



LUND UNIVERSITY
School of Economics and Management

KNOWLEDGE SHARING IN LONG TERM PROJECTS

Case Study on Collaborative Projects among Knowledge Intensive
Firms

by

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Abstract

Knowledge sharing has become increasingly important in organizations and the knowledge intensive firms are heavily relying on the talent of their knowledge intensive workers to compete in the growing market. Even though there is study on the importance of knowledge sharing today, research shows scarce studies on how knowledge sharing can be managed, especially in a project based environment where the length of a project varies. This Thesis presents a study on knowledge sharing and whether the length of a project has impact on knowledge sharing. One in-depth interview with a strategy manager analyzes the management related aspects and a 10-participant questionnaire provided data on how the influence of a project length was perceived, thus providing a leader and employee perspective on knowledge sharing. The Thesis follows a structure of three main themes, the aspects knowledge sharing, collaboration and how length of a project influences this relation. The study highlights knowledge sharing to be highly dependent on the company values, thus the encouragement and prioritizing of knowledge sharing in the company reflect to what extent employees share knowledge. Subsequently, mutual transparency and proactive communication are crucial factors in collaborative projects and the company strong values have an impact on the intention to share knowledge. Furthermore, the study showed length to be a distant factor in directing knowledge sharing, yet following a timeframe in knowledge intensive firm showed importance towards the success of a project and as an indicator to view employee advancement.

Keywords: knowledge sharing, knowledge intensive firm, collaborative projects, software consulting, project length

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1 Introduction

There are numerous industries and business models existing today and like Ronald Coase (1937) portrays in his theory of The Nature of the Firm, firms aim to define their purpose in the economic system. Theorists however are dared to particularize the theory of the firm as more attention is drawn to processes and the nature of organizational knowledge. (Tell, F., and Prencipe, A., 2001)

This has led knowledge management to become globally recognized subject and “a commitment to effective knowledge management in the context of a project-based business strategy is emerging as a potent means of establishing and sustaining competitive advantage”. (Ajmal, M., Helo, P., and Kekäle, E., 2010, p.158) Although identifying and sharing knowledge can be difficult, the process of creating and transferring knowledge strategically is considered as the foundation of competitive advantage. (Argote, L., and Ingram, P., 2000)

Therefore, as knowledge and knowledge sharing varies from company to company, increasing the understanding of the elements that contribute to the process of knowledge sharing internally and externally poses an area of further research. Especially in the knowledge-intensive firm (KIF's), knowledge sharing is central in cultivating firm value. (Bardy, R., Massaro, M., Pitts, M., and Zanin, F., 2014) By adding a dimension of project length to analyze the knowledge sharing among these types of firms takes a new perspective on this subject. Additionally, examining the employee engagement and leadership perspective in the management of knowledge sharing and the effect of project duration would give a more holistic and thorough understanding of this dilemma.

1.1 Abbreviations

1.1.1 Small-to-Medium Enterprise (SME)

Based on the definition by OECD (2005); “small and medium-sized enterprises (SMEs) are non-subsidiary, independent firms, which employ less than a given number of employees, depending on the country. According to European Union standards, upper limit of workforce for SMEs is 250 employees while small firms are those with fewer than 50 employees. (OECD 2005)

1.1.2 Knowledge-Intensive Firm (KIF)

Alvesson (2004, pp. 17) defines knowledge-intensive firms (KIFs) as “organizations that offer to the market the use of fairly sophisticated knowledge or knowledge-based products”. According to Alvesson (2004, pp. 17), intellectual skills of a large proportion of the labor force represents the core activities in these companies. In addition, Bettencourt et al. (2002) KIFs specialize in the “accumulation, creation and dissemination of knowledge to develop customized solutions to satisfy client’s needs”.

1.1.3 IT Consultancy

IT consultants are; “system implementers, trainers and software producers who are drafted into the project when their technical expertise is required”. (Howcroft, D. & Light, B., 2008)

1.1.4 Short-term vs. Long-term Projects in KIFs

We refer the context of short term projects as projects that KIF party aims to complete a service via limited collaboration and knowledge sharing, whereas we define long term projects as over six month collaborations between two KIF parties where the outcome of a project benefits both sides.

1.2 Research Aim and Objectives

Within the framework of knowledge-based view of organizational behavior, there is an emphasis on the significance of knowledge of individuals who are either working within internal or external projects. Therefore, while working in projects, knowledge sharing among participants is vital, because it results in shared intellectual capital. (Jalal et al., 2013) Knowledge sharing is especially studied to be critical in project settings within knowledge intensive firms, where team members from various backgrounds with expert knowledge and relevant experiences, could work together and interact closely in order to perform knowledge-centered, high quality and long lasting tasks. (Nesheim, T. & Hunskaar, H., 2015; Buvik, M. & Tvedt, S., 2017) According to previous studies on the topic, trust and commitment are found to be the relational factors that influence the individual behavior in knowledge sharing within project teams. (Faems et al., 2010; Mcnamara, 2011; Vlaisavljevic et al., 2016) There has also been some challenges introduced for effective knowledge sharing by previous scholars in the context of; culture differences, motivation, individual and team characteristics.

Primary objective of this research is to take step further and analyze how knowledge sharing can be managed when the length of the projects vary among KIF. We see a gap as the time factor in projects on knowledge sharing has not been studied extensively by previous researchers. As described in the method section, opportunity to collaborate and study an IT consultant company, with a desire to undertake longer term projects, including mutually beneficial outcomes with other knowledge intensive firms was given. Based on this idea, we see a connection to drive our research by aiming to fill a gap in the literature and to identify beneficial outcomes for the company extending the overall knowledge in this area.

To begin with the study, following questions are looking at the main areas of investigation

- What are the different aspects in collaboration that influence knowledge sharing?
- In what way does the length of a project influence the knowledge sharing?

Therefore the Research Question comprising the previous questions comes together as follows:

- *What role does project length variance play in managing knowledge sharing in collaborative projects among knowledge intensive firms?*

To break the Thesis down to the objectives of the study, the following will demonstrate them:

- To analyze how length of the projects affect knowledge sharing and collaboration in knowledge intensive projects
- Through Leader perspective analyze how knowledge sharing can be managed in collaborative projects
- To evaluate the employee mindset towards knowledge sharing and collaboration when undertaking projects with various lengths

1.3 Outline of the Thesis

This Thesis is concentrating on a topic of managing knowledge sharing when the length of the project varies in the collaborative projects, among knowledge-intensive firms. Moreover, to deepen the understanding of this topic, knowledge sharing and its influence on collaboration as well as employee engagement depending on the length of a project is examined.

Therefore, the study aims to find out factors that influence and determine why companies engage in collaborative projects and whether this provides an opportunity for better knowledge sharing environment. The study concentrates on fulfilling the gap in research in regards to length of project having an impact on the employee behavior and dynamics of collaboration in an intensive knowledge sharing environment and challenges that need to be considered.

This study aims to provide significance for the future research as it is looking into current knowledge sharing and KIF's trends, thus aiming to provide guidance and suggestions for similar businesses dealing with similar challenges. Additionally, the constraint of time in projects combined with the characteristics of knowledge sharing between KIF's adds a new dimension to the understanding of the opportunities and threats from the perspective of employees and the executives.

In order to find out relevant and reliable information, literature review is overviewing the most essential studies done in this area. The sections are constructed based on the components that the research question aims to answer to. The main themes are knowledge sharing, collaboration, the impact of project duration on both knowledge sharing and collaborative environment. Later, a qualitative case study is conducted to examine more in-depth the employee engagement as well as the leader mindset in relation to collaborative projects and knowledge sharing among KIF's.

The data is gathered through the method of action research, mainly using interviews and questionnaires with a close collaboration with the company. Furthermore, the empirical findings together with the theoretical perspectives are analyzed and framework for the discussion is created. The findings of this research are planned to be beneficial, as the theory gives more general view in the area of knowledge sharing whereas the specific company case provides another dimension to the research. Also, the results build on to the study of current

trends and challenges the technology and software industry is undergoing and has implications for the understanding of the characteristics of knowledge sharing and knowledge intensive firms today.

2 Literature Review

2.1 Knowledge Sharing

According to Argote, L., Ingram, P., Levine, J. and Moreland, R. (2000) “knowledge transfer is becoming increasingly important in organizations” and effective knowledge sharing plays critical role for organization’s success. Nesheim, T. and Hunskaar, H. (2015) takes it further and emphasizes the importance of knowledge sharing especially in project setting “where people work together and interact closely”. According to Nesheim and Hunskaar (2015), information flow and exchange of ideas should “enable innovative solutions, improve the quality of work inside the project and enhance the ability to learn and accumulate projects across different projects in time”. Despite emphasizing the positive influence of knowledge sharing among employees between organizations, both journals also introduce challenges of achieving an effective knowledge transfer mainly characterized by differences in culture, organizational context, individual & team characteristics, as well as in motivation. Despite the acknowledged factors, our aim is to discover how length of the project influences knowledge sharing in collaboration within knowledge-intensive firms.

2.1.1 Managing Knowledge Sharing in KIFs

According to Fink, D. & Disterer, G. (2006); “strong emphasis on exploitation of intellectual capital of professionals is crucial for the development of high quality, knowledge-based services”. Building on this idea; Choi, S. & Fong, P. (2009) finds it critical to establish a process for managing knowledge for knowledge-intensive firms. This is further supported by Andreeva, T. & Kianto, A. (2011) referring knowledge sharing as the most influential process for KIFs. Consequently, it is concluded that greater effort in encouraging knowledge sharing among professionals is required in order to undertake knowledge-centered activities. (Rusly et al., 2014) Conversely, Lu et al. (2006) argues there could be negative impacts on organizational knowledge development in the case of reluctance to share knowledge in KIF context, which can result in work inefficiencies, increased errors or decline in work quality. Further argued by Cavaliere et al., (2015); knowledge has to be developed, managed,

exploited and shared in order to increase its value. Hailikari, M., Kasvi, J.J.J., and Vartiainen, M., (2002) also point out that managing knowledge sharing in organized way starts with managing the project itself systematically.

2.1.2 Knowledge-Based View

According to Nonaka, I. & Takeuchi, H. (1995, pp. 15), knowledge is considered to be the key resource for the organizations. That is, “knowledge is a key resource that can provide sustainable competitive advantage in dynamic economy” (Grant, 1996). In his study, Grant aims to describe knowledge-based theory of the firm by identifying characteristics of knowledge, which have critical implications for any management. Grant argues epistemological distinction between *knowing how* and *knowing about* and identifies the former with tacit (implicit) knowledge and the latter with explicit knowledge. Critical distinction between tacit and explicit knowledge lies in share-ability of knowledge and the mechanism for sharing the knowledge across individuals, space and time. Accordingly, tacit knowledge is usually hard to share due to difficulty of codification and imitation, while explicit knowledge can be articulated and codified.

2.1.3 Measuring Knowledge-Intensity & Attributes of Employees

Alvesson, M., (1993) discusses the concept of knowledge-intensive workers and firms and argue that knowledge intensive firms contend with ambiguity and how alongside of knowledge, other personal qualities contribute to the distinctiveness of knowledge sharing organization. In other words, personal qualities have an impact on forming knowledge sharing environment. Hailikari, M., Kasvi, J.J.J., and Vartiainen, M., (2002) add how accumulated knowledge contribute to success of project management as well as the individual and collective competences.

However, the term of ‘knowledge-intensive’ in management itself is confusing and influences the identification of organizations today. The critical issue with knowledge is “to define knowledge in a non-abstract and non-sweeping way seems to be extremely difficult. Knowledge easily becomes everything and nothing.”, thus structuring knowledge sharing in organizational context can be challenging. (Alvesson, M., 1993) Another aspect is the innovative and creative company environment that is encouraged in IT and software companies, yet gathering formal knowledge does not correspond to creativity. (Alvesson, M., 1993) Therefore, the author identifies two categories that associate with knowledge-intensity

and knowledge sharing among firms and employees. There is the theoretical formal knowledge that differs among employees (explicit knowledge) and is influenced by formal education for instance. However, tacit knowledge and interpersonal skills as well as cultural knowledge and creative talent constitute on the other end of knowledge intensity. As a result, measuring knowledge intensity and the desirable attributes in regards to this in organization is discordant. (Alvesson, M., 1993) Additionally, especially knowledge-intensive service firms “are not applying knowledge in a social vacuum, but are involved in communication, interpersonal relations, project management, and convincing others”, which brings out another dimension to knowledge sharing and the author argue that expertise in theoretical models and processes become less important.

2.1.4 Theory of Planned Behavior (TPB)

The theory of reasoned action (TRA), introduced on the “premise that behaviors are dependent on individual willingness because humans are rational” (Fishbein, M. & Middlestadt, S., 1997) was improved with the theory of planned behavior (TPB) which was introduced by Icek Ajzen. TRA suggests intention to be built up one’s *attitude*, depending on the evaluation of outcomes of behavior and *subjective norms*, which depend on the approval of the behavior by significant others. TPB extended this notion and added *perceived behavioral control* as another crucial factor that influences behavioral intention. (Erden et al., 2012) Perceived behavioral control refers to “self-efficacy with respect to the behavior”. (Ajzen, I., 1991) According to Erden et al. (2012), both TRA and TPB has been applied to various fields such as, psychology, management, marketing and healthcare.

In terms of knowledge sharing, individual’s intention to share know-how is directed by goals and done by a behavior of making one’s knowledge available to others. (Erden et al., 2012) Erden et al. concludes that “intentions are a good proxy to capture an individual’s overall tendency toward knowledge sharing”, which directly leads us to study individual intentions towards knowledge sharing in a knowledge intensive environment.

Figure 1: The Theory of Planned Behavior by Ajzen. I. (1991)

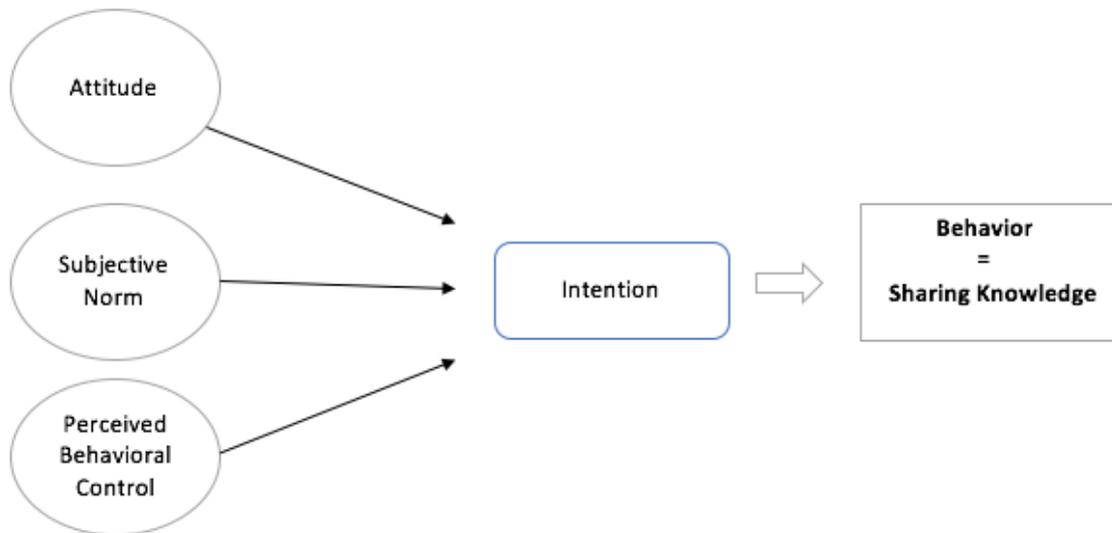


Figure 1 above is the illustration of Ajzen. I. (1991) framework on the theory of planned behavior. The figure demonstrates how intention is constructed of three variables, thus when these three variables are fulfilled, intention increases leading to individual behavior to share knowledge.

2.2 Collaboration in KIFs

For the sake of this study, possible collaborations and alliances were targeted where individuals who represent different organizations with various skills and knowledge base work together to complete a project to attain potential value that is mutually beneficial.

Collaboration is defined as an alliance, which is based on any “voluntarily initiated cooperative agreement between firms that involves exchange, sharing, or co-development, and it can include contributions by partners of capital, technology, or firm specific assets” (Gulati, R. & Singh, H., 1998). According to Vlaisavljevic et al. (2016) this phenomenon is especially significant in KIFs due to consistence of various technologies requiring unique and differentiated competences.

Mcnamara, T. (2011) takes a positive stand on collaboration between similar, specialized groups and claims that there are many benefits of linking professionals from comparable backgrounds as it enables defending common purpose on a larger scale and allows collectively pulling resources to meet common goals. While “shared partnerships between

organizations allows for greater access to shared information and sources for its members”, it is still critical to maintain individualism and distinctiveness for both parties in a collaboration (Mcnamara, T., 2011). In the study, building mutual trust and respect are the two factors for a successful collaboration, which occurs when both parties are able to maintain their unique qualities which are introduced by McNamara.

Vlaisavljevic et al. (2016) introduce different perspectives and rather than having a single partner for collaboration, they support involvement of diverse partners in knowledge intensive industries since a single partner could hardly provide all the specialized knowledge and valuable resources necessary to operate in such industry. In contrast to advantages of alliance partner diversity, Vlaisavljevic et al. (2016) also introduces arguments about the possible drawbacks of having diverse partners in collaboration and refers to studies done by scholars. In fact, Faems et al. (2010) argue that diverse partners in KIFs bring substantial monitoring and controlling efforts, thus providing drawbacks during periods of the projects.

Although there has been substantial amount of study around collaboration and knowledge sharing in KIFs within the contexts of; common purpose, diverse team work, commitment, trust and respect (Faems et al., 2010; McNamara, 2011; Vlaisavljevic et al., 2016), the authors do not grasp on the relation of these factors with project length.

2.2.1 Organizational Commitment in Collaboration

Through their studies, Hartnett et al. (2012) suggest that when there is an increase in engagement between parties, commitment also increases. In terms of its effect; organizational commitment, defined by Dwyer et al. (1987) as “an implicit or explicit pledge of relational continuity between exchange partners”, has shown a reduction in opportunism and conflict among different organizations (Anderson, E. & Weitz, B., 1992). Gundlach et al. (1995) also see commitment as an essential ingredient for successful long-term relationships; an argument that is built following the studies done by previous scholars such as; Dwyer et al., (1987) claiming: “commitment implies a willingness to make short-term sacrifices to realize long-term benefits” or Macneil (1980) claiming that the foundation for the development of social norms of governance, which is a mechanism that plays vital role for regulating long-term collaboration and reducing opportunism, is provided by commitment.

2.2.1.1 Resource-Based View (RBV)

While traditional resource-based view suggests that resources of a company are heterogeneous, valuable, rare, inimitable and immobile (Barney, 1991), Das & Teng (2000) apply this perspective into strategic alliances due to its rapidly increasing nature. The authors claim “a resource-based view seems particularly appropriate for examining strategic alliances because firms essentially use alliances to gain access to other firms’ valuable resources” (Das, T. & Teng, B., 2000). Building on this perspective on RBV full value of collaboration among firms is realized by the help of resource commitment given by each organization in the alliance. The rationale behind the RBV in alliance management is on maximizing value rather than minimizing cost (Wu, F. & Cavusgil, S., 2006). With that said, Wu, F. & Cavusgil, S. (2006) concludes that commitment of resources in collaboration serves an effective way to enhance the quality of the collaboration as it increases the value attainment.

2.2.2 Leadership Skills Influencing Change and Commitment

Anantatmula, V.S., (2010) differentiates leadership and project management and elaborates motivation of people to be significant part of the leadership role in establishing a productive working environment and to support project team in overcoming challenges. The author points out that when there is great amount of changes in the project, this increases the demand for a greater amount of leadership. The relationship towards the commitment of employees to the project is dependent on the leadership skills “directed toward convincing people about the need to change, aligning them to a new direction, and motivating people to work together to achieve project objectives”. (Anantatmula, V.S., 2010, p.19) Another factor contributing to the change and commitment is the specification of processes and employee roles in order to reach mutual openness, transparency and clarity among the project team members. (Anantatmula, V.S., 2010)

As alliances and collaborations are present in organizations, project management comes hand in hand with the change management. (Lundy, V., and Morin, P-P., 2013) Hence, the authors point out how together the leadership skills of project leader and the level of organizational change connect to the resistance to change. However, Müller, R., and Turner, J.R., (2006) highlight the importance of the identification of different type of leadership styles and different types of projects. The awareness of leadership skills among project managers and

understanding of the needs of projects help in choosing the right type of manager with appropriate leadership style to manage the project. (Müller, R., and Turner, J.R., 2006)

As part of the awareness of leadership skills, a critical aspect regarding the management of a project and change is to consider that people are driven by opportunities and new challenges if they enhance their personal career development and professional goals. (Amantatmula, V.S. 2010) Therefore, not only detecting the appropriate leadership style which influences resistance to change play a key role in leadership skills, but also the ability for a leader to support personal aspirations among project team members that simultaneously grow them professionally as well as enable the responsibilities of a project to be completed. (Amantatmula, V.S., 2010; Müller, R., and Turner, J.R., 2006)

Figure 2: Project Manager Model by Vittal. S. Anantatmula, (2010)

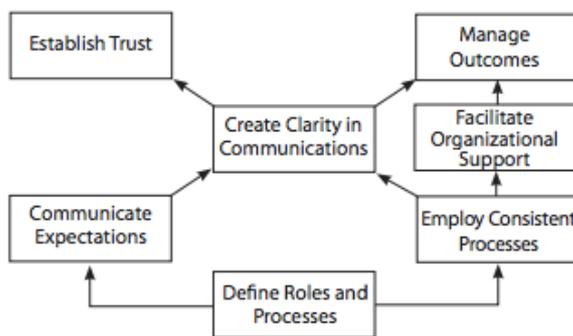


Figure.2 Project Manager Model based on the study by Vittal. S. Anantatmula, (2010), which portrays the connections of people related factors that are being influenced by project leader. The outgoing arrow is demonstrating the causal relationship of leadership, whereas incoming arrows are seen as results or effects. (Anantatmula, V.S., 2010, p.17.) Clear communication plays an essential role in not only in the management of outcomes but establishing trust.

2.2.3 Building Trust Through Communication

Hsu, B., Lin, C., Wu, W., Yeh, R., (2009) examine the importance of social interaction in relation to knowledge sharing and claim that well-established environment for communication creates more opportunities to engage in knowledge sharing. The authors found that “an organizational social interaction environment intensifies the positive association between trust of colleagues and knowledge sharing” and concluded how increasing communication in the

organization would result in increased spread of knowledge. However, the accumulation of knowledge sharing in a high social environment itself does not create knowledge sharing, but the interpersonal trust among employees. (Hsu et al., 2009) The authors discovered that knowledge sharing with trusted employees appealed stronger as increased knowledge sharing behavior with managers had more chances of reduced intentions to share knowledge due to fear of unfulfilled expectations from managers.

Wenger (1998, pp. 77) identifies trust as a characteristic of complex mutual relationships. Hartnett et al. (2012) take the argument further and see trust as valuable element in collaborations among organizations when both parties have had sufficient interaction to build it, while they see trust as unhelpful where two organizations come together without prior experience of working together. When it comes to trust within collaboration in relation to knowledge sharing, Lindkvist (2005) argues how members with different specialties, such as knowledge base and ways of interpreting experiences, interact differently to complete a project. Additionally, there is “very limited overlap of knowledge bases, and a little time to erect communal knowledge during the lifetime of the project” which leads to collaborating without a strong knowledge basis and engaging in swift trust.

As part of the collaboration, the above mentioned factors influence greatly on the project performance and understanding of the elements that are present in the collaborative environment. Anantatmula, V.S., (2010) encapsulates this and concludes how “given that technology tools assist knowledge sharing, team development, efficiency, and effectiveness, motivating factors that can lead to knowledge sharing, team development, and innovation are dependent on the project leadership role in establishing trust and open communications” (p.20).

2.3 Impact of Time in Project Performance

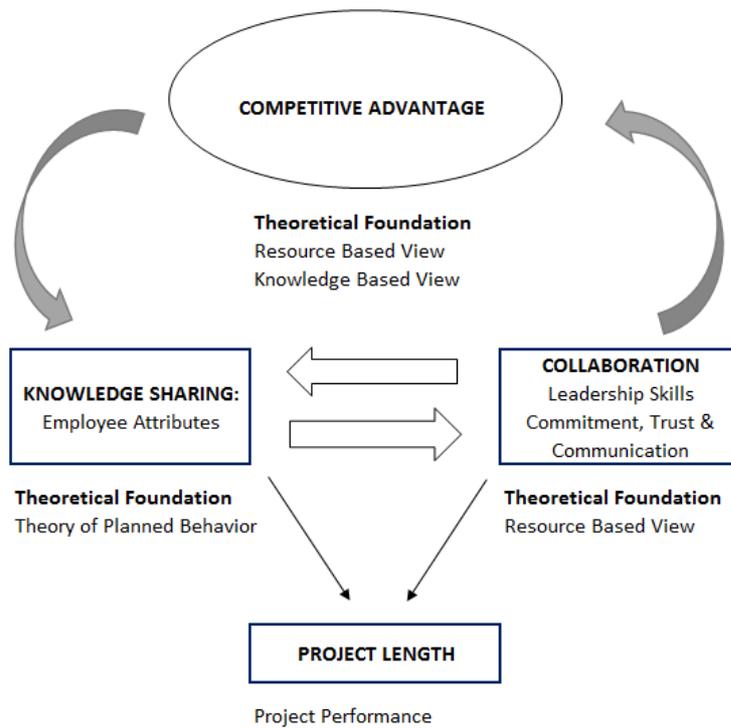
When it comes to managing a project, Keil, M., and Wallace, L. (2004) underline the possible failure of the project to be deriving from the lack of understanding on how to manage the related risks. More closely, the authors describe this as “a costly problem that has not been completely addressed” (...) and how “software project managers would thus benefit from a better understanding of how software project risks affect project outcomes, leading to fewer project failures”. Among the risks, changes in areas such as the external environment,

technology, project requirements as well as personnel can disturb IT projects (Gemino et al., 2007).

Several scholars have identified time, duration of the project and schedule to play a key role in influencing to the project performance (Keil, M., and Wallace, 2004; Gemino et al., 2007; Im et al., 2008; Harrington et al., 2012). Gemino et al. (2007) defines time, budget and scope as “target changes” in a study of the indicators for IT project risks and what affected the project performance, concluding that these three changes happened more frequently in the underperforming projects. Specifically, as the duration of the project increases the possibility of project underperformance increases alongside (Gemino et al., 2007). The author states the reason for this to be that “the long projects increase the risk of external change and lose momentum”.

However, Harrington et al. (2012) explore the significance of leadership performance in relation to project performance and emphasize how different stages in the duration of a project reflect the performance. Therefore, when it comes to the duration of the project, it is more important to look at time from the standpoint of these stages and thus align the performance accordingly (Harrington et al., 2012). Furthermore, the authors explain leadership skills and training to enhance the project performance and affect positively on the duration of the project.

Figure 3: Theoretical Framework



The Theoretical Framework showcases the literature findings in relation to the chosen three themes and placing knowledge as the main generator of competitive advantage in the firm. This is supported by the theory of resource based view and the theory knowledge based view. According to enhanced version of RBV, knowledge as a resource should be shared among organizations through alliances (Das, T. & Teng, B., 2000), creating a two-way interaction between knowledge sharing and collaboration. Project length, as a separate dimension, plays a role in influencing the overall performance (Gemino et al., 2007). As seen in the framework, project length does not directly affect competitive advantage; however it is an external element that alters the dynamics of collaborative projects and knowledge sharing. (Gemino et al., 2007)

3 Method

The purpose of this following section is to provide explanation and justified reasoning for chosen research methods that are being implemented to gain most fruitful data to answer to the research question. The chapter consists of introducing the case study approach and research design following by the data collection through qualitative research.

Local IT Consultancy Company was chosen as the case company and the qualitative interviews were chosen as the most appropriate method to gather the most insightful data and to grasp the dynamics of this particular knowledge intensive environment.

The collaboration company was a Lund-based IT consultancy firm within knowledge intensive firm category. According to EU standards, company is positioned in SME (small-to-medium enterprise) category, with total of 136 employees with four offices around Sweden.

The aim of the research is to find out how knowledge sharing influences employee engagement and how is the length of project connected to this phenomenon. Finally, the leadership role and manager perspective in collaborative project is examined in order to find relevant connections to the research question of how knowledge sharing is managed in collaborative projects among knowledge intensive firms when the project length varies.

3.1 Research Strategy

The primary research question aims to explore how company manages knowledge sharing and what role does the length of a project have in knowledge sharing behavior among knowledge-intensive firms. Thus, the strategy is to look at the factors and linkages that have an impact on the flow of knowledge sharing and what may interrupt or at the same time enhance the knowledge sharing process. New knowledge can be attained with a close real-life cooperation with a company employees and strategy leader, which provides a unique opportunity to undersee the interpersonal skills and personal attributes that contribute to knowledge sharing within such companies.

Qualitative research, as our chosen research design, reveals different emphases from quantitative research, most significant difference being the “priority accorded the perspectives of those being studied rather than the prior concerns of the researcher, along with a related emphasis on the interpretation of observations in accordance with subjects’ own understandings. (Bryman, 1989, pp. 155) In addition, compared to quantitative methods, qualitative research mainly grew out of “social sciences and desire to study the thoughts, feelings and actions of people and groups” (Cooperstein, 2017). On the other hand, qualitative research mainly answers ‘why’ and ‘how’ questions due to its “rigorous, well developed research modality, with well supported philosophical underpinnings and a large body of a research supporting its validity”. (Mcmanamny et al., 2015)

Within qualitative research, single case study design is used. Gaya, H.J., and Smith, E.E. (2016) confirms that “the combined use of a qualitative single case study research design and methodology not only complement research in the realm of strategic management, but also offer rich data for in-depth analysis and understanding of issues in their natural life context.” Thus, the research strategy follows a structure of semi-structured and open-ended in-depth interview with a strategy manager of the case company with a combined method of 10-participant questionnaire delivered to the company employees.

Throughout the research, we employ inductive approach (reasoning), where we observe patterns from collected data to build on or to support the development of an existing theories that are used while formulating research question.

3.2 Single Case Study as the Research Design

“Qualitative case study research can be a valuable tool for answering real-world questions and it is useful for research situations where there will be more variables of interest than data points”. (Tetnowski, J., 2015) Based on the above statement, we are aiming to gain critical insights from participants by conducting a qualitative case study as our research design. We rely on multiple sources, considering each participant as a different source, of real-world experiences and evidences within the company we are working with, which will yield data that converges in “triangulating fashion” (Tetnowski, J., 2015). Tetnowski, J. (2015) puts emphasis on the importance of an informed research question in a research that will dictate the methods, strategies and tools to provide answers. Since our research question poses “how” a phenomenon occurs or is experienced, case study would be well suited design for our research. (Tetnowski, J., 2015) In addition, “a combined qualitative and single case study research design and methodology offer several advantages to strategic management researchers. In a systematic and rigorous yet innovative fashion, the combined approach accommodates more dimensions and flexibility. Qualitative approach and case study share the same objective, uncovering complexity in a natural context”. (Gaya, H.J., and Smith, E.E., 2016)

In his book, Yin, R. (2003) states that a “case study is reputed, because of its often-qualitative character”. Building on this perspective, case study has been criticized for less objectivity and less representative significance than other approaches, such as quantitative surveys of large samples or archived data analysis. (Aczel, P., 2015) Nevertheless, case studies enable

“holistic and meaningful, context-constituted knowledge and understanding about real life events”. (Yin, R., 2003; Luck et al., 2006) As also supported by Stake, R. (1995), case studies can offer purposive, situational or interrelated description of phenomenon from variety of perspectives, connecting practical events to theoretical abstractions.

As an additional argument, although within a single case study, organization can provide large qualitative data which will offer valuable insights to the nature of the phenomena, Easton, G. (2010) questions: “how do we know that what is written as a case analysis represents the truth?” We share author’s opinion on answering to his own question:

“Truth is what is useful to people researching in a field, what helps the research project, what can be accepted and defended, what is open to criticism and renewal”.

As mentioned earlier in the paper, other crucial criticism of single case studies arises from its lack of generalizability. However, as Yin (2003, pp. 10) suggest that case studies are generalizable to “theoretical propositions and not to populations or universes”, we undertake exploratory research and build a connection between the theories and empirical data by expanding and generalizing theories which is seen as analytical generalization by Yin (2003) as opposed to statistical generalization.

Out of several approaches to case study research, exploratory case study is used in our study as it “explores the situations in which intervention being evaluated has no clear, single set out outcomes. (Yin, 2003) Within this method, we explore the phenomenon in the data, serving as a point of interest, and open the door for further examination of the phenomenon being observed. (Zainal, Z., 2007) That is how knowledge sharing of members of the studied company is affected within long term collaborative projects. This phenomenon is being observed by evaluating critical elements within the organization which could influence the success of future studies on the topic. According to Saunders et al. (2009, pp. 140), “exploratory research’s great advantage is that it is flexible and adaptable to change” which makes a strong claim on the likelihood of a direction change as a result of a new data with new insights.

3.2.1 Determination of the Case

Miles, M. & Huberman, A. (1994, pp. 25) define ‘case’ as “a phenomenon of some sort occurring in a bounded context”. As described by Baxter, P. & Jack, S. (2008), single case is

our unit of study in collaboration with an organization, SME IT consultancy based in Lund, Sweden. The Company's mission statement distinctively includes the term 'knowledge sharing', which draw the attention to approach this company. Thus, the boundary of the determined case is set by the researchers, taking relevance into account to allow researchers to make the most logical link between the empirical data and research question.

First interaction with the company started with our initiation where we asked the strategy manager if there is any area that he would like us to investigate for future success of the company. With brainstorming at various times, we formed our research scope within a relevant theoretical framework and came up with a proper method considering the resources of the organization.

3.3 Data Collection

Social phenomena, which is in the center of the study, influences the way data is collected and choice of methods for analysis. Moreover, this reflects on the formulation of questions in regards to the environment where this social phenomenon exists. (Nelson et al., 1992, pp. 424-449) Building on this, to employ the necessary techniques, formulate appropriate questions and recurrently analyze the data without imposing bias, researcher becomes the key element in data collection process. (Damico et al., 1999; Tetnowski, J., 2015)

As researchers, we built our research design on various qualitative methods within primary data for data collection which are interviews, questionnaires and observations. By employing multiple different data collection methods, so called triangulation, authenticity is ensured through comparing and contrasting the variety of data while describing the phenomena of interest. (Damico et al., 1999) In addition, according to Damico et al. (1999), credibility and robustness of findings are also insured through observation and analysis of specific characteristics and activities. Since the focus is subjective understanding of organizational behavior, characteristics and perceptions, in-depth interview with strategy manager in the company and questionnaire with employees are the core sources of our data collection. Observations constituted minor part of the data due to time constraints within the case company. Recording the in-depth interview allowed us to make direct observation about manager's body language. Although this had some limitations on our personal interpretations on how employees acted in certain circumstances, it was still possible to walk around the

office and make external observations of the environment yet kept the distance to prevent any alteration on working routine; so called direct observation was used.

3.3.1 Research Process

We conducted a face-to-face in-depth semi-structured interview with the strategy manager of the company and questionnaire with 10 employees of the company. Our in-depth interview composed of 12 factual & company specific and four soft skill exploration questions, which lasted one hour and 10 minutes. We used ‘Google Forms’ for our questionnaire format where we sent six main and three sub-questions electronically to the employees of the company and received electronic responses.

3.3.2 Semi-structured In-depth Interview

According to Yin (2003), interviews are one of the most significant methods of collecting data. In our study, we put strong emphasis on the semi-structured in-depth interview, where we had some predefined questions within various topic headlines but then improvised and probed further as the participant responded. As Peter, K. & Halcomb, E. (2015) state: “semi-structured interviews can produce powerful data that provide insights into the participant’s experiences, perceptions and opinions”. Our semi-structured in-depth interview consisted of rather open-ended questions in narrative nature, which kept the participant on topic, provided causal inferences, story-like expressions and allowed more open exchange of information. Saunders et al. (2009) also emphasizes the likelihood of variance in predefined questions in semi-structured interview context. Accordingly, some questions may be omitted and order of the questions may be varied depending on the flow of the conversation. Saunders et al. (2009) also finds out that non-standardized research interviews (composed of semi-structured and in-depth interviews) are mainly used in studies that includes an exploratory element, which directly corresponds to our case study design.

It should be noted that there are some weaknesses of interviews which should be taken into consideration while conducting them. These weaknesses include likelihood of bias due to poorly constructed questions, inaccuracies due to poor recall, and reflexivity as introduced by Yin (2003).

3.3.2.1 Interview Guide

One in-depth semi structured interview was conducted with the strategy manager of the studied company. Participant, also a co-founder, is responsible for developing company's strategies for every department.

In his book, Wengraf, T. (2001) emphasizes the necessity of a previous research on the topic prior to conducting semi-structured interview. Based on our research on the topic, we have predetermined our interview questions in relevance to theories used in the study and to our research question. Main framework of questions included both factual and soft skill questions which are related to following headings;

- Company business model and how knowledge sharing is present in this business model
- Challenges in knowledge-intensive firms
- Involvement of collaboration within projects and valuable aspects of these collaborations
- Roles and responsibilities while managing collaborations with different companies
- Effects of various project lengths on the project dynamics, mainly on knowledge sharing among companies
- Factors that enable and contribute to knowledge sharing
- How can knowledge be shared in collaborative projects
- Managing conflict in projects

Out interview with the strategy manager was recorded for the purpose of focusing on the conversation and asking follow up questions without having to take notes. It should be noted that factual questions were sent to the manager prior to meeting for an interview which consequently enabled interviewee to be self-organized. Afterwards, full interview was transcribed which allowed us to go through the interview again and make more sense with data.

3.3.3 Questionnaire

Questionnaires are seen as one of the most common method of collecting data in which “each person is asked to respond to the same set of questions in predetermined order”. (De Vaus, D., 2002) Questionnaires impose a limitation in which it is difficult to go back to participants to collect additional information, thus it is very important for researchers to think ahead and anticipate the necessary information, one that will be relevant to research problem and theoretical framework used in the study and an understanding of how the data will be analyzed. (De Vaus, D., 2002) Saunders et al. (2009, pp. 362) introduce significant points to maximize the response rate, validity and reliability in questionnaires which are: “careful designs of individual questions, clear layout of the questionnaire form, lucid explanation of the purpose of the questionnaire and carefully planned and executed administration”.

As mentioned by Saunders et al. (2009, pp. 362), interviews could be helpful to identify or modify the questions for questionnaires and usually “it is better to link questionnaires with other methods such as semi-structured in-depth interview” to explore the whole dynamics in the company from various perspectives. Following on this thought, we linked two methods and had slight modifications to our questions in questionnaire for the employees after we conducted in-depth interview with the strategy manager of the company.

By taking all of the points mentioned above into consideration, we prepared a self-administered internet-mediated questionnaire within Google forms with six main and three sub-questions. Our questions mainly followed a framework of soft skill questions to explore more of the characteristics of the employees in knowledge intensive firm and what crucial factors affect these characteristics in collaborative project environment.

3.3.4 Selection Criteria of Samples

Sampling provides a valid alternative to using entire population when; it is impracticable to survey the entire population, when there is a time constraints surveying the entire population and when the results needed quickly after collecting the data. (Saunders et al., 2009) For the reasons listed above, having most emphasis on the time constraints, we chose to use convenience sampling within non-probability sampling technique.

When selecting the samples for the interview and questionnaire, we used our subjective judgement based on participants' expertise, responsibilities, availability and accessibility within the main purpose of answering our research question and addressing our objectives.

3.4 Data Analysis

Researcher should approach data analysis strategically, and failing to do so can “result in a loss of momentum, data overload, or difficulty in organizing the data”. (Tetnowski, J., 2015) Our data analysis strategy, driven by the purpose of our study and the specific research question, is based on a process of making sense out of the data, which involve consolidating, reducing, and interpreting what people have said. Our data analysis took place simultaneously with data collection which is a sign of constructivism epistemology. (Yazan, B., 2015) This dynamic data collection and data analysis approach allowed us to make preliminary analysis of the data which may lead to alterations in the ongoing research and makes it a flexible and iterative process. ‘Constant comparative analysis’, originally developed for use in grounded theory perspective by Glaser and Strauss (1967), is used as main analysis strategy where we compare each data collected from various participants to find “interchangeable indicators which showed a grounded pattern” (Glaser, 2016) after which the “patterns or themes are elaborated and afforded a conceptual coherence, and are then further extended to a wider theoretical domain”. (Bryman, 1989, pp. 139)

3.5 Reliability and Validity

In order to prevent researcher's subjectivity in interpreting data and scientific community's skepticism of the findings, reliability and validity play vital role to “assure that fellow scientists accept findings as credible and trustworthy”. (Brink, H., 1993)

Agreed by many scholars; the essence of reliability lies with consistency, accuracy, and stability (Mason, 2002; Yin, 2003; Carcary, M., 2009) and it “refers to the ability of a research method to yield consistently the same result over repeated testing periods”. (Brink, H., 1993) To ensure reliability of process and results, we follow some of Silverman's (2009, pp. 558) proposed approaches in his book, such as, constant data comparison, comprehensive data use, inclusive of the deviant case and use of tables. For such, we used data mainly gathered from our in-depth interview with the manager and employee questionnaire and marginally from direct observations of the employees and consequently make constant

connection among them and as well as connection to our literature findings. In our analysis, we also pay attention to Mason's (2002, pp. 188) words about how reliability also is concerned with demonstrating that the "researcher has not invented or misinterpreted data or been careless in data recording or analysis" as we have conducted our data collection method thoroughly and analyzed results in order to reach our objectives and answer our research question.

Validity in qualitative research refers to "appropriateness" and "truthfulness" of methods and scientific findings (Brink, H., 1993; Leung, L., 2015) and how well the research study investigates and measures what it intends to. (Carcary, M., 2009) Referred by Campbell, D. & Stanley, J. (1963), internal and external validity are two major types of validity. We intent to construct internal validity by researching and analyzing data from a real company, acquiring greater understanding for theory development and making constant comparisons to build congruency among the empirical findings and previous literature study. (Carcary, M., 2009) In addition, recording and transcribing the in-depth interview and documenting the questionnaire are crucial in order to make valid arguments, comparisons and connections among the research findings, theories and previous literature. When it comes to external validity, explained as a degree to which "representations or reflections" of findings are legitimately applicable to other studies (Brink, H., 1993), our findings on such broad concept as "knowledge sharing" could be generalized and relevant for future studies on knowledge intensive firms category.

3.6 Research Limitations

This study is limited by looking at a single case as the empirical study. Although the model generalization is dependent on more extensive empirical data, this study should be seen as exploratory research that aims to analyze how knowledge sharing is affected among individuals within KIFs, when they are involved in collaborative projects within a given period of time (short vs. long term projects). Time to construct the Thesis is a limiting factor that hinders the possibility of extensive research for that matter. Amount of respondents in our questionnaire is also a limiting factor to observe general consensus within the company. In addition, direct observation did not provide useful information due to its insufficiency.

Moreover the Thesis is limited to one cultural context, thus lacking the consideration of possible barriers, business opportunities and risks posed in another cultural context. Hence,

the empirical studies are gathered reflecting current situation of one company in a certain cultural context, even though similar characteristics possibly appear in similar businesses globally. Additionally this subjective view creates the possibility of potential biases. Alongside of this, potential hazards arise from close collaboration with a company as in order to gather data, the time frame required flexibility and adaptation to satisfy both parties in the research process and the complete control over the sampling is not possible.

In order to conduct the empirical research, anonymity was requested by the case company to maintain confidentiality. The reasoning behind this is the sensitivity of the software industry and the protection of identities of knowledge intensive employees. To keep the case company anonymous, it was necessary to be sensitive while collecting and delivering the data throughout the study. This however hindered us to provide more special facets of various client relationships.

4 Empirical Findings

4.1 Leadership Perspective

This section aims to showcase the findings from the conducted open-ended in-depth interview as well as the qualitative questionnaires that were forwarded to company employees.

To begin with, the purpose of the research is to explore the area of knowledge sharing and how knowledge sharing is managed in collaborative projects and what is the role of duration of the project in Knowledge-intensive firms. In order to investigate this and collect the relevant data, in-depth interview with a strategy manager as well as qualitative questionnaires with developers and other company managers were conducted. This single case study enabled insights about a company that is highly focused in knowledge sharing as well as involved in collaborative projects. Furthermore, an opportunity was given to analyze the knowledge sharing in this company, the aspects of collaborative projects to this and how much role does the length of a project play from a perspective of company leaders and employees. The study of company executives and managers provided answers to the objective of how leaders of the company manage knowledge sharing as well as what is the role of leadership in change management. On the other hand, the employees are the knowledge sharers thus the company's most valuable asset and therefore this real-life case was essential in order to analyze the third

objective of individual characteristics and perspectives of participants towards knowledge sharing when undertaking projects with various lengths.

To compartmentalize and unclutter the findings, three main sections were created: Knowledge sharing, Collaboration and Length.

The research question aims to answer to ‘how is knowledge sharing managed in collaborative projects and what role does project length play in KIF’s’ thus dividing the research into these three categories enabled more thorough understanding of the factors that influence this.

4.1.1 Knowledge sharing

Knowledge sharing is used as the core term in this study, thus the understanding of knowledge sharing construct the basis for the empirical study. The purpose of the interview and questionnaires was to conceptualize knowledge sharing and concretize how it is present in today’s knowledge intensive firm. Therefore, the interview with a strategy manager began with demonstration of how knowledge sharing can be seen in the company and what is the meaning of knowledge sharing in today’s business. Second, the factors that enable knowledge sharing were explored and described. Lastly, the ways to manage this knowledge sharing and how the company encourages this created the framework for this category of the empirical study. Understanding the manager perspective and reality of knowledge sharing provided a vivid perspective on the topic. One the other hand, the analysis of the questionnaire results offered more detailed data on employee perceptions, which is discussed in a separate chapter later on.

4.1.1.1 Knowledge sharing as an ecosystem between clients, teams and people

The interviewee, strategy manager, has a key role in understanding the importance of knowledge sharing. Therefore, the interview began with an overview of the key ways knowledge sharing is present. Knowledge can be shared in terms of courses, sold online to different workshops and classes as well as conferences organized yearly will enhance learning and gathering knowledge. Basically, the knowledge sharing through various events and communities creates “*an ecosystem in between our people, team and clients*”. The strategy manager highlights that the intensive knowledge sharing culture and active participation to different knowledge sharing functions is the number one reason why a client is willing to pay more for service. Thus, knowledge sharing is primarily seen as extremely important and

something self-evident. Moreover, sharing knowledge with the company and its units not only allow different perspectives but newer and better quality knowledge of software, fast follow-up on the most recent trends, which all account for the creation of more innovative software solutions and a completely another type of offering that will add value to the organization.

Part of this ecosystem is also the close relationship with clients and collaborative companies. The ability to share knowledge with clients and the connection will give an opportunity for a “game changing software solutions”. The interviewee stresses that the company is dependent on the network of knowledge sharing, where the knowledge is exchanged between clients, teams and external communities and professionals.

“You don’t have knowledge, you don’t have nothing else in this company. We are going abroad with the company to a knowledge sharing conference, 150 people. If the plane crashes, there is no company.”

Therefore, as the company key value is knowledge sharing, the active exchange of knowledge is present, not only between the clients and the teams in collaborative projects, but also knowledge is shared through events and conferences. Secondly, this participative knowledge sharing is the key competitive advantage that attracts new clients and adds value to the company. The interviewer explains how this value can be understood as, to be able to develop knowledge, it is not enough to contribute to a project but also attending conferences and gathering additional knowledge through reading and participating in courses is important. On the other hand, the manager notes that this is what also creates additional costs and thus understanding the value of this knowledge development and how it relates to better quality in software solutions is meaningful.

4.1.1.2 Sharing knowledge in Tribes

To demonstrate how knowledge can be shared and managed the strategy manager introduces a term “*Tribes*”, which is a company specific method enacting to efficiently enable knowledge sharing. The strategy managers enlighten how not everyone in the company needs to participate and gather knowledge at the same time about the same knowledge, instead, knowledge can be shared in “*Tribes*”. In other words, if certain people in the company are interested in attending a conference and gathering knowledge in a certain area, these people participate in this knowledge sharing function or bring in an external person to the company who is equipped with new knowledge. The company employees then form a “*Tribe*” with

people who are interested to learn from these people and thus knowledge is spread among this group. Different “*Tribes*” allow passionate employees to gather, learn and teach each other based on their expertise or bringing in outside expertise in their area of interest and to further pass along this knowledge to the clients as well.

4.1.1.3 Knowledge sharing company culture

“Everyone is talking about knowledge and knowledge sharing, but if it is not in your DNA as a company or not culture within the company, there is no way you can do it in a systematic way”.

As part of the knowledge sharing the strategy managers describes how creating a knowledge sharing environment as well as maintaining this is highly dependent on the company culture. The knowledge sharing atmosphere does not only result in continues knowledge sharing, but it really needs to be rooted in every operation in the company. Thus, from HR policies to the compensation model, the knowledge sharing ideology is taken into consideration. The interviewee continues that having clear rules about what are the company benefits that support knowledge sharing and the knowledge sharing atmosphere is contributing to the creation of social cohesion.

4.1.1.3.1 Family atmosphere

This social cohesion leads to a “*family atmosphere*” which the strategy manager described as equivalent for this social cohesion. As the main question was to delve into how knowledge sharing can be managed, from the perspective of leader in this case, the strategy manager of the company, family atmosphere was stated to be one contributor to this. The reason behind arises from the previously mentioned compensation model established in the company, to guarantee “*the family atmosphere*”. In a knowledge intensive firms, often when work is done with client, one is getting paid according to how many hours are built with client thus the salary is performance based. The interviewee explains that this poses a knowledge sharing problem, because to ensure flow of knowledge sharing, it is crucial to be able to ask questions from colleagues, pause individual work to help others for instance and this performance based model would prevent this from happening. In other words, focusing on gaining only monetary reward and prioritizing only client work, it would contradict with the open atmosphere of knowledge sharing thus “*family atmosphere*” and reduce the positive company culture.

Therefore, the interviewee advocated for this compensation model that is not performance based, but company benefits represent the “*family atmosphere*”.

4.1.1.3.2 Craftsmanship as a lifestyle

Another way of managing knowledge sharing and supportive value that enhances knowledge sharing is “*Craftsmanship as a lifestyle*”. According to the strategy manager, *Craftsmanship* is a symbolic way of describing the desire and passion for quality work. This would mean that as the employees are personally taking responsibility to produce quality of their *Craftsmanship*, this also reflects to the lifestyle of keeping up with researching and reading outside of work as the passion for knowledge sharing comes from within. The reason behind bringing *Craftsmanship* as a strong value in the company is the relationship it has with the growth of the company and decision-making. The strategy manager explicates that the “*Craftsmanship lifestyle*” is so crucial factor in recruitment that even if it can be considered as an obstacle for financial goals of growth as budgets are not met at times due to this constrain, it is still the main element for the company’s stability to have employees who promote this mindset. That is why, the interviewee states how yet the company is recruiting rapidly, having this *Craftsmanship* principle and values at place, has enabled continues stability in the company.

4.1.1.4 How knowledge can be shared efficiently and effectively

The strategy manager connects the “*Family atmosphere* and “*Craftsmanship*” values to be important for the company culture and knowledge sharing culture, but also logically make operations more efficient and effective. To elaborate, when there is a delivery going on in the company and special expertise in a certain subject is needed, there are two ways to acquire the knowledge. One either takes this as an opportunity to find the person in the company that has this knowledge, let this person share and teach this knowledge, or one decides to spend time on self-learning all this from a scratch. When the company culture represents “*family atmosphere*” and “*Craftsmanship*”, this allows employees to follow the first way, to look for the person with the knowledge that is needed resulting in faster knowledge sharing and project solutions. Hence, the interviewer connects the company values and culture to project efficiency.

“Sharing knowledge together with a parallel process, is the fastest way. It is good for the client, we can deliver faster, better quality, they pay less. Everybody wins.”

4.1.1.5 Expectation management in knowledge sharing

Aligning the company values and client needs is part of the communication as a whole. The strategy manager portrays how managing the level of knowledge sharing and taking on a project, begins with a great communication within the company and externally. In practice, before work is carried out, a contract covering all aspects of the project and clearly communicating about the expectations is a way of avoiding too many disappointments the strategy manager explains. This expectations management is done by telling the “*the war stories*”, in other words, preparing employees and clients for the project by sharing knowledge from previous experiences. Additionally, as the company is very dynamic and growing rapidly, especially in the case of new employees, having shared knowledge through “*the war stories*” is essential to enhance knowledge sharing skills, understand company history thus develop proactive project expectation management and communication with the clients.

4.1.1.6 The level of knowledge sharing

However, the strategy manager points out that there are differences between projects and the goals of these projects. There are clients that especially wish to be taught with the processes of solving the software problem and learn. At the same time, the strategy manager distinguishes how there are clients that clearly request fixing of “a very isolated problem and they do not want to know about it, they just want to outsource it”. Consequently, there are projects from different ends as well as different client needs, which direct the level of knowledge sharing. The interviewee adds that the level of knowledge sharing may vary but the values of the company still need to align with the client in order the relationship to work.

4.1.1.7 Transparency in knowledge sharing and company values

As a linkage between the values and ways to manage knowledge sharing, transparency is the key word for the competitive advantage in the market. The strategy manager manifest this as transparency contributes to open knowledge sharing thus more and better solutions as well as supports the good communication between the parties in the collaborative projects. Additionally, transparency encourages employees to express themselves in a way that has influenced that the retention rate of people. The strategy manager exemplifies how the *craftmanship and family environment* allows employee creativeness, which shows outside. Thus, the focus on branding of employees through being a transparent company has been a

differentiating factor and noticed by other similar companies. The way the interviewer summarized the importance of transparency as follows:

“Show who we are through transparency. Challenge the world. Don’t be afraid, try new things, be innovative, be creative. Go against cards. Change the rules of the game and have fun. If you have these values, we believe we can create an environment that were we can actually share knowledge.”

4.1.2. Collaboration

From knowledge sharing, the interview discussion moved on to a topic of collaboration in knowledge intensive projects. This second category aimed at finding out what is the level of collaboration in knowledge sharing projects, thus asking how much collaboration is involved in the projects with other companies. Furthermore, insights in the most crucial aspects that contribute to the success of collaborative projects as well as managing conflicts was examined.

4.1.2.1 Proactive communication

“Communication is the most important thing, everything you do - business is communication, marriage is communication, being friends is communication. Yet, understanding also that misunderstandings happen all the time.”

As part of the close relationship with the client, as well as exchanging knowledge, it all comes down to the effective way of communicating. The strategy manager assures communication is so essential that many operations always link back to this. However, the form of communication in a software consulting firm is the proactive communication, where different aspects that can hinder the collaborative relationship is taken into a consideration before the project is fully ongoing. This careful planning can be demonstrated by the example of conference trips that are valuable way of gathering knowledge and enhancing knowledge sharing, yet can disturb the processes in the project. To avoid misunderstandings and hurdles in the collaborative project, they are outlined and openly communicated with the client. Moreover, the interviewee concludes:

“Proactive planning would enable communication to take into account all the possible scenarios that could influence the knowledge sharing.”

4.1.2.2 Managing conflict

Even though, proactive communication is a way of decreasing possible communication problems in collaborative projects, the strategy manager explains that sometimes there are for instance cultural problems that come in between the collaboration and require adaptation. In fact, the interviewee points out that the difficulties in collaboration can arise from seemingly small issues such as office conditions, but these issues can influence the work motivation and willingness to collaborate. The strategy manager describes how the challenge is to bring together the values both companies or clients share in the collaborative relationship. For instance, companies spend their resources differently and perceive the support of employee well-being differently. This puts the other party in a challenging position as the strategy manager explains that even though the company employee that work for the client site would get a certain problem fixed by the his/her employer, this might cause inequity towards the employees on the client site. In other words, even if the employees will get a solution to an issue by the employer, the solution will reflect on the collaborative party as well, thus sensitiveness and compromises are needed from both sides.

4.1.2.2.1 Assignment coaching

To solve collaboration related issues and maintain transparency in the company, assignment coaching was found as the tool that the company used for this. According to the strategy manager, assignment coaching is a way of controlling and updating the communication between the company employees and client site. Assignment coaching is a concept where *“every individual or every team based on a client site, gets a regular visit from a coach from our side who actually coaches the team”* with a purpose of focusing on three main areas; what is currently happening, how is the project development going and is there any major problems or obstacles. The strategy manager brings out the most important facet in assignment coaching to be the expertise the coach brings in solving the conflict. The interviewer continues to explain how the employees have their expertise in areas such as software development, it would be exorbitance to require conflict skills as well. Besides this, the assignment coach, whether it is a assigned account executive or outside business, is equipped with knowledge on how to deliver the quality within the time frame that was promised as well as enable the working environment after the solved problem to begin with a *“clean slate”*. Thus, the assignment coaching has been considered as an effective way of satisfying all parties in the collaboration.

” There is a certain point where, you should not involve the Developer in a deeper conflict or confrontation. It has to be some kind of a business or owner, account executive that comes in and handles it.”

4.1.2.3 Open dialogue and transparency

When it comes to managing collaborative projects, the strategy manager pinpoints two keywords that should be kept in mind throughout the project planning and collaboration. These are open dialogue with the client as well as transparency when planning new stereotypes, sharing new trends or working with new staff. As the strategy manager notes that there are differences between the ways things are done between the collaborative project members, open dialogue and transparency can however result on convincing a client to adapt to new situations more easily. To demonstrate, if the company openly shows who they are, let the client know about a problem that occurred requesting help, this openness especially in a long-term relationship can result in deeper cooperative environment.

“The thing is, the reality sometimes doesn’t work as you have planned. You need to have an open dialogue and transparency”.

4.1.3 The influence of time in project management

Last part of the interview was to add time to the equation of collaborative projects, which involve intense knowledge sharing. The strategy manager emphasizes that the company’s most important value is sharing knowledge. Thus, prioritizing the open, transparent and collaborative knowledge sharing environment influences the way length of the project is prioritized according to the strategy manager. However, the manager stresses that there must and there is always a timeframe, but with a knowledge intensive project, time is not the directing factor when creating software solutions.

The strategy manager demonstrates how the project is like a “*waterfall process*” where:

“You try to estimate the size of the project from the beginning and try to estimate exactly how it is going to look like in one year from now. However, 99% of the time, the estimations of the project fail, because along the way you realize that what you have envision the first day, is absolutely not what you need”

This is the main characteristic of software projects, which gives a certain constraint to uncertainty of defining project length. At the same time, proactive communication and knowledge on obstacles that might either stretch the project or accelerate the process can help in outlining more accurate timeframes. When asking about the definition of short-term and long-term projects, the interviewee insures a long-term project to last at least a year. What directs the estimation of longer term commitment and collaboration depends on the budget of the client. To give an example, a three-month project is defined as short-term project and in those cases the budget was limited and reflected on the length of the project.

4.1.3.1 Time and material base

The length of the project connects to the way projects are charged, the strategy manager defines. In some cases, client wishes to switch the project direction, request for new functions and features as well as reduce planned function. This creates a need for *Time and material based way*, where billing a client is based on counting the hours and the hours worked. Also, even though knowledge sharing and learning is prioritized to guarantee best quality service to the client, the strategy manager notes that the proactive communication and beforehand planning has to be done, because there is always a delivery time and knowledge sharing should not interfere with this.

4.1.3.2 Project and Change Management

“Project management in our world meaning that you have number of resources, both in terms of people, in terms of money, in terms of time and you allocate them and make sure you deliver”.

The strategy manager relates time to project periods and how much can actually be achieved in a certain timeframe. The company goals are planned in a timeframe of four to five years. According to the manager, in a shorter time long-term changes would not be possible. How projects are managed is based on a theoretical strategy template. This template is directed by a facilitator, who is an experienced strategy consultant and in the beginning of each period the management team as well as additional board members if possible, are brought down to have a conference with the facilitator. This process is valuable to the company is as after few months of work, a so called *“new strategy map”* is created to identify and clarify the goals of the company in a certain timeframe. Thus, this helps in structuring knowledge sharing and concretizing the project. The strategy manager describes the project managing as follows:

“I start talking about the vision of the company, within five years where do we want to be at and then we start looking into the business strategy of the units that we have created; what has to be changed, what capabilities do we need to develop in the next period, what assets do we need to acquire to be able to get there.”

Time and length of a project thus play an important role in crafting out the project plan. In order to manage change and truly make change happen, the strategy manager believes this requires careful, consistent planning in at least four to five year periods.

In practice, the manager describes how the company has identified *“the must win battles”*, which are crucial battles that the units need to overcome in order to change. There are usually five of these *“must win battles”* in each business unit and project managers and executives are assigned to run them as the most important changes in the company’s change management. These *“must win battles”* are deriving from the capabilities of the company, the assets of the company and progress that has happened in relation to where the company wants to be in near future.

4.1.3.2.1 Company Growth

These *“must win battles”* are not only serving as the company goals, but also motivate and indicate the skill set that employees should aim to develop within a certain period of time. Thus, these challenges provide a path on understanding how dynamic the company is and to keep people learning and growing alongside with the company. The strategy manager portrays time to be an directing factor to measure employee growth in the company. These *“must win battles”* and employee development can be demonstrated through a *“staircase model”*, where different steps in a certain period of time identify the required skill set from the employee. The strategy manager shows the relevance of this *“staircase model”*:

“Some people has the ability to grow, thus your wish is to grow all these people with the company growth. So they grow, they follow, they learn, they become leaders in different stages. As they learn new things, they can change their mindset, apply their previous experience in a new context.”

The strategy manager believes the strong values of the company will be a generator for the employee growth. However, in a knowledge intensive company that grows in a fast pace, there is a high demand on keeping up with learning and acquiring new knowledge. Also the

longer and larger the projects, the more advanced operational skills are needed. Therefore, the strategy manager notes that the employees with the talent to do so are the ones who are able to stay for the long run.

4.2 Employee Perspective

The analysis has been thematized according to our objectives in relation to our research question namely: role of knowledge sharing in knowledge-intensive projects, dynamics between short-term and long-term projects and how is collaboration with external people, consisting of employees outside of the studied company, seen by the employees. Finally, we seek to conclude with interrelations of these themes.

In addition to leadership perspective, collecting insights from employees will help us look at our research question from an employee angle. Questionnaire analysis is based on 10 respondents who are full time employees of the studied company. Employees mainly consist of software developers except 1 business developer, 1 project manager and 1 CEO positions. Although presented in table 1, we are not making any clear distinctions among the positions in our questionnaire and we rather refer everyone’s responses as an employee perspective since all of the participants are involved with external projects to a certain extent regardless of their positions in the company. With minor exceptions, majority of the respondents have been working with the company at least 2 years, giving them certain experiences within the completed or ongoing projects.

Table 1: Participants by Position

Position	Total Number	Less than 1 Year	1-3 Years	More than 3 Years
Software Developer	7	2	3	2
Business Developer	1	-	1	-
Project Manager	1	-	1	-
CEO	1	-	1	-
Total	10	2	6	2

4.2.1 Role of Knowledge Sharing in Projects

From the collected employee responses of the studied company, words of CEO, reflecting on the crucial factors on know-how exchange among the employees within collaborative projects, emphasizes and supports the consensus belief within the company;

“this is the core of our company, our true mission; this influences how we want to work and work in reality”.

It is clear that the state of mind is not very different from a business developer perspective in the company based on the following response:

“from the first time we meet someone outside of the company we immediately start talking about the importance of sharing knowledge”.

We also found out that employees pay attention to equal membership and ownership in the projects and emphasizes that working for a same goal requires bilateral knowledge sharing in order to succeed. Consequently, participants find the end-result very significant to the project, and adding satisfaction of both parties at the end of a project, which supports the equal membership argument, presents healthier relationships and partnerships for the future. Looking at these statements, one can easily understand the employee perception towards the importance of knowledge sharing in the company’s operations. Next subsection will analyze employee characteristics more towards the willingness of sharing the knowledge.

4.2.1.1 Personal Intention to Share know-how

“It’s one of the main reasons I joined (company name)” states one of the employees when asked about personal intention to share his/her know-how with outsiders, emphasizing the encouragement from the company side to individual knowledge sharing. Participant continues: *“I don’t see knowledge as something proprietary, I believe that the market, and thus my possibility to exist in that market grows faster the more knowledge we share”.* In addition to improve project results, we also found out that participants are also openly willing to share knowledge in order to reinforce the company brand as the company is known to be ‘*sharers of knowledge*’. Having multiple angles to the issue, contributing to overall quality of deliverables and personal enjoyment are other factors we saw as a pattern based on the responses from participants.

4.2.2 Collaboration

Based on the responses, we followed a pattern of factors that play vital role in collaborations among knowledge intensive companies such as working with new people adds more variety, different perspectives, different values, new insights and creates better support to reach the end goal. Some responses also included minor setbacks of collaborations due to potential struggle to work with other people when the working styles diverge between the parties. However, it is clearly seen that positives in collaborative projects outweigh the challenges faced according to employees. Comprehensive answer by an employee, written below, summarizes the main points:

“The positive thing is general all the new impressions you get from working in different domains with different types of people. You really develop your skill set in people-management when you see different workplace, cultures, and people. The most challenging part is of course that some of the externals can turn out to be very hard to work with. (...) sometimes the externals diverge too much from how we want to work and our culture that it’s just not possible to work with them. This happens VERY rarely (...) usually we try to fix it with guidance and coaching initially though.”

When asked about crucial soft skills that employees possessed in external collaborative projects, ‘communication’ seems to be the most important soft skill for the employees. Additionally, managing expectations, fairness, positive attitude, humility, openness and patience are among the skill set listed by the employees for a successful collaboration.

4.2.2.1 Dynamics Between Short-term and Long-term Projects

It is found that there is a large variance in length of the projects, ranging between 6 and 12 months, with occasional 18 month long projects. When we aimed to learn about employees’ preference on the length of these project: in addition to longer term collaboration preference, it was interesting to see dependence on the interest of the project, rather than the length, by many employees. Supporting reasoning behind long term collaboration preference is mainly the thought of increasing self-knowledge and self-confidence when project is longer. However, as mentioned above, many employees did not care about the length, rather cared about the interest of the project and the people they are working with. This is supported by the following response of an employee:

“I honestly don’t care about it (referring to length) as long as the project is interesting and the people I work with are nice. That’s all I care about.”

There was only 1 respondent with preference of short term collaboration preference due to flexibility in alternating and experiencing new projects, only when supported by a solid interaction by the parties. One other interesting angle came from a business developer with a preference of mid-term project length supported by the following quote:

“From the sales perspective I’d say the middle is best. We want to go in, fix the problem, transfer know-how and then step out of the way so that the customer can handle the future challenges in that particular field themselves. Usually that’s impossible to do in a couple of weeks it it’s a tough challenge.”

4.2.3 Role of Length in Knowledge Sharing

Majority of the respondents claimed that longer project length requires more knowledge sharing among the parties involved in collaboration. As one employee simply puts it:

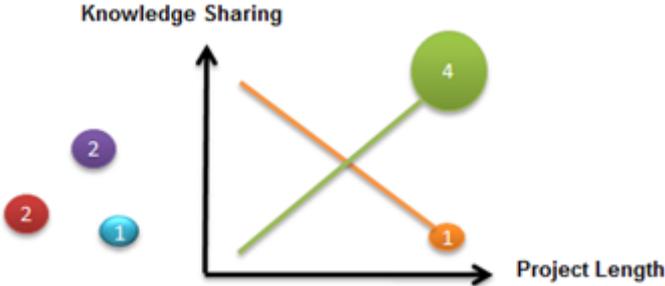
“Long term projects tend to be more complex and require to share more knowledge to ensure high quality.”

Other supporters of this thought agree that within longer projects, both parties are all in it together, alike as a journey, and roles evolve. This requires both parties to adapt and learn new things over time.

As shown in the figure 4 below, there are four respondents (green circle) who claim that there is a direct correlation between long term project and knowledge sharing and that the longer term projects require more knowledge sharing. There is one respondent (orange circle) who supports the opposite and claims that “knowledge sharing declines over time”. Respondent says that *“there is always more energy at the start as well as a larger knowledge-gap”*. There are two respondents (purple circle) who emphasize the importance of other party’s willingness to share knowledge, regardless of the length of the project. One of these respondents takes the answer further and says *“if the client don’t care about the knowledge share and the people I work with at that client don’t, then chances are there will be no sharing. It’s completely up to them. I will share if I can and I can sense that people want/need it.”* one respondent (light blue circle) claimed that there is no difference between short term

and long term project, without further justifications to his/her answer. There are 2 respondents (red circle) who chose not to answer the question.

Figure 4: Connection of Knowledge Sharing and Length



We found that employees sustain and improve their know-how over time through similar ways such as: reading, staying up to date with online resources, talking to colleagues, participating in knowledge activities organized by the company and attending extracurricular activities.

Relation of length of the project and knowledge sharing is particularly significant for our study and will be further discussed in detail in the upcoming section.

4.2.4 Patterns in Interrelations

Out of 10 respondents, we found that answers of only one participant are directly correlated with each other. For such, this participant is the only one who thinks that their projects consist of fully transparent know-how exchange, knowledge sharing is the core of the company, who is fully committed to share own know-how with external people, supports long term collaboration projects rather than short term ones because of supporting the claim ‘longer term project requires more knowledge sharing, sees more positives out of a collaboration than negatives and thinks that long term projects demand more soft skills. This participant’s job title was CEO. Answers of one very similar respondent, a software developer, is showing almost exact perspectives as CEO except that he/she preferred short term collaboration projects due to their flexibility and the possibility of rapid change to newer ones. There is also another participant whose perspectives are also similar to that of CEO’s except he/she did not respond to questions neither about know-how exchange level in the projects nor about the role

of knowledge sharing. We connect the no responses to lack of experience of the participant in the company.

Out of 10 participants, there was only one respondent who said that he/she worked independently in the projects although he/she talked positively about collaboration. The participant was one of the three participants who preferred the interesting aspect of a project rather than its length. He/she did not respond to the question of personal intention to share own know-how. In the questionnaire, as opposed to every other, there was only one respondent who has moderate individual intention to share own know-how in the projects which shows correlation to his/her negative perspectives on collaboration.

Among the respondents, there was consensus on necessary crucial soft skills in collaboration which are: communication, fairness, empathy, positive attitude, managing expectations, constructive criticism, humility and openness. There are three respondents who claimed “long term projects demand more soft skills” who are also three out of four respondents fully supported the claim “longer term projects require more knowledge sharing”. Lastly, there was consensus among participants about how collaboration yields positive outcomes more than negative ones.

Following Table 2 summarizes our findings for each participant corresponding to each question.

Table 2: Summary of Questionnaire Data Analysis

	Q1	Q1a	Q1b	Q2	Q3	Q4	Q5	Q6	Q6a
	To what extent the know-how exchanged?	Knowledge sharing necessity	Personal intention to share know-how	Average project length	Project length preference	Relation betw. long term project and knowledge sharing. How to improve knowledge	Positives and negatives of collaboration in the projects	Crucial soft skills in collaboration	Does skill set differ depending on various project length
Respondent 1	Fully Transparent	Knowledge should be shared	Full indiv. intention to share know-how	6 months - 2 years	Up for more short term collaboration	Longer term project requires MORE knowledge sharing. How to improve knowledge: reading/staying up-to-date with online resources, "feeding" off of colleagues and participating in activities organized by the company	More positives out of collaboration than negatives	Getting along with others, communication, managing expectations	Long term projects demand more soft skills
Respondent 2	Fully Transparent	Knowledge should be shared	Full indiv. intention to share know-how	12 months	Up for mid term collaboration	Longer term project requires LESS knowledge sharing	More positives out of collaboration than negatives	Likeability, diplomatic, fairness, work horse, positive attitude	no response
Respondent 3	no response	no response	no response	no response	no response	no response	no response	no response	no response
Respondent 4	Fully Transparent	Knowledge should be shared	Full indiv. intention to share know-how	no response	Up for long term collaboration	Longer term project requires MORE knowledge sharing	More positives out of collaboration than negatives	Empathy, ability to listen, receive and give constructive criticism, dare to dare	Long term projects demand more soft skills
Respondent 5	Worked Independently	No clear way of sharing knowledge	N/A	3 months	Subject of project is more important than the length	Longer term project requires MORE knowledge sharing. How to improve knowledge: root cause analysis, talk to colleagues and co-workers. Also using personal network for problem solving and increased knowlegde	More positives out of collaboration than negatives	Responsiveness, humility and openness	Skill set does not change depending on the project length
Respondent 6	Moderate know-how exchange	Knowledge should be shared	Moderate indiv. intention to share know-how	12 months	No preference	No difference between the length. How to improve knowledge: using extracurricular activities or asking google/slack chat/etc.	More negatives out of collaboration	Charm	Skill set may change depending on the technology, not the duration
Respondent 7	Moderate know-how exchange	Unclear project leadership hinders knowledge sharing	Full indiv. intention to share know-how	1 week - 6 months	Up for long term collaboration	No preference on the length. How to improve knowledge: talk more and have more meetings	Conflicts occur	Easy to talk to, seeing the bigger picture, getting a group to compromise.	Skill set does not change depending on the project length
Respondent 8	Moderate know-how exchange	Knowledge should be shared	Full indiv. intention to share know-how	6+ months	Depends on the interest of the project	Depends on the project	No opinion, depends on the people	Negotiating	Skill set variance depends on the environment, not the length
Respondent 9	No response	No response	Full indiv. intention to share know-how	no response	Up for long term collaboration	Longer term project requires MORE knowledge sharing	Positive almost every collaboration	The ability to listen and help when customers or end users are in trouble	Long term projects demand more soft skills
Respondent 10	Fully Transparent	Knowledge should be shared	Full indiv. intention to share know-how	1 - 18 months	Depends on the interest of the project	Depends on the other party, not on the length	Conflicts occur	Patience	Skill set variance depends on the other party, not the length

5 Analysis

This section is an essential part of the Thesis in colliding the theoretical findings and empirical findings. The purpose is to shed light to the interlinkages and possible contradictions that arose from the single case study. The analysis concentrates on the core topic of how knowledge sharing can be managed and unites the leader and employee perspective together with previous studies to draw conclusions. To analyze this in a structured way, this section is divided into three main areas; Knowledge Sharing, Collaboration and Length of the Project. This not only systematizes the complexity of the concept of knowledge sharing, but provides different viewpoints to the management of knowledge sharing.

5.1 Knowledge Sharing

There is a strong consensus on the importance of knowledge sharing as a resource for creating sustainable competitive advantage (Grant, 1996) and contributing to the overall success of today's organizations (Argote et al, 2000). However, as knowledge sharing is present in many organizations today, it generally brings out the question of whether knowledge sharing may raise an issue of knowledge governance or other type of threat and how organizations grasp on the concept of knowledge transfer. It appeared that in the literature but especially based on the empirical findings, there was very little evidence on the negative effects of sharing knowledge in the company.

In effect, knowledge sharing today is perceived as self-evident and encouraged in the company. Nesheim, T., and Hunskaar (2015) argued how knowledge sharing is a distinctive part of project based environment and the constant transfer of knowledge, interaction and active idea exchanging enables creativity but most of all contributes to better *quality* work. This would be in line with the strategy manager and employee view on the importance of knowledge sharing, which from their perspective is the basis for enabling better quality and newer knowledge, as well as fast follow-up with the most recent trends in the software industry. This would in turn be extremely valuable for the company to stay competitive in the market with innovative solutions. Thus far, the primary approach to knowledge sharing is positive and considered as necessity.

However, as the knowledge sharing stands out as priority number one beyond dispute, it is essential to analyze the foundation to such strong mindset. Rusly et al., (2014) highlighted the

importance of encouragement among professionals, as the key ingredient in establishing optimistic perspective on knowledge sharing. Based on the empirical findings, there are two things that were in place to create mutual understanding of the importance of knowledge sharing.

Firstly, the strategy manager stressed on the strong belief and determination of enduring the company mission and principle of the knowledge sharing being the above all factor for creating value in the company. In other words, regardless of projects that would offer high returns and be profitable for the company, if the appreciation for an open and transparent company culture that encourages knowledge sharing is not present, the collaborative project would be critically considered first, even dismissed. Thus, allowing knowledge sharing to burst, it should be rooted in the company mission and vision from the very beginning. This was also supported by the findings from the employee questionnaire as the strong image and company brand had an influence on the willingness to share knowledge. The employees showed common loyalty and pride towards the company brand. Moreover, the company's strong reputation as active knowledge sharing company stood out as primary reason for many to join the company in the first place.

This leads to the second constituent of knowledge sharing. When the company mission and vision are in place, the right people to maintain and enhance this understanding of the importance of knowledge sharing constitute the other half of the success in sharing knowledge. The emphasis on the importance of finding the right people in the company to create transparent and open "family atmosphere" turned out to be one of the focal points in the case company. Especially, the strategy manager elaborated on the implementation of the term "Craftsmanship" to symbolize how in the knowledge intensive firm, thrive and passion towards work results in producing quality knowledge within the company. Furthermore, the principle of "Craftsmanship lifestyle" stands for the personal responsibility to produce quality work and the ambition to develop personal knowledge constantly, even outside of the office. This specific characteristic of the employees in a knowledge intensive firms did not directly appear in the literature, yet it was essential part of the success of knowledge sharing in the case company.

Nonetheless, several scholars bring out the *individual and collective competences* (Hailikari et al, 2002) to be a distinctive element in knowledge sharing organization (Alvesson, 1993) and the knowledge sharing environment is highly associated with a passionate work community.

If the competences of people contribute greatly on the knowledge sharing environment, the “Craftsmanship” quality would explain to one extent how this environment can be created. However, from another viewpoint, when the workforce consists of passionate and strong individuals, the strategy manager explained that from a manager perspective, organizing very talented individuals with great amount of knowledge in specific areas is not always the simplest task. This would be relevant finding to understand Hailikari et al, (2002) statement on how knowledge sharing begins with first organizing the project itself systematically. Hence, when the project stages are clarified, it would not only help the employees to accept the project requirements but also enable assignment of skillful people to the right project tasks. Moreover, the clear and open proactive communication about the ongoing projects was found necessary in assisting the process of mutual knowledge transfer among external collaborative members.

As the studies confirm alongside with the empirical findings that individual competence and personal qualities are highly relevant for enabling the knowledge sharing in the organization, the theory of knowledge based view however adduce the need for deeper clarification on the type of knowledge people possess (Grant, 1996; Alvesson, 1993). In other words, how does one define what type of knowledge is more valuable and what defines one to be more knowledgeable than the other. To elaborate, Grant (1993) refers this to tacit knowledge of *knowing how*, which in the context of knowledge intensive firms would be the interpersonal, cultural and creativity related knowledge (Alvesson, 1993). On the other hand, formal knowledge acquired through education for example is referred to explicit *knowing about* classified knowledge. (Alvesson, 1993) These two prominent knowledge types express the heterogeneity of knowledge that is present in the knowledge intensive firms.

Analyzing the importance of *explicit and tacit knowledge*, both play a role in contributing to the knowledge sharing. From the viewpoint of individual, knowledge gathering through personal education, reading and learning about the newest software trends demonstrated the explicit individual knowledge gathering that employees practiced in the case company. In a larger, form of community, explicit knowledge can be transferred through the so-called form of *Tribal* knowledge sharing: attending conferences or bringing experts in to the company to teach and educate the employees, passing the knowledge in a group, *Tribe* of colleagues who are interested in developing their knowledge in a specific area. Thereby, explicit knowledge would correspond with the Hailikari et al, (2002) argument how the accumulation of

knowledge through personal knowledge competence is a contributing element to project success.

With respect to the existence of tacit knowledge, this type of knowledge would emerge in the process of sharing the knowledge based interpersonal skills and understanding on how to utilize the knowledge in a client project. Thus, this would link to the communicational skills, which were depicted by the strategy manager. Based on the knowledge based view (Grant, 1996), explicit as well as tacit knowledge are valuable and present in the knowledge intensive firms, yet tacit knowledge is existing more in a form of interpersonal knowledge and is tied to collaborative relationship. The strategy manager emphasizes that in the case of sharing knowledge in an effective way, it comes down to communication.

Additionally, one separate finding arose in the empirical study in relation to knowledge sharing. The strategy manager mentioned how there are clients that cooperate with knowledge intensive firms but wish to remain separate from the knowledge sharing process itself. That is, a client considers the collaboration valuable but does not consider learning new knowledge relevant for the business, but rather only request simple the solution. This same circumstance came across in the questionnaire answers as simple lack of interest from the client side towards the software solution cancelled the knowledge sharing.

As the circumstances vary and knowledge intensive firms engage in different type of client projects, this brings out the examination of what is the role of willingness in knowledge sharing. The theory of planned behavior introduced by Icek Ajzen (1991) explores the relation of *attitude, subjective norms and perceived behavioral control* in influencing behavioral intention. Erden et al., (2012) integrates this with knowledge sharing by concluding that “intentions are a good proxy to capture individual’s overall tendency toward knowledge sharing”. Therefore, the theory of planned behavior was explored in relation to the employee and leader behavior in the case company. The empirical findings conclude that knowledge sharing is the core value of the company and thus knowledge sharing is expected to be high. According to the theory of planned behavior, high knowledge sharing behavior would correlate with intention, thus indicating attitudes, subjective norms and perceived behavior control to be established as they are the leading factors to intention.

Basing on this inference, analyzing the case company and the three main factors to create intention, this can give a more thorough understanding of knowledge sharing behavior.

Originating from the theory of reasoned action, Fisnbein, M. and Middlestadt., (1997) brought *attitude* towards a certain behavior and the possible outcomes of this behavior to the equation of factors leading to intention. The committed and determined attitude of the strategy manager towards promoting knowledge sharing as the key competitive advantage as well as the employees self-imposed knowledge sharing to improve project quality all give reasons to intention towards knowledge sharing behavior.

Second dimension examines the *subjective norms*, referring to the allowance or acceptance to share knowledge among the community (Fisnbein, M. and Middlestadt.,1997). In the case company, this approval of knowledge sharing behavior is rather powerfully encouraged to sustain the environment of open exchange of information and sharing knowledge to support and help others. Thus, negative influence of judgement or avoidance of knowledge transfer between employees was far apart from the case company's atmosphere.

Furthermore, in terms of *the third element, perceived behavioral control*, the theory summarizes this as self-efficacy in relation to one's behavior (Ajzen, 1991). The strategy manager pointed out how the company stands for open, transparent "family atmosphere" where every individual in the company is valued with their specific expertise. This would be coherent with how the employees have high intention to share knowledge as they strongly believe that the knowledge is being appreciated.

It can be concluded that the theory of planned behavior in an environment where open communication and transparency is very present, encourages people's intentions to share knowledge less reluctantly. Also, the theory provides linkages on how attitude and belief on one's own competence contribute to the willingness to share knowledge and enable the company to benefit from talented employees.

5.2 Collaboration in Knowledge Intensive Firms

Existing research we have looked at in our study in the field of strategic alliance clearly shows corresponding patterns with the real-time data we have collected from the case company. Employee and managerial characteristics towards forming a collaboration show that the case company is very well agreeing with Gulati & Singh (1998) on how formed alliances among two different organizations involve sharing and/or co-development of human capital, technology and firm specific assets. Vlasisavljevic et al. (2016) emphasizes the significance of

alliances especially in knowledge-intensive firms because these alliances consist of various technologies for which unique and differentiated competencies are required. This aligns with the findings through questionnaire data where the employees find collaborative projects within KIF environment especially interesting due to *developing different set of skills and introducing creative solutions* resulting from the gatherings of various perspectives, insights and competencies into the projects.

Mcnamara (2011) also supports the benefits of alliance of professionals from comparable backgrounds, which allows defending common purpose and “collectively pulling their resources to meet common goals” with greater access to shared information and sources. However, Mcnamara also introduces the necessity of maintaining unique qualities by each body, such as “individualism and distinctiveness”, when two organizations team together. Individualism and distinctiveness introduced by Mcnamara (2011) shed lights about the soft skills that are necessary to possess by the members of the collaboration. However, when we asked employees and strategy manager about the soft skill set that are important in collaboration, we did not observe specific answers about the above-mentioned soft skills, such as individualism and distinctiveness. Mcnamara (2011) supports that mutual trust is an important factor for successful collaboration which only occurs when both parties can maintain their unique qualities. On the other hand, based on empirical findings, we found out that strategy manager of the company is in favor of proactive communication and transparency as major soft skills. In line with the manager, employees also emphasized the importance of clear communication and openness for successful alliance with another organization. Hsu et al. (2009) make a corresponding connection to communication and trust through emphasizing the importance of social interaction between firms, especially in relation to engagement in knowledge sharing. Authors claim that *“an organizational social interaction environment intensifies the positive association between trust of colleagues and knowledge sharing”*. Wenger (1998, pp. 77) also supports the importance of trust and identifies trust as crucial characteristics of complex mutual relationships. Although empirical findings do not touch upon the issue of trust as powerful as the literature findings, the mutual agreement points between them are the power of clear communication, open dialogue and transparency in collaboration which are also supported strongly by Anantatmula (2010) as can be seen in figure 2.

In their study, Vlaisavljevic et al. touches upon alliances with diverse partners, referring to collaborations with multiple partners, that have various skill sets and competencies, rather

than working with only one. Although employees and strategy manager did not mention working with multiple companies in collaboration, the challenges that occur in such collaborations which are introduced by existing literature, manager and employee perspectives are similar. These challenges encapsulate misunderstandings resulting from difficulty of building strong communication, different values, culture and interests being obstructive at times and being reluctant to share knowledge when firms have little in common. Consequently, this leads us to discuss the findings on how to overcome these challenges to have successful collaboration and effective knowledge sharing among the organizations.

Faems et al. (2010) argues that “substantial monitoring and controlling efforts” will be necessary mechanism to overcome challenges in collaborations among various firms. Corresponding to this argument, in the in-depth interview with the strategy manager, we coincidentally found out that company is employing a technique called “*assignment coaching*” while managing aforementioned conflicts. This is a tool to control and improve the communication between the firms in collaboration in order to solve rising problems, maintain transparency, improve employee motivation and willingness to collaborate. Based on the presented interview results, one can conclude that *assignment coaching* is a leadership initiative taken by the case company. Consequently, one can draw a connection line between real leadership initiative by the company and Anantatmula’s (2010) perspective on the increasing demand for greater amount of leadership when there is a great amount of change in the project. Anantatmula (2010) claims that commitment of employees to the project is dependent on the leadership skills which help aligning them to new directions and motivating them when needed. As per the strategy manager, assigned coaches in the company are higher level executives, such as account executive, or an outside expert who usually comes in and fixes complexities with his/her expertise depending on the characteristics of the project. Assigning coaches based on project type is a behavior that connects to Müller and Turner’s (2006) emphasis on choosing the right kind of project manager with appropriate leadership style to manage the project and possible conflicts.

Throughout our interviews and questionnaire process, the word commitment did not appear often, though we would like to point out that we assumed resource commitment to be natural behavior for the case company in order to be able to offer services in IT consultancy. As Hartnett et al. (2012) reflect commitment as the outcome of collaboration and conclude that more engagement between firms in alliance increases the level of commitment. Nevertheless, we wanted to focus on the level of engagement by leader and employee perspectives and its

effects on overall performance of the projects, hence the overall performance of the company. On the other hand, Anderson & Weitz (1992) supports that organizational commitment (defined in the literature review section) has a reduction effect on opportunism and among different organizations. However, we do not have any relevant information about the effect of organizational commitment on opportunism in our empirical findings to relate, support or contradict the argument made by the authors.

In support of the Resource Based View (RBV), we draw a clear conclusion of how important is to engage in collaboration for a knowledge-intensive company to mutually exchange resources, which in our case the resource would be referred to as “knowledge”. By extending the traditional RBV, Das & Teng (2000) helped in understanding the application of the theory in strategic alliance perspective, referring to a firm using an alliance to gain access to other firm’s valuable resource. This is particularly relevant in our study since company’s main resource is knowledge and its mission statement clearly emphasizes knowledge sharing and our empirical data clearly shows that the company sees collaboration as the vital mean to transfer knowledge or ‘exchange resources’ with different organizations in the emphasis on “maximizing value” as per Wu & Cavusgil (2006). As found in the literature review, authors conclude that commitment of resources in collaboration increases value attainment.

Based on literature and empirical findings, we found that collaboration is always benefiting a knowledge intensive firm once the challenges are overcome with the monitoring and controlling methods. In addition, findings show us that, by committing to company resources, engaging in proactive communication and transparency, knowledge intensive firm increases the value of the projects by effectively sharing knowledge.

5.3 Impact of Project Length

When we combine existing literature and empirical findings from case company, we clearly see ‘time’ as a material factor in projects within knowledge intensive firms. However, we found out that various dimensions of ‘time’ were discussed by each of the sources when talking about the length of the projects.

Gemino et al. (2007) argues that time, budget and scope represent changes that occur in knowledge intensive projects, which can affect project performance. In fact, main finding by the authors is that, as duration of the project increases, the likelihood of the project

underperformance also increases. Thus, indicating that there is a direct influence by the time towards project outcome. The author continues the main reasoning behind this is be that longer projects increase the risk of external changes and lose momentum over time. In contrast, three out of 10 respondents in the questionnaire preferred longer term projects, claiming that their level of knowledge of the project elements and self-confidence increases over time, while only one respondent preferred to engage in shorter term projects due to its flexibility of alternating and experiencing new projects. An interesting finding from the questionnaire was that three respondents did not care about the length and rather would prefer personally interesting projects, regardless of the length. Questionnaire data itself was difficult to generalize due to variance in the answers toward the issue of time. It also seemed that not many opinions came out from the questionnaire corresponded with the existing literature. With regards to in-depth interview, strategy manager looked at the issue from a different angle and claims that time is not the directing factor, when creating knowledge intensive projects, although he mentions that it is expected for each project to have timeframe in the beginning. He refers project as a *waterfall process* and claims that almost 99% of the time, project fails to be completed within the estimated time frame. At this point, he introduces the term 'budget' and reflects on how budget is affected by time and how time is affected by various factors, such as client wishing to switch the project direction, or requiring extra work on the project. Strategy manager stresses on proactive communication and earlier planning to prevent external factors to occur and to outline more accurate time frames. This method corresponds with the emphasis of Harrington et al. (2012) on the significance of effective leadership in relation to project performance. Harrington et al. (2012) also puts emphasis on how different stages in a project reflect the overall performance and suggest that it is important to look at time within the perspective of these stages and align performance accordingly. This is very similar to what strategy manager of the case company mentioned as the 'new strategy map', which is introduced by the management team in the company. This technique includes facilitators who are responsible to evaluate the progress of the projects periodically and help management team to clarify the goals of the company. As per manager, company sets future goals for time frame of four to five years, and setting such long term goals are directly dependent on how they facilitate and manage the timeframe of each project.

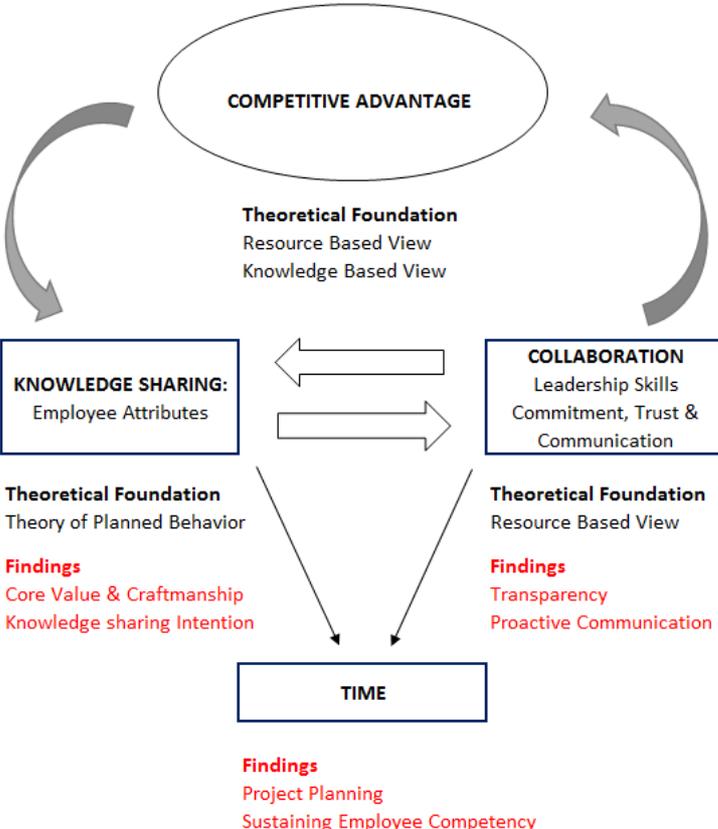
Strategy manager mentions the significance of time in terms of employee development in the company, where employees improve certain skill set and their knowledge base within certain period of time. In fact, time is seen as indicator, when measuring employee growth.

Developing skill set is compared to ‘staircase model’ where different stairs refer to employee skill set goals that should be met in a certain time frame. Manager mentions that knowledge intensive firms grow in fast pace, thus there is a high demand for learning and acquiring new knowledge. Initiatives by the management team to encourage employees to keep developing is a leadership skills and training that is necessary and encouraged by Harrington et al. (2012). In addition, strategy manager concludes that longer projects require more skills which reminds us the responses from employees on how majority agree on the claim that “longer term project requires more knowledge sharing” because they tend to become more complex.

Although majority of the employees agreed on “longer term project requires more knowledge sharing”, arguments in all of the findings do not capture project length as the direct factor to influence knowledge sharing. Therefore, we can conclude that the project length came out to be a side effect of other functions to have impact on knowledge sharing in collaborative projects within knowledge intensive firms.

5.4 Revised Framework

Figure 5: Revised Framework



The above revised framework demonstrates the incorporation and relevance of empirical findings to the original theoretical framework (see Figure 3). The theoretical foundation of RBV and KBV coincide with the empirical findings, indicating that knowledge sharing and collaboration are crucial factors in generating a company competitive advantage. However, other supportive findings emerged. Knowledge sharing has to be implemented in the core values of the company together with employees following the lifestyle of craftsmanship. The implementation of these aspects reflected on the intention of employees to share their know-how. In terms of collaboration, the findings revealed transparency and proactive communication in regards to the project requirements and processes to have major impact on the success of collaborative projects. Communication in collaborative projects was found to be equally significant in both literature and empirical findings. Distinct result in empirical studies was how time is only corresponding to project planning and assisting in measuring the employee competence. Thus the original category of project length did not fulfill the purpose of the initial framework, reason why it is replaced with the broader instrument of time. Time was considered rather as a controlling element than leading factor in the transfer of knowledge in collaborative projects.

6 Conclusion

This Thesis was driven by the interest in the increasing phenomena of knowledge sharing among knowledge intensive firms as well as the current literature arguing for the importance of knowledge sharing among organizations (Argote et al., 2002). More closely, knowledge sharing has been considered as a crucial component for creating competitive advantage (Grant, 1996; Nonaka, I. and Takeuchi, 1995), yet little study offer analysis on how to manage this knowledge sharing when the project length varies in knowledge intensive firms. Hence, examining the significance of time in relation to project performance and knowledge sharing, this study added a new dimension contributing to the existing research. Moreover, this study was directed by three main themes; knowledge sharing, collaboration and the length of a project, where the separate analysis of each theme offered structure as well as deeper understanding of the components that emerge from the research question. Consequently, through this framework the research question of *how can knowledge sharing be managed in collaborative projects when the project length varies* was answered.

This Thesis was led by a predetermined approach of investigating the length of the project with respect to knowledge sharing. Resultantly, this means of arriving to extensive results turned out insufficient. Existing literature incorporates duration and length as essential part of project performance but both literature and empirical findings showed no significant evidence of project length directing knowledge sharing. However, time and duration of a project were interlinked to be essential part of project planning process and as a measurement of employee competence. Furthermore, the empirical findings disclose how the management of knowledge sharing is highly dependent on two variables; the instilling of knowledge sharing as a core value of the company and the recruitment of employees following this principle.

6.1 Theoretical Contribution

The purpose of this thesis is to contribute to existing study on the topic of knowledge sharing management within a knowledge intensive firm. This was done by gaining knowledge about the impact of project length on knowledge sharing management within the scope of knowledge intensive projects.

The theory of KBV and RBV were explored, where fundamentals of the knowledge and knowledge-transfer were present. Context of knowledge sharing and collaboration were collectively supporting the competitive advantage a company can have in a knowledge intensive atmosphere. Theory of planned behavior was correspondent to employee characteristics within the case company, providing information on individual intention to share resources, primarily the knowledge, with members of other organizations.

Upon collecting and analyzing the findings, further exploration was made to complement the existing knowledge in discussed theories. To enhance the knowledge sharing concept as a primary value, which was rooted in KBV and RBV, recruitment process and the value of craftsmanship of employees came to the forefront as vital factors to influence overall performance within the case company. Additionally, soft aspects such as transparency and proactive communication found to be critical and the more research on these areas contribute further to roots of successful collaboration which involves intense knowledge sharing as the core activity of the company.

Yet the findings concluded insufficiency of existing scholar work on the impact of project length in knowledge sharing, our empirical findings on the importance of earlier project

planning and time as indicator for employee growth in a given period of time, can provide value to reshape the future research. Project length or time may still not play direct role on knowledge sharing with proposed further research; however aforementioned dimensions can contribute to RBV. Consequently, this may create more possibilities for effective knowledge sharing within the given project time frame, and pave the way to increased performance.

6.2 Practical Implications

The findings of our research provide possible practical relevance in the realm of strategic management. The empirical findings indicate that effective knowledge sharing management is highly dependent on the leader and management teams' ability to implement knowledge sharing as the core value of the company. The empirical results indicated how strategically incorporating knowledge sharing to the company mission and vision from the beginning, ensured knowledge sharing to become part of the company culture and reflected in better decision-making. This was justified by the strategy manager explaining how the low retention rate of the company is result of careful recruitment of people that strongly value and support knowledge sharing. For this, the case company highlighted the apparent strong "family atmosphere" and similar employee work ethics. Additionally, this was also proven by the questionnaire finding of participants' consensus on company brand image as the main reason to join the firm.

On that account, the open and transparent company atmosphere is corresponding to the management and leader ability to detect not only right type but also right minded people to work for the company. The study also found assignment coaching as an implemented tool facilitating better communication in collaborative projects and enhancing the employee intention to share knowledge. Ultimately, even though theoretical neither empirical findings highlighted the importance of prioritizing length or duration of project, time-frame and project planning was considered self-evident in order to organize knowledge sharing. Thus, project milestones in a certain time-frame control and clarify the project goals in KIF's. Lastly, as knowledge intensive companies are characterized as dynamic and fast growing, time is an important measurement tool for the management to evaluate the employee growth and to ensure that the level of knowledge is increasing. Ultimately, we can conclude that our findings show practical contribution as company knowledge sharing connects to the

competence of management in steering the company values, recruitment, project planning and communication in collaborations.

6.3 Research Limitations

Limitations discussed in this section only include limitations which arose from the case findings during our research. Due to time constraints, our scope of study was limited to the presented theoretical framework. Thus, certain perspectives are not included purposefully. Moreover, this directed us to select only the relevant data that connected to theoretical framework. In addition, collaboration with the case company was only limited to national boundaries, hindering us to touch upon any information regarding international aspects.

6.4 Future Research and Reflection

During our research process, we encountered some findings that could be relevant material for further research for the topic under the umbrella of *strategic management*.

Firstly, while searching for the connection between knowledge sharing and the project length from our questionnaire, we found out that considerable amount of employees' preference on knowledge sharing strictly depended on the topic of interest in a project and the other party, regardless of the duration. This directs the way for a further research on how much can knowledge sharing be affected depending on the topic of interest and on the choice of partnership in collaboration.

We also encourage researchers to look at the issue of time from a different lens and explore what other factors can influence time in a project. The fact that we searched for direct relation between project length and knowledge sharing hindered us to go deeper in time aspect and explore different dimensions that influence time. According to our findings, 'budget' could be one factor that influences the duration of the projects and require further research to evaluate its overall effect on project performance and knowledge sharing.

In relation to theoretical framework, we believe that main theme of our topic, knowledge sharing, could be strengthen in the future by incorporating theories around knowledge governance. Growing technology innovations and solutions raise the awareness of intellectual property rights, the effectiveness of existing software business models in the competitive

market and the topic of organizing innovation, which could support the future competitive advantage of organizations.

We see knowledge sharing as gradually growing phenomena within organizations due to growing demand in knowledge intensive workforce. Based on our observations on the topic, implementation of knowledge sharing should be more centralized in companies' management strategies. Our Thesis could be considered as a fraction of the whole knowledge sharing field in strategic management however our findings not only reflect the current state but also could inspire researchers for further exploration in this area.

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Appendix A

The following Appendix A shows the original questions proposed to the case company's strategy manager and the three main areas that were directing and discussed in the interview.

INTERVIEW

- **How does project length affect knowledge sharing among knowledge-intensive firms?**

QUESTIONS

Knowledge Sharing Theme

- Could you describe your company business model and how **knowledge sharing** is present in this business model? Why?
- In today's IT consultancy business, what is knowledge sharing?
 - How do you feel about sharing knowledge, how much knowledge can be shared? How do you govern the knowledge sharing?
- What kind of challenges there can be in a knowledge intensive firm?

Length Theme

- What type of projects are you currently having and what is the average **length** of these projects?
- In these current projects, what are the important and crucial dynamics of these projects?
 - How does the length of the project influence these dynamics? Can you give an example?

Collaboration Theme

- How much **collaboration** is involved in the projects with other companies?
- What are your roles and responsibilities in managing these collaborations as a project leader?
- What are the most valuable aspects of collaborative projects in order to function well?
 - What aspects could negatively influence this relationship?

Combination of the Themes

Based on combination of these themes, what is your personal take on our final question;

- How is knowledge sharing affected when undertaking collaborative projects with various lengths, mainly putting emphasis on the longer-term projects where there is no certain end date and outcome of the project would be mutually beneficial?

SOFT QUESTION

Can you just openly describe what is expected from you as leader in this company?

In terms of soft skills, what do you see as your most valuable skill in order to succeed in a collaborative project?

Does the skill set differ/change in a short term and long term projects, if yes, in what way?

What has been your biggest challenge when managing external projects?

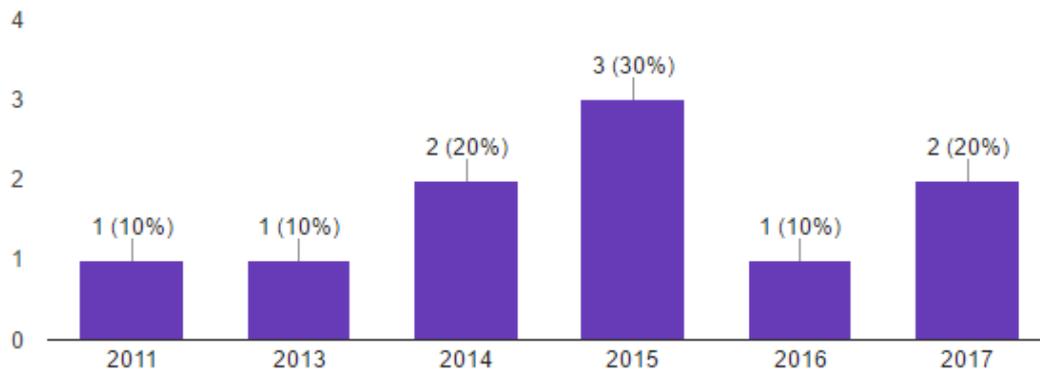
ELABORATE

Appendix B

Appendix A is the questionnaire handed out to the employees of the case company in a Google Forms format. Company name is written as “X” due to confidentiality reasons.

Your Start Year at Company X:

10 responses



Your position and responsibilities at Company X:

10 responses

Consultant, developer

Business Development

Ninja

CEO

Project Manager

Web Developer Contractor

Development operations, JavaScript/Frontend developer

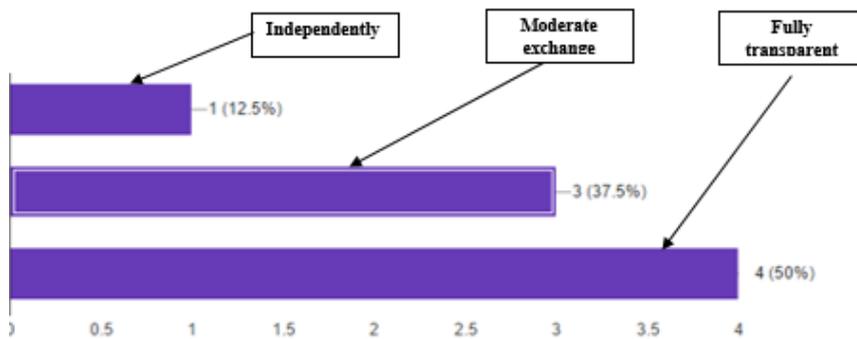
ninja stuff

Ninja in Training. I will be coding back-end in .NET for a B2B e-commerce platform and looks like some mobile development in Client x as well.

Consultant, software developer

1. To what extent is know-how exchanged among the parties within external collaborative projects?

8 responses



1a. What were the crucial factors that influenced this result?

9 responses

The end-result is what matters: in order to succeed with quality and everybody's satisfaction you need to work as if you're all equal members of the same team, working towards the same goal.

To clarify, it varies a lot depending on the project. In some scenarios there is no desire for Knowledge Sharing. In general we try to stay away from those however but there are always scenarios where someone has a unique competence that the team do not have time to internalize. For the others it's a matter of how we talk about it. From the first time we meet someone outside the company we immediately start talking about the importance of sharing knowledge, so if we do start a project the client is already primed to expect and try to encourage knowledge sharing from our colleague/s. The issue when that doesn't happen is in general 1 of 2 things: 1. Because the client is scared that their own employees will feel that Company X is a cooler place to work than their own company 2. That there are really stubborn people that don't want to learn new things. We have monthly coaching sessions with every employee where we try to encourage them to do a talk or arrange an activity such as a brown-bag lunch, architecture-hour or just any topic really.

? Can't work out what you are asking

This is the core of our company, our true mission; this influences how we want to work and work in reality

No structured way to document and share knowledge, lessons learned.

Activities outside of projects such as leet lunches, code nights, conference trips etc. Communication through Slack channel. Client NDAs.

Unclear project leadership from their side

Company X is known for knowledge sharing.

My client wanted to spread knowledge about web development as they had only backend people (C++) but required a web frontend. Up until my arrival they'd maintained a very basic web setup which nobody wanted to work with unless specifically told to. This meant I came into the team with expressed instructions to spread as much knowledge as possible about web development.

1b. How do you personally feel about sharing your know-how / expertise in external projects? Why?

9 responses

I share knowledge to improve project results, and I also share knowledge to reinforce the company brand, i.e. to be sharers of knowledge. And because I personally enjoy it.

Since I usually don't share that much know-how in my role I am not the one to say here, but in general I share it a lot in house and I like telling others how I work and what I do. I try to extract a lot of knowledge from my colleagues that I can use in my contact with clients such as technology radar of what's hot and what's not, as well as just extracting current challenges at a given client from the ninjas so that I can introduce the idea of trying to battle it together with the client.

Sharing knowledge will yield better results, through the diversity approach, having multiple angles to the issue at hand, and exploiting the collective knowledge

Huge costs for doing the same mistakes over and over.

It depends on the project. Current project we have a strict NDA so I can't share many specifics about it, I can however share open source software we're using and how you can use it. In previous projects there was more transparency, especially if same coworkers on client's site also worked on Company X

I'm all for it!

I think is very important, because it contributes to overall quality of the deliverables.

I am happy to share my knowledge in both internal and external. Because it will create a win-win situation.

It's one of the main reasons I joined Company X, I don't see knowledge as something proprietary, I believe that the market, and thus my possibility to exist in that market, grows faster the more knowledge we share.

2. What is the average time-frame of the external projects you undertake?

8 responses

Collaboration with a specific client: 6 months -> 2 yrs. Actual development projects: 1-2 months.

Average mission is 12 months I think.

cannot state

3 months

About 1 year with a wonky standard deviation.

1 week to 6 months

6+ months

It differs a lot, I've been to 3 months assignments, 1 month, 18 months. It varies alot.

3. Are you a person who prefers committing to longer term collaborative projects or who prefers short term less-collaborative projects? Why?

9 responses

Short term with collaboration? I like the flexibility and change of short-term projects, but want solid interaction and collaboration.

From a Sales perspective I'd say the middle is best. We want to go in, fix the problem, transfer the know-how and then step out of the way so that the customer can handle the future challenges in that particular field themselves. Usually that's impossible to do in a couple of weeks if it's a tough challenge. Therefore I'd say that 6-12 months is typically very good.

Long term collaborative for all the reasons mentioned before

Doesn't matter. It is the subject of projects that is most interesting.

No preference.

Longer term collaborative projects

Depends on how interesting is the project.

Probably longer term because my knowledge of the system increases over time. With shorter projects you might have to hand over just in time when you are begin to get up to speed.

I honestly don't care as long as the project is interesting and the people I work with are nice. That's all I care about.

4. When you are working in a long-term project, does this require you to share more knowledge? If yes, how do you improve your knowledge / know-how?

9 responses

Yes, short term works more like a customer-provider relationship. Longer works more like "we're all in it together", which means more sharing. I improve by reading/staying up-to-date with online resources, "feeding" off of colleagues (remotely or in person) and participating in knowledge activities organized by the company.

I would say knowledge sharing in general declines over time. This is partly because there's always more energy at the start as well as a larger knowledge-gap at the client. The more time spent together (naturally) the less there is to transfer. But of course- this must be seen from the perspective -> if it's a long term mission, then things that may not be included in a short term assignment will be very important in order to make changes that help the team long term. For instance - solving something small may just be transferring the techniques, while long term projects may require transferring know-how on processes, build-environments and other ways of working within the team in order to make it sustainable over time.

Yes, in a way as you are on a journey together and it becomes obvious faster that you will need each other to come to the best result, compared to only running short projects

Long term projects tends to be more complex and require to share more knowledge to ensure high quality. Personal initiative are crucial to improve my knowledge. This is done by root cause analysis, talk to my colleagues and co-workers. I also use my personal network for problem solving and increased knowledge.

There is no actual difference between short and long-term projects. I always have to use extracurricular activities to improve my knowledge or during my work time ask google/slack chat/etc.

Talk more and have physical meetings

It depends.

It depends. But usually on longer term projects the roles might evolve and that requires you to adapt and learn new things. New technologies might be integrated and so on.

Not really, it depends on the client. If the client don't care about knowledge share and the people I work with at that client don't, then chances are there will be no sharing. It's completely up to them. I will share if I can and I can sense that people want/need it.

5. What were the positives and negatives of working with external people? Can you give an example of an incident, if you had one, where you faced certain challenges in these collaborations? How did you overcome these challenges?

9 responses

Positives: More variety, new people, with bigger clients a potential for better support structures than we have ourselves. Negatives: Less guarantee of quality competence in team members. The common challenges are the same - it's mostly intrapersonal stuff (dealing with expectations, differing values and priorities, and avoiding misunderstandings). So being as good of a diplomat as you can be helps. The one thing that stands out for external interaction is that what you do reflects on the company in a way that doesn't apply to internal work/interactions.

The positive thing is general all the new impressions you get from working in different domains with different types of people. You really develop your skillsets in people-management when you see different workplace cultures and people. The most challenging part is of course that some of the externals can turn out to be very hard to work with. Usually we try to coach our ninjas in these scenarios how they can handle the situation, and sometimes that works really well, sometimes the externals diverge too much from how we want to work and our culture that it's just not possible to work with them. This happens VERY rarely, but in those scenarios we've terminated the contracts. Usually we try to fix it guidance and coaching initially though.

positive: different perspectives, different values etc. giving better and more creative solutions in the end; challenges are on communication, prestige; to overcome these one needs to have a truly open and inclusive mindset; wanting to understand the other party; no prestige, everything that is core values in our company

New people-new insights.

Working with people who do not share same values or are obstructing your work is difficult. I usually overcome by sucking it up and reminding myself the fact that I can always switch projects... or quit.

The customer expected me to go fix a bug immediately when it surfaced despite the fact that our contract said all my work should be scheduled into two week iterations. I told them that I would try to solve the issue as soon as I could, but that it might take longer than they would prefer.

No opinion. It depends on the people.

I have mostly had positive experiences working with external people. Can't really remember a situation where there was challenging.

The main problem I've had so far was one client who was clearly doing things in not only a very old-fashion way, but a slightly dangerous way with heavy performance implications. I tried to share my knowledge of a more modern, safe and performance friendly way, but the people responsible were a bit afraid to accept new knowledge. In that case, despite my efforts, they decided that learning a new way was more costly than continuing with a way they knew, so they did and I later moved on.

6. What are the most crucial soft skills that you possess in external projects?

9 responses

Getting along with people, Communicating clearly (avoiding misunderstandings, managing expectations, etc.)

Likeability, diplomatic, fairness, work horse, positive attitude.

Empathy, ability to listen, receive and give constructive criticism, dare to dare

Responsiveness, humility and openness

Charm... I guess.

Easy to talk to. Good at seeing the bigger picture. Fairly good at getting a group to compromise.

Negotiating.

The ability to listen and help when customers or end users are in trouble.

Patience. That's it.

6a. Does the skill set change/differ between short term and long term projects? Why?

9 responses

Long term demands more of your soft skills. You get to know people better over time, which offers great potential, but also more source of conflict.

Don't know.

Interaction with people gets longer and hence are more relationship based, more time. In shorter engagement, it is more difficult to reach the 'trust' and inclusive environment that is needed.

No

Yes, my skill set may change but I don't think there is a causality with that and the duration of a project. Technologies come and go, especially if you're working with web technologies.

Not really.

It depends on the environment.

Yes it might differ but I'm not sure.

Not really, it changes between clients. Their ability and interest in wanting to learn about new tech is the crucial point in my experience. But that's just what I've seen so far.