in facilitating KT, and without these it would be hard to ensure a good flow of knowledge (B1, B3, B5). B5 describes to us how the employees in Case B have freedom and this is demonstrated through an example of the complete opposite.

_I have very much faith in the informal. I have worked for a customer where whenever you need to have a meeting, you need to get permission from your supervisor. We are completely shocked when we experience_
this. Especially in the public sector where it is like ‘no he is not allowed to spend time on that project because his supervisor said that he could not. So, you need to ask forty-five-year-old men if they are allowed to spend two hours on a workshop. I would have never been able to work in such a place. So, this is an example of the complete opposite of this place. Here we just call people and just get things done (B5)

When trying to describe the organizational culture in Case B, B3 said that it is very inclusive. All employees are heard, and their contributions are acknowledged regardless of their seniority.

*My experience from the culture here in [Case B] is that it is very inclusive, both in terms of, of course, personality types and so on, but also in terms of what I find more important, that everybody is able to say what they mean and that we are included in all discussions. It is very consensus-based, and it is not like those who have worked here the longest knows best, rather it is the person with the most competence in that field that knows best (B3)*

It was also noted that transparency, both individually and throughout the organization, created an environment where KT became more natural (B3). Being transparent about what you know and more importantly what you don’t know helps in adapting and making sure that all employees have the knowledge they need.

Another interviewee (B5), talked about how the employees at Case B are interested in and find it exciting to keep up with the newest trends in technology. As soon as a new concept is launched, everyone talks about it.

*New things are coming in all the time and it never takes more than a couple of weeks before people are talking and discussing it, it is a bit crazy. So, whenever you feel like you are starting to understand a concept, there is something completely new again that everyone is talking about like it is a given that we should know all about it (B5)*

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Helping and sharing were important values for several interviewees (B1, B2, B4). It was acknowledged by B4 that employees try to help each other as much as possible and try to be as accessible as possible.

*When we have some spare time, we try to walk around and ask how things are going and if someone is struggling with something [...] so the threshold is quite low when it comes to asking for help. We try to be available for answering questions. If they are wondering about something, we can always take a coffee and talk about it, that’s no problem* (B4)

Moreover, B2 mentioned that by helping your colleagues it was implied that you would get help back, and as a result, everyone benefits from it. B2 also claimed that sharing knowledge and gathering information is a central component of the organizational culture and argued that this type of behavior is necessary for success.

*There has always been a focus on gathering information and experience from other places, using experts and finding success stories. This is not just my opinion, but I think that it is an essential part of company culture to share information. In large IT-transformations worth billions, it is extremely important to get it right. We gather all the information and do all our homework to carry it out correctly* (B2)

Sharing knowledge is highly valued and seen as the reason for individual and organizational success, and as B3 said, employees do not attain any status by withholding knowledge.

**Relationships and communication**

Interacting with colleagues is a key element in KT, and this was brought up by our interviewees. First, the majority of them stressed the importance of networks
in KT (B2, B3, B5), and it was mentioned that most of the transfer happened through these networks (B3, B5).

_The informal networks play a large role here, who do you know and who knows whom? [...] I would say that around eighty percent happens through word of mouth, ‘oh he knows this, I know him’, and if not you can ask him if he knows anybody. You just ask around and figure it out eventually (B3)_

B2 recognized that the size of the organization can make it challenging for employees to know where to find the knowledge they are looking for, but at the same time it was stressed that the way they are organized on several levels helped them to get in touch with new colleagues and build networks.

_We have communities of practice and we are organized both on an industry level and functional level. On the industry level, we are organized, and we have breakfast meetings and so on. I am also on a project where there is a lot of people from different departments, so you get to know them as well. Then we have the functional level, there we have meetings once a month to socialize. Most of the networking occurs on these three axes. There are of course other opportunities such as the ski and snowboard club, sustainability group, corporate citizenship group and so on. You can see that there is a lot of opportunities for people to get to know each other. However, projects and the industry level are the most important (B2)_

This was complemented by B5, who said networks develop over time and if you have worked in the organization for a long period of time and especially on larger initiatives, you gain a good overview of who works with what and what they know.

B3 described how there was a focus on enhancing the collective potential, and in order to do that they needed to cooperate and share.
[...] there is a focus on the fact that all employees should have a voice and that we should not just encourage individuals, but rather the collective success, and that is a good way to ensure knowledge transfer [...] We are very aware here at [Case B] that everybody has their own strengths and we try to cultivate these strengths in our projects and teams to become even better. I believe that it is very hard to succeed in [Case B] if we do not have that mindset, or it is impossible to succeed without that mindset (B3)

The collective focus mentioned by B3 has led to an increased focus on cooperation, and the work environment is facilitated in a way where cooperation is the norm. B1 explained;

*In the big picture, the work environment is very centered around cooperation and sharing knowledge across the organization. There is an expectation that you should always share and request knowledge. It is important that we do not spend too much time on a problem alone if there are other people around that can help you solve it (B1)*

A typical scenario of how employees work and cooperate was described by B4, who said that if problems arise, it is preferable to cooperate for continuous KT.

*I like to sit close with others and look at problems together. In this way, we can sit together to discuss and share knowledge right then and there (B4)*

It was emphasized that the flat hierarchy and loose structure has made Case B an informal workplace where KT happens between all levels in the organization (B1, B2, B3). It is not uncommon to talk to your leader about everything, and KT can even happen between the CEO and developers (B2, B3). B1 explained;

*Normally on a day-to-day basis, there is an informal tone among colleagues and there is a flat hierarchy where the distance from the top management to the developers on the ground floor is relatively short (B1)*
The informal tone is further reinforced by social initiatives such as hackathons for the developers and social mentoring programs for the employees (B1, B4), which are especially popular among the young employees (B5).

We have social events such as hackathons during the weekends where we for example gather and order some snacks and just try code and experiment. Very often there are people from different projects, and we gather here in the office and develop and code (B4)

One interviewee (B5) stated that the physical environment also played a role in regard to KT. Open landscapes, small “boxes” and meeting rooms facilitated cooperation and random interactions between employees.

[...] we sit in open landscapes where there are boxes where you can sit and small meeting rooms and so on. Because we have an open landscape, we can easily ask questions whenever we pass by someone’s desk (B5)

As B5 emphasized, colocation and open landscapes facilitated such interactions among employees, and that is an important arena for KT. However, as a consultancy, a lot of the employees are working on different projects and are often stationed at the customer’s office. It was pointed out that this could reduce their sense of belonging to the organization (B2). To tackle this issue, Case B has created initiatives to bring employees together.

There has been initiated several series of meetings, for example, we had a breakfast meeting last Friday. I think we have some sort of meeting every other week or so, because they are afraid of just that. This is an implicit problem within consulting, no matter how close you are, not all of us sit together and those working on the same project are not always sitting in the same place. They are working intensively to organize social activities to create a communal feeling. They are conscious that this could be a potential issue (B2)
Leadership
There was a clear consensus among interviewees that leaders expectations, behavior and the facilitation that they provide is crucial for KT. Interviewees reported that leaders do not explicitly expect employees to engage in KT and they have not demanded it formally, however, they do expect employees to take advantage of the resources that are available in order to provide the best results (B2, B3). B2 argues that knowledge transfer is an enabler to achieve the best outcome.

If you think about it in terms of ends to the mean versus means to the end, then they care about the end and using knowledge channels is a means to an end. So, you can say that the end is more important than the means. Whether you use more or less of [knowledge platform], it is not as important as the final result. From my perspective, it is implicit that using such knowledge channels will enable you to produce a better result. The focus must be on the outcome (B2)

Two interviewees (B3, B5) highlighted that leaders take an active role to encourage KT and to ensure that all employees have the necessary knowledge. Even the CEO is participating in the process of promoting KT.

The leaders here usually take action if they see that there are substantial knowledge gaps. For example, now the CEO has decided that we should all attend a storytelling course and has created own courses for us. We have attended such courses before, but now there is a new one. If they see that something is missing, they take action themselves (B5)

All interviewees mentioned that there are a large number of channels and ways of sharing and acquiring knowledge, and that a lack of these is definitely not a restriction for KT.

There are extremely high demands when it comes to being up to date at all times. We are given all the resources to do so. We can attend courses, take online courses, talk to people, there are a lot of seminars to attend
- everything you could imagine, so there is really no excuse to not doing so (B5)

Although the large number of resources enable employees to access large amounts of knowledge, a concern was expressed that this factor could also hinder effective KT. It is expected that you must find information on your own, but with the large number of available resources it would be challenging to locate the right information (B1, B2, B5).

I have a lot of experience using this platform, and I like to read and figure things out, but not everyone is like me [...] probably the great factor that hinders us is the same that supports us, namely, in an organization with over [100 000] employees there is such a vast amount of resources available that it has simply become difficult to navigate. That is what I find difficult, finding exactly what I need in all the information that is out there (B2)

Although there is a focus on billable hours, employees are given resources for training in terms of courses, online courses, and seminars to acquire new knowledge. Interviewees told us that leaders facilitate training by allocating time and money, but they expect employees to take initiative themselves (B1, B4)

I encourage everyone to take all the training they can. All employees get an allocated time they can set aside for training each fiscal year. I usually recommend everyone to spend all of their allocated time. So, you get a given amount of money and time to use on training (B4)

It was brought up during one interview that if employees notice that they could benefit from learning a certain concept in depth, leaders can give them more time than what was originally allocated to acquire knowledge about that concept (B4).

A person on the project was given time to learn - I’m not quite sure what field it was, but it was something technical that very few people in the organization know. So, he was given permission to spend time on getting
to know it. He was allocated extra time to learn the concept so that he could teach others at a later stage. So, then they invest some extra time for him to acquire knowledge that he can then share with others (B4)

Employees ability to share knowledge was taken into consideration when assessing individual’s overall performance and their contribution can affect both promotions, bonuses, and salary (B1, B3, B4). B3 highlighted especially that contributing to employee success is vital in your own performance assessment, and sharing knowledge is a large part of that. Also making yourself visible as someone who shares knowledge has a positive effect on the overall evaluation (B1).

In the organization, we have several opportunities to get promoted during the year and that is something that everyone is aware of. Being visible within those kinds of areas could have an impact on those discussions, so that is an incentive to share knowledge (B1)

Projects
Projects and their characteristics were brought up by some interviewees (B1, B4, B5). Deadlines and time constraints make projects hectic and in certain time periods, it can be challenging to find time for KT. Despite this B4 mentioned that they are expected to acquire new knowledge, and to find time for this they had to organize such initiatives outside working hours.

[...] they want us to learn new things whenever it is possible. This depends on the project, we do not always have time to learn new things, but the company wants you to familiarize yourself with the new technology. We have these afternoon sessions, so we try to put aside some time to go to these and learn about new things (B4)

In periods with less time pressure, employees have established initiatives and activities to promote KT with the project and its normal working hours. One initiative was explained by B1;
We have some good initiatives in the project where I am working. We arrange some lunch seminars, where different teams and persons take turns to talk about different areas where they have built experience and explain that to the rest. What kind of area it is, is this something we should continue working on, is this something that everyone should focus on? I think that there is a lot of people out there who are good at sharing their experiences (B1)

All interviewees said that KT and cooperation were essential for project success. B4 mentioned two particular factors that were essential to effective KT and cooperation in projects; first, having enough colleagues to ask and confer with on the project, and second, that those colleagues have a positive attitude towards KT. B4 explained;

When I first started working here, I was on a project with very few [Case B]-employees, we were working at our client’s office. You felt a bit more confined and too inexperienced to ask around. But eventually when I started working on a larger project like now, there is a lot more access to knowledge, and easier to gain knowledge from others [...] it is not necessarily the size of the project, but the number of colleagues and their attitude towards sharing knowledge, which we can see more and more of (B4)

Individual factors
Individual factors and personal characteristics also play a role in determining the effectiveness of KT in case B (B1, B2, B4, B5). B2 noted that not all people are proactive and confident, and they might need more of a push to share or request knowledge, or simply that you ask if they need help.

I am pretty sure that personality is a factor. I am not afraid, but I know people who are shyer and more reactive. So, I think it is very personal. I think that another thing that could affect it is to be much more open and
have clear communication and provide support to those who need it instead of waiting for them to ask (B2)

For some people, sharing is a more natural and enjoyable activity. For instance, B4 find it rewarding and enjoys helping others, and has therefore taken that role in the team.

I have taken that particular role because I enjoy teaching others, I find it very rewarding to give and help others [...] Especially when you see that people get aha experiences, it is satisfying to then see that ‘oh this is how it works and now I am better able to solve it’. So that is pretty cool (B4)

Lastly, B5 stated that age is a factor in the sense that the younger employees are more eager to engage in social activities with colleagues both during and after work, but also because the senior employees are more aware of sharing knowledge when working with young and inexperienced employees.

I am a bit more conscious when there are younger employees there. Then I sometimes reflect on it and think ‘yeah, maybe they have learned something’ (B5)

Cross-Case Analysis
In this section, a cross-case analysis is presented, where the findings from each case are summarized and compared. A summary of the findings is presented in Table 4.
Table 4

*Cross-case analysis*

<table>
<thead>
<tr>
<th>Factors</th>
<th>Case A</th>
<th>Case B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational values</strong></td>
<td>Helpfulness and trust, low thresholds. People are accessible and offer help. Sharing is essential to success. Future-oriented, focus on new trends.</td>
<td>Inclusive and open, low threshold. Freedom and few limitations. Sharing benefits everyone. Being up to date on the newest trends.</td>
</tr>
<tr>
<td><strong>Relationships and communication</strong></td>
<td>Networks are the most important source of knowledge. Cooperation and communal goals more important than individual gain. Informal interactions and relaxed environment. Colleagues are friends outside the office. Colocation and open landscape lowers thresholds and facilitate random interactions.</td>
<td>Most KT happens through networks. Building networks through organization on different levels. Cooperation to bring out the collective potential. Loose structure and informal workplace. Open landscape facilitates random interactions. Initiatives to increase the sense of belonging.</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Clear expectations from leaders but need for more presence and commitment. Leaders have provided many KT channels. The amount of knowledge, the lack of guidelines and budget might hinder KT. Performance evaluations encourage KT. Allocated time for training and employees are required to spend a minimum number of hours on this. Billable hours are prioritized over hours spent on KT.</td>
<td>Clear expectations from leaders but not a formal requirement. Leaders have provided many KT channels. Leaders are active in encouraging and facilitating for KT. The amount of knowledge might hinder KT. Performance evaluations encourage KT. Allocated time and money for training.</td>
</tr>
</tbody>
</table>
Projects

Time restrictions and deadlines prohibit KT activities unrelated to the project. Projects present an arena for learning new knowledge and skills and gain new experiences. Projects present an arena for cooperation and sharing. The increased focus on agile methodology has facilitated KT. Deadlines and time constraints make projects hectic and KT challenging. Successful KT in projects depend on the number of project member and their attitude towards KT. Project members have established initiatives and activities to promote KT within projects.

Individual factors

KT is more challenging for introverts. Enjoying and acknowledging the value of KT increases KT. Younger employees are more interested in the social aspects of work. Age distribution can be positive for KT. Some people need a push to engage in KT. For some people sharing is a more natural and enjoyable activity. Younger employees are more interested in the social aspects of work. Senior employees are more aware of sharing knowledge when working with young inexperienced employees.

Organizational values

Throughout the interviews, it became apparent that there are some differences between the two cases in terms of organizational values. In case A, the value that was most frequently mentioned in regard to KT was helpfulness. Being helpful and spending time on others was described to be the most important value. In case B, openness was a value that was frequently expressed as important for successful KT and was discussed in relation to inclusiveness and the employees’ freedom. In both cases, it was emphasized that keeping up with the newest technological trends and sharing knowledge is crucial to be successful with KT and the organization as a whole.

Overall, we observed a difference whereas case A is more focused on the individuals and their role in the organization and the interactions between them. Case B’s focus is on the organization as a whole. This observation is based on the language that is used and the way the interviewees have formulated themselves throughout the interviews. In case A the interviewees talked more
about individuals and interactions, while in case B, the organization and what happens within it is to a larger degree described holistically.

Relationships and communication
In both case A and B, networks are one of the important sources of knowledge. In case B, employees are organized in terms of industry and function which facilitated network building. Cooperation is also argued to be very important in both cases and the focus is on cooperation and collective gain rather than on individual success and competitiveness. Informal communication was another factor that was brought up in both cases, however, these were described differently in the two organizations. Case A was informal in the sense that employees to a large degree see each other as friends, and there is a large focus on all social aspects at work. On the other hand, case B described their informal communication by explaining that KT happens between all levels, all the way from top to bottom level. Open office landscapes facilitate KT in both cases by encouraging random interactions and sharing between colleagues. Colocation was an important factor in case A because employees are more accessible to each other which lowered the threshold for KT. Although colocation was not explicitly mentioned in case B, it raised a concern that lack of it hindered a sense of organizational belonging. To cope with this problem, they have created initiatives to promote this.

Leadership
In both cases, leaders have well-communicated expectations for KT and have provided many KT channels. In case B it was said that although leaders expect employees to take advantage of all resources, they are more focused on the results rather than how they got there. In case A there was expressed a need for more presence and commitment from the leaders. Although there are a lot of KT channels, the amount of knowledge that is available could also be an impediment because there is simply too much information, making it difficult to locate the right knowledge. It was also mentioned in case A, that a lack of guidelines for the KT channels and budgets to spend on KT activities is a barrier. In both cases, the yearly performance evaluations included KT. Both organizations encourage
training by allocating time for employees to spend on training, and in case A they have a formal requirement that all employees must spend a certain number of hours on training. Focus on billable hours was another barrier for KT, this was prominent in case A where most interviewees brought this up. This was also mentioned in case B but to a much smaller degree.

Projects
Time restrictions and deadlines in projects were mentioned in both cases as a barrier to KT activities that are not directly related to the project activities. This was mentioned several times in case A and only once in case B, therefore we view this as a more important factor in case A. Project specific factors were mentioned more frequently in case A than in case B. In case A, the importance of projects in regard to KT was discussed because it provides an arena for learning, sharing and cooperating. Cooperation is a major component of project work and facilitates frequent interactions and KT. Furthermore, their increased focus on agile project methodology facilitated a more interactive way of working with more cooperation and thus more KT. In case B, KT in projects was mentioned to be influenced by the number of project members and their attitude towards KT. In addition, they have organized initiatives within the projects to promote KT.

Individual factors
In both cases, the personality of employees was said to influence KT, and for some employees KT was more natural and enjoyable. Young employees were said to be more interested in social activities in both cases as well. Age also affected KT and in case A they took advantage of this by pairing senior and junior employees together. In case B it was also mentioned that senior employees shared knowledge more consciously when they were around younger employees.
Discussion

In this chapter, the findings presented in the previous chapter are discussed. Each of the identified categories and the findings are discussed and compared to previous research.

Although this research was set in two distinct cases, it is notable that some similar patterns were observed, which helped strengthen the emerging findings.

Organizational values

Results from this study showed that different sets of values affected KT in the two cases. In case A, helpfulness was the most prominent organizational value linked to KT. Employees highlighted that there were low thresholds to ask for help and helping others was a central part of their everyday work and essential to effective KT. This is an interesting finding and extends the literature on this topic. Theory has shown that individuals who enjoy helping others are more likely to share knowledge (Lin, 2007; von Krogh, 1998), however, little attention has been given to understanding the effects of helpful work environments on KT.

In case B, findings show that openness was the most important value for KT. Employees are given the freedom to perform their work as they please and the opportunity to contribute with their knowledge and voice concerns. The open environment is also portrayed through the loose structure where KT happens between all levels in the organization. Cabrera and Cabrera (2005) argue that such open and inclusive environments with open communication makes employees feel empowered and encouraged to share their knowledge with other colleagues.

The findings from this study indicate that the value sharing is crucial to KT, especially in regard to the fact that the organization need to keep up with rapid technological developments (De Marez et al., 2011; Mishra & Bhaskar, 2011). This does not mean that there was a push rather than a pull for knowledge, but in both cases it was apparent that it is implicit that sharing knowledge is crucial.
to success. These findings corroborate with the research of Riege (2005) who argue that in order for KT to be successful in an organization, it needs to be incorporated into the organizational values rather than being enforced as a practice. When knowledge sharing becomes a part of the organizational culture, it has the power to influence employees’ attitudes (So & Bolloju, 2005).

It is interesting to note that employees in the two cases showed some differences in their perception of their organization. As stated in the cross-case analysis, employees in case A seemed to have more of a social focus, where interactions between individuals often were emphasized, whereas the employees in case B had a more holistic perspective where they described their organization more objectively. It would be interesting to study these perspectives in depth to see their effects on KT.

Relationships and communication

Networks provide an arena for KT where knowledge can be transferred through dialogue, communication, and individual or group interactions (Kim & Trimi, 2007). In the studied cases, networks were the most frequently used method for sharing and acquiring knowledge. Employees would rather take advantage of their personal and professional networks than searching in formal KT platforms when they needed specific knowledge. Findings also showed that when KT occurred in informal settings, it lowered the threshold both for sharing and requesting knowledge which allowed more frequent KT. In case A, we saw that the employees perceived themselves as friends which lead to a more informal environment, and more KT. In case B, KT happened between and on all levels in the organization, and the open communication led to more informal KT. These findings are consistent with the literature which argues that informal ways of transferring knowledge have shown to be highly important in organizations (Ipe, 2003; S. Kim & Lee, 2006; Stevenson & Gilly, 1991) and an informal organizational culture is an enabler for KT (Wiewiora et al., 2013).

Another finding was that cooperation is a central component in most of the KT that occurs. When employees cooperate KT happens more naturally as there is
continuous communication between them. All employees understand that cooperation is vital and necessary to reach collective goals and organizational success. These findings are in agreement with previous research which have demonstrated that an organizational culture characterized by cooperation where employees are working towards collective goals, increase KT (Cabrera & Cabrera, 2005; Chow & Chan, 2008; Ke & Wei, 2008). Furthermore, findings indicate that when there is an informal environment where employees perceive themselves as friends it increases KT through collective feeling and cooperation because these relationships motivate employees to be helpful, accessible and supportive (Levin & Cross, 2004; Reagans & McEvily, 2003).

In case A, findings show that colocation is important both because you meet colleagues and can stay updated on what they are working on and because you have easy access to people and resources. Findings in case B also emphasized that being in the same physical space lowered the threshold for approaching colleagues. Consistent with the literature, we found that being in the same location encourages communication and interactions, lowers the threshold for approaching colleagues and increases the likelihood of accidental meetings (Søndergaard et al., 2007; Staples & Webster, 2008). In addition, colocation also influence KT by creating a stronger sense of belonging to both the organization and colleagues. This enables employees to create strong and trustworthy relationships which will, in turn, increase the likelihood of sharing and effective communication among colleagues (Cabrera & Cabrera, 2005). The results of this study extend the research by acknowledging that colocation can be a problem in the consultancy industry where a lot of consultants are working for a customer and can lose the sense of belonging to the organization. Findings in case B have shown that they are tackling this problem by having meetings and activities to keep employees in touch with the organization.

Leadership
Results from the data analysis showed that leaders have the ability to influence KT directly and indirectly. First, KT can be facilitated by providing time and resources such as platforms, seminars, and courses. Second, leaders can also
incorporate KT as a part of the organizational culture by transferring their own values and assumptions to the organization through communicating expectations, setting goals, allocating rewards and acting as role models.

Data from the cases show that their leaders have well-communicated expectations for KT, and these are formulated through including KT in performance evaluations which could affect bonuses, salaries, and promotions. Through such evaluations, leaders signal that they focus on and value KT. These findings reflect previous research which argues that including KT in performance evaluations communicates that KT is valued and encouraged (Cabrera & Cabrera, 2005). The leaders’ expectations send signals to the employees that KT is important and by including KT in the performance evaluations, leaders can alter employees’ behavior (Carmeli & Waldman, 2010; Dutton, 2003). However, one conflict was identified, especially in case A, where employees to a large extent are measured on the number of billable hours, rather than the time they spend on KT. These contradictory messages about what leaders pay the most attention to made it challenging for employees to prioritize KT.

As presented in the findings, employees in both case A and B are given KT platforms where they can share and retrieve knowledge. These platforms provide large amounts of accessible knowledge that employees can take advantage of. By providing such platforms leaders can directly facilitate KT. They also show their commitment by spending of resources and efforts on developing and maintaining the knowledge in these platforms. Consistent with previous research, leaders can influence KT through the organizational culture and show what they value through how they distribute their resources (Ajmal et al., 2009; Islam et al., 2011; Schein, 2010). Interestingly, our findings showed that the amount of knowledge that is made available to the employees could both be an enabler and a barrier. This extends the literature on KT platforms where the general concern is that it is challenging for employees to access relevant information due to information overload (Adenfelt & Lagerström, 2006; Granitzer et al., 2008). There was a clear distinction between the employees that saw this as an enabler or a barrier. While some employees saw the opportunities
of the vast amount of information, others found it chaotic and recognized a need for more guidelines.

The current study found that leaders allocate time and money which employees can spend on training and other KT-related activities. These actions demonstrate that leaders are committed to KT, which is highlighted by Schein (2010), DeTienne et al. (2004), and Ling et al. (2009). Findings also show that employees appreciate and take advantage of the time they are given. In case A, the leaders further emphasized this focus and employees are required to spend a certain number of hours on training.

The results of this study indicate that leaders’ own actions and behavior influence employees’ perception of whether KT is important or not. In case B, leaders, even at the highest level, are described as actively involved in the KT process. In case A, leaders were present and active in several of the KT activities, however, the employees mentioned that they would like to see them even more involved and taking more responsibility for following up on KT. In line with theory, findings demonstrate that through their visible behavior and active involvement, leaders can influence the organizational culture by acting as role models and encouraging employees to cooperate and transfer knowledge (Goh, 2002; Søndergaard et al., 2007). Schein (2010) points out that this is especially important for new employees who look to leaders for guidance.

Projects
Findings demonstrate that time restrictions and tight deadlines in projects can be a hinder for KT. These findings are consistent with previous research which argues that temporality and resource limitation in projects limit the time project members can spend on KT (Defillippi & Arthur, 1998). In both cases, employees expressed that spending time on KT activities during hectic periods is challenging. However, as mentioned, this was more prevalent in case A, where project-specific characteristics affected KT to a larger extent.
Findings also show that projects provide unique opportunities to acquire new knowledge because it involves a lot of learning through experiences, cooperation and working toward a common goal. Consistent with these findings, Cabrera and Cabrera (2005) argue that team members often work closely together and cooperate to solve tasks and problems. This creates a natural setting for KT where project members will request and share their knowledge continuously. Another interesting finding showed that access to project members is crucial for KT and project success. Moreover, project members attitude towards KT is also important, where they need to be open to sharing and receiving knowledge and also trying new approaches. Previous research has shown that projects are often influenced by the organizational culture in which they operate (Ajmal & Koskinen, 2008; Wiewiora et al., 2014), sharing is an important aspect of the organizational culture of both cases and will therefore often be present in the projects as well.

One unanticipated finding was that project methodology was found to have affected KT in case A. It was brought up that increased focus on agile methodology had increased KT, because of the increased focus on cooperation, informality and feeling of ownership to the final product and delivery. Chau et al. (2003) studied the relationship between KT and different project methodologies and argued that agile methods enhance KT. Agile methods often include daily or weekly meetings, pair work, pair rotation, and collective ownership that facilitate more cooperation and communication. This will in turn create more opportunities in which project members can share knowledge (Chau et al., 2003). Our findings also showed that through an increased focus on agile projects, the whole organizational culture had been influenced by becoming more informal.

**Individual factors**

Data from the cases revealed that individual factors such as personality, awareness, and age influenced the effectiveness of KT in both cases. Personality affected KT, where employees with certain personality types found it more challenging to transfer knowledge. Especially employees with a personality that
can be characterized as introverted experienced that sharing knowledge to a broader audience was more difficult. These findings align with what Ismail and Yusof (2010) found, where extroverted people are better able to share knowledge because they interact and socialize more with others, are more self-confident and feel more secure when sharing and requesting knowledge.

Awareness was also a factor that affected KT in our findings. Employees who appreciated and were aware of the benefits of KT reported a higher motivation to transfer knowledge. It was especially motivating to see the benefits of sharing knowledge such as when another employee understood something that was explained to them or their gratefulness when receiving help. Ismail and Yusof (2010) research support our finding when they found that being aware, understanding and appreciating the value of KT increased KT-related behaviors.

Our findings showed that age was also a factor that influenced KT. Sveiby and Simons (2002) concluded that senior employees were more active in the KT process because they had more experience and larger networks, and thus more access to knowledge. In contrast, our data revealed that junior employees are just as active in the KT process, and there are two main reasons for this. First, the junior employees were more active in the social aspect of work and built large networks quite fast, allowing them to participate in a lot of informal KT. Also, they usually do not have as many commitments outside work such as family, for example, making it easier for them to find time for afternoon sessions and other KT activities outside working hours. Second, in case A the age distribution has created a great deal of KT between employees of different ages. This has been done consciously, and both senior and junior employees are equally active in the KT process. Taking advantage of the age difference in KT has been successful in case A because the senior employees share more knowledge with junior employees since they feel less threatened of being replaced by them.
Implications, Limitations, Future Research, and Conclusion

In the following chapter the practical and theoretical implications of this thesis is presented and the limitations and possibilities for future research are discussed. Finally, the research question is answered in the conclusion.

Implications

The findings from this study have identified several cultural aspects that are of importance for KT. We want to highlight some practical and theoretical implications.

In regard to practical implications, leaders of project-intensive IT organizations should pay special attention to the following. First, leaders should acknowledge that the organization’s focus on KT should be incorporated and reflected in their values, such as helpfulness, openness and sharing. Incorporating KT practices are not enough to facilitate effective KT, rather this needs to be a part of the organization on a deeper level where it becomes implicit actions in employees everyday work. Second, findings show that the informal KT activities such as cooperation and network building are where most of the KT happens in an organization. Thus, leaders need to acknowledge this and facilitate as much cooperation as possible. In this study, one way to facilitate cooperation was agile projects, where project members interact more frequently and feel more ownership of the project. Lastly, leaders need to be more aware of how their role influences organizational culture and the KT process. They need to formally support KT by providing the necessary resources and reinforce the organizational values by taking an active role in both transferring knowledge and encouraging employees to transfer their knowledge.

Some theoretical implications were also identified. The study presented in this thesis both compliments and extends the already existing body of empirical knowledge management research. In particular, this study has contributed to this field of research by identifying five categories of organizational culture that affect KT. These findings extend the research of Lee et al. (2016) by including
more aspects of organizational culture that affect KT in the IT industry. While Lee et al. (2016) investigated the role of top management support and differentiated between clan and hierarchy culture, this study includes several aspects of organizational culture and explore the role of leadership behavior and facilitation in addition to leadership support. Furthermore, many of the factors in our findings have been identified in previous research and does, therefore, help strengthen the evidence linked to those factors. However, some of the factors that we observed have not been identified in this specific context. For example, Islam et al. (2011) found communication and leadership to be positively related to KT in the context of service organizations in Bangladesh. Thus, this study extends previous research by demonstrating the importance of these factors in the context of project-intensive IT organizations in Norway. Lastly, our research has identified the role of age distribution in relation to KT, which has been largely overlooked in previous research. To the best of our knowledge, only Sveiby and Simons (2002) has studied the relationship between age and KT. This study extends their research by providing evidence that junior employees are just as active in the KT process and their influence should not be underestimated.

**Limitations and Future Research**

Like all studies, this study also has some limitations. First of all, knowledge has been studied without distinguishing between tacit and explicit knowledge. Future research should distinguish between these to see whether there are any differences between the factors that affect tacit and explicit knowledge. Moreover, this study was constrained by time and resource restrictions, which limited its scope. We acknowledge the fact that this research is based on interviews with a relatively small sample. This sample might not be representative of all of the population, which means that we might have missed out on interesting findings and made too much of an emphasis on others. Future research should, therefore, extend this research by including a larger sample to minimize these biases. Moreover, like all case studies, this study is not generalizable but could hopefully be applicable to other organizations and provide a basis for future research.
We have also identified a few results that could benefit from further research. In particular, the effects helpfulness has on KT has solely been studied at the individual level but should be studied further to understand how a helpful environment influence KT and the organizational culture. Also, the perspectives in which employees regard and refer to their organization could be interesting to investigate further. Especially in regard to whether the employees and interactions are in focus or the organization as a whole, and whether this could have an impact on KT. Lastly, the relationship between age distribution and how this affects the organizational culture and KT could benefit from more research.

**Conclusion**

This study has investigated the research question; *How does organizational culture affect the process of knowledge transfer in project-intensive IT organizations?* Through a qualitative multiple case study, we have investigated two IT consultancy companies to answer this question.

Our research has found that organizational culture undoubtedly has an effect on KT in the two cases studied. Through our analysis, we have identified five main categories of factors within organizational culture that has a significant effect on KT. These factors are organizational values, relationships and communication, leadership, projects, and individual factors. First, values reflect organizational focus and commitment to KT. Relationships and communication lay the foundation in which most of the KT happens. Leadership influence KT both directly and indirectly through how they allocate resources and participate in the KT process. Projects influence KT by providing an arena both for learning and cooperation. Lastly, individual factors also affect KT as different personality types and age distribution in the organization influence the effectiveness of KT.
References


Appendix

Appendix 1: Interview guide (In Norwegian)

1. Er det en kultur for å dele erfaringer og kunnskap i organisasjonen?
2. Hvordan vil du beskrive organisasjonskulturen?
3. Blir kunnskapsoverføring sett på som viktig i organisasjonen?
4. Hva assosierer du med kunnskapsoverføring?
5. Hvordan gjøres medarbeiderens kunnskap, erfaringer og kompetanse kjent i organisasjonen?
6. Dersom du oppdager at du har behov for å tilegne deg ny kunnskap i forbindelse med en oppgave du skal gjøre, hvordan løser du det?
7. Har du inntrykk av at arbeidsmiljøet kan påvirke kunnskapsoverføring blant kolleger? Eventuelt hvordan?
8. Hvilke forventninger har bedriften/ledelsen til kunnskapsoverføring?
9. Hvilke forventinger har du til kollegaene dine når det kommer til kunnskapsoverføring? Hvilke forventinger har kollegaene dine til deg?
10. Opplever du at andre ansatte er villige til å dele sine kunnskaper og erfaringer?
11. Hvordan mener du arbeidsplassen bedre kan tilrettelegge for kunnskapsoverføring?
12. Er du bevisst på det å dele kunnskap og erfaringer?
13. Hvem deler du mest kunnskap med? Hvorfor?
14. Hvilken type kunnskap deler du oftest? Hvorfor?
15. Kan du nevne noen faktorer som enten hindrer deg eller støtter deg i å dele kunnskap med kollegaer?
16. Kan du beskrive et prosjektteam der dere var veldig gode på kunnskapsoverføring og et der dere var mindre gode?