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Enhancing knowledge management in knowledge-intensive firms by increasing opportunities

Establishing leader focus through applying the
AMO-framework

Master's thesis in Project Management
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Preface

This master's thesis has been written as part of our major in Project Management at Norwegian University of Science and Technology (NTNU) during the spring of 2020. This work builds on our project thesis (Høydal and Skoog, 2019) conducted as preliminary research. The work has been performed at the Department of Industrial Economics and Technology Management.

Throughout this work, we have received valuable guidance and excellent insight from our supervisor Ola Edvin Vie. We are grateful for his assistance. Without his support, this thesis would not have been the same.

A special thanks also to our case company, without whom we would not have been able to contrive this master's thesis.

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Abstract

Conclusion: We conclude that leaders should enhance knowledge processes by focusing on the opportunity for their knowledge workers. This conclusion is drawn because combining the bottleneck view of the ability-, motivation-, and opportunity-, AMO-, model with knowledge-intensive firms, KIFs, the knowledge workers themselves contribute to the ability and motivation for knowledge processes. This focus on opportunity is done through clear prioritization of knowledge processes, serving the workers' needs, and building a fitting culture with an allowance of mistakes.

Goal: This master's thesis aimed to examine how leaders should focus to enhance knowledge management within KIFs by applying the AMO-model. The thesis was done by focusing on official leaders and knowledge workers' ability, motivation, and opportunity to perform knowledge processes. Secondly, we aimed to contribute to leadership and knowledge management literature. Trust, commitment, and culture were identified as important factors for knowledge management, forming the basis for factors leaders can affect. The AMO-framework offering causality between the factors and knowledge management was used to structure the thesis.

Method: To answer our master's thesis, we performed a case study of a single KIF, having semi-structured interviews with 12 employees, split between leaders and non-leaders, to gather the necessary data to analyze our propositions. The data was analyzed using abductive reasoning, followed by codification using the Gioia method.

Results: Our most significant result is the use of the AMO-framework within the intersection of leadership and knowledge management. The applicability of the framework in a practical manner present it as a natural element to include in knowledge management literature. Further, our findings show that the theoretical distinction between management and leadership should be downplayed in leadership literature, presenting leaders, particularly in knowledge-intensive firms, with more concrete guidelines to exert leadership. Additionally, to some controversy, we identify control as also needed in knowledge management.

Sammendrag

Konklusjon: Vi konkluderer at ledere som ønsker å forbedre kunnskapsprosesser burde fokusere på mulighetene til arbeiderne. Vi kommer frem til dette ved å ta flaskehals perspektivet på en modell som omfatter evner, motivasjon og muligheter, AMO-modellen, og kombinere denne med kunnskapsbedrifter, KIFs. Vår forskning viser at kunnskapsarbeidernes iboende egenskaper dekker både evne og motivasjons aspektet for kunnskapsprosesser. Fokuset bør derfor ligge på mulighetene. Det bør gjøres ved å sette søkelys på fasilitering av arbeiderne, bygge en kultur som tilgir feiltrinn og tydelige prioriteringer av kunnskapsprosesser.

Mål: Denne masteroppgaven har som mål å undersøke hvordan ledere burde fokusere for å bedre kunnskapsledelse i kunnskapsbedrifter ved hjelp av AMO-modellen. Dette ble undersøkt ved å se nærmere på offisielle ledere, og kunnskapsarbeidernes evner, motivasjon og muligheter til å utføre kunnskapsprosesser. Vi ønsket med dette å bidra til litteratur innenfor både lederskap og kunnskapsledelse. Viktige faktorer for kunnskapsledelse som tillit, forpliktelse og kultur ble brukt som utgangspunkt for faktorer som ledere kan påvirke. Ved å strukturere disse gjennom AMO-rammeverket ble det skapt kausalitet mellom faktorene og kunnskapsledelse.

Metode: Masteroppgaven er utført ved å gjennomføre et case-studie på en enkelt kunnskapsbedrift. Semi-strukturerte intervjuer av 12 ansatte, fordelt mellom ledere og ikke-ledere, ble gjennomført for å samle de nødvendige dataene til å analysere våre proposisjoner. Samlede data ble analysert ved bruk av en abduktiv tilnærming etterfulgt av en kodeprosess i tråd med Gioiametoden.

Resultater: Vårt mest betydningsfulle funn er bruken av AMO-rammeverket i krysningpunktet mellom lederskap og kunnskapsledelse. Dens praktiske anvendelighet gjør at den fremstår som et naturlig element å inkludere i kunnskapsledelseslitteratur. Videre viser våre funn at en burde tone ned det teoretiske skillet som finnes i ledelseslitteratur (management og leadership) og heller tilstrebe å gi ledere, spesielt i kunnskapsbedrifter, mer konkrete retningslinjer for å utøve lederskap. Til slutt, noe kontroversielt, ble kontroll identifisert som nødvending også i kunnskapsledelse.

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1 Introduction

Consulting is the most knowledge-intensive sector in Norway and constitutes approximately 110 000 employees divided into 25000 firms. In sum, they make up for 6% of the value created in Norway, worth almost 200 billion NOK. The consulting industry had an annual growth of 4,8% in the period of 2011-2016 and has emerged due to an increased need for expert competence (Wifstad et al., 2017). Thus making focusing on knowledge-intensive firms of contemporary importance. Leadership needs to be adjusted to context because of the focus on knowledge-intensive firms. According to Alvesson (2004) and Løwendahl (2005), these activities are vastly different in knowledge-intensive firms than in more traditional production firms.

Further supporting the focus on this sector in combination with leadership is that knowledge in today's society can be seen as a significant competitive advantage of a firm: "*A firm's competitive advantage depends more than anything on its knowledge: on what it knows - how it uses what it knows - and how fast it can know something new*" (HRMagazine, 2009, p 1). The competitive advantage of an organization is thus directly connected to how it manages its knowledge activities. This can be said to be especially true for organizations consisting of knowledgeable workers, knowledge-intensive firms, KIFs, where the workers themselves, and their knowledge is one of the primary sources of competitive advantage (Alvesson, 2004; Dul et al., 2011; Starbuck, 1992). Knowledge management, KM, needs to be per the environmental context (Hislop, 2013). Thus we need to know what is meant by knowledge, knowledge management, leadership, and the organizational context.

We use the following definition of knowledge: *interpretation and relating data and information to contexts and personal experiences and beliefs*, which is based on Hislop (2013) and Nonaka (1994). Knowledge is further elaborated in section 2.1.1 Knowledge. This definition emphasizes the personal aspect of knowledge over related terms and is fitting with a focus on leadership, which is also dependent on people.

Hislop (2013) defines knowledge management widely as: "*an umbrella term which refers to any deliberate efforts to manage the knowledge of an organization's workforce*" (p. 56). This definition leads itself lackluster for concrete actions to be taken but also includes all processes of knowledge management. Combining this with leadership allows us to answer

how leadership should be done to enhance knowledge management. Further, knowledge management is broken into influencing factors of trust, commitment, and culture, more on these in section 2.1.2 Knowledge Management.

We define leadership using the definition: *"a process whereby an individual influences a group of individuals to achieve a common goal"* (Northouse, 2004, p 3). We apply this definition of leadership, but emphasize that we base it on an official leader who influences and that not everyone who influences is a leader. In line with von Krogh et al. (2012), we focus solely on centralized leadership, neglecting distributed leadership emerging from non-leaders. We will be focusing on leadership as performed by official leaders and will not be making a differentiation between leaders and managers in the propositions. There is, however, emphasis on the differences between leaders and managers in prioritizing and characteristics, as shown in 2.3 Leadership. There is a new paradigm in leadership related to dynamic and interaction-based leadership, of which adaptive leadership is especially related to knowledge management through knowledge development and innovation, contrary to the earlier paradigm of focusing on the individual (Uhl-Bien et al., 2007). We do not have the time and resources to go into this paradigm shift in our thesis, but opportunities based on our findings will be discussed in further research.

The definitions of both leadership and knowledge management are lacking in causality and performing. Thus we are using the aspects of ability, motivation, and opportunity, AMO (Argote et al., 2003), to make a theoretical framework to answer our research question. AMO is a framework of a causal relationship between ability, motivation, and opportunity, and knowledge management (Siemsen et al., 2008). Argote et al. (2003) proposed a cumulative model of using AMO for knowledge management, and we are taking it a step further as a tool for leaders aiming to enhance knowledge management in a KIF context. This is done as our definition of leadership does not entail -how- one should influence, and we are, therefore, researching how by applying AMO.

1.1 Research Question

Our research question has a basis in leadership focus and how official leaders can enhance knowledge management in a knowledge-intensive firm. As Hislop (2013) states, knowledge management needs to be specific to the context, and thus it is of relevance to further

elaborate on knowledge management in the KIF context. At the same time, leadership varies greatly with context and motive as well (Alvesson, 2004; Løwendahl, 2005), combining these we aim to further elaborate on beneficial leadership for knowledge management in this context. The process of arriving at the research question is elaborated in section 4.2.1 Plan. It will be done by combining knowledge management theory with leadership theory. Also, the AMO-framework will be used to offer possible causal applicability of ability, motivation, and opportunity for knowledge management. Delimitation on how we are to answer the research question through sub-research questions and unit of analysis is further elaborated in section 4.2.2 Case Design.

Research Question: How should leaders focus to enhance knowledge management in KIFs?

We are performing a case study to answer our research question. Our case company is a knowledge-intensive firm following Alvesson (2004) and Newell et al. (2009), which specializes in environmental consultancy services. As such, one can say that the workers there are knowledge workers (Alvesson, 2004; Starbuck, 1992; Politis, 2003). This company is a small to medium-sized business and operates at several locations nationwide and has a high density of leaders at each location.

1.2 Thesis Structure

In figure 1, Thesis Structure, the overall structure of our thesis is presented. We start by checking the relevance of our theoretical foundation and need for research within the field as well as presenting our research question. In section 2, we will illuminate the theory needed to answer our research question, including knowledge, knowledge management, KIFs, and leadership. In section 3, we will present the overall theoretical framework, combining knowledge management, context, and leadership into a framework with a basis in AMO, as seen in figure 2, Developing the Theoretical Framework.

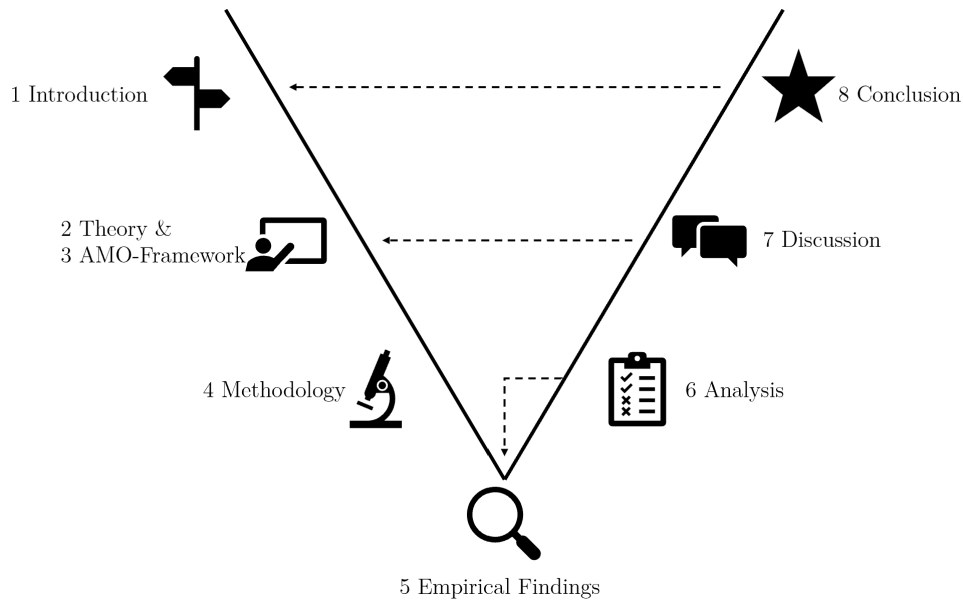


Figure 1: Thesis Structure.

A step in creating the overall theoretical framework is establishing a sub-research question for each part of AMO. In section 4, Methodology, the reasoning behind why we perform a case study will be elaborated as well as a thorough evaluation of methods used in the thesis will be done, culminating in personal reflections of the thesis work. In section 5, our empirical data is presented. In the analysis, section 6, we will empirically answer our theoretical propositions. In section 7, we revisit the theory and discuss the theoretical implications of the results from the analysis for our theoretical background, as well as answering sub-research questions. Finally, in section 8, we will conclude our main research question as well as offer further research opportunities and evaluating the limitations of our thesis.

In the next section, we will present the findings of our literature review in our theoretical background.

2 Leadership & Knowledge Management in KIFs

The research question for this thesis is:

How should leaders focus to enhance knowledge management in KIFs?

The research question contains three main components, leadership (Northouse, 2004), knowledge management (Hislop, 2013), and knowledge-intensive firms (Alvesson, 2004). In this chapter, we will address knowledge itself as a prerequisite and then knowledge management. Following this, knowledge-intensive firms and leadership theories will be elaborated before going more in-depth on critical factors that are pertinent to knowledge management for leaders in this context. Firstly we begin with knowledge & Knowledge Management.

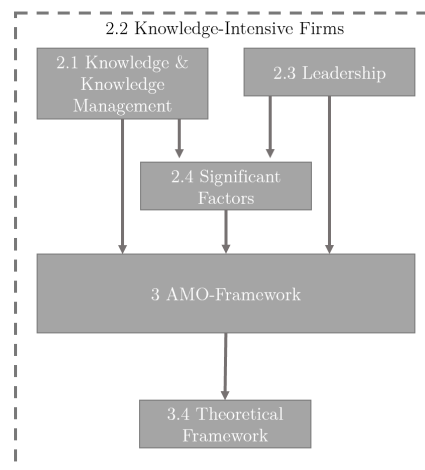


Figure 2: Developing the Theoretical Framework

2.1 Knowledge & Knowledge Management

Knowledge can be hard to distinguish from other closely related terms, such as information. This distinction will be done in the following section, 2.1.1 Knowledge, as well as providing a working definition of knowledge that we will use going forward. Afterward, what we mean by knowledge management will be further elaborated, as well as central factors pertinent for performing knowledge management such as commitment, leadership, trust, and culture will be described in section 2.1.2 Knowledge Management.

2.1.1 Knowledge

The definition of knowledge is fluctuating, and different authors have different meanings as to what knowledge entails. As such, it can be beneficial to compare it to other terms within the context from which it differs. Within the theory of knowledge, this is predominantly done by looking at how it differs from data and information in a hierarchic perspective (Hislop, 2013; Newell et al., 2009; Bhatt, 2001; Alavi and Leidner, 2001). Data make up the bottom of the hierarchy by being raw numbers, words, or similar. Information forms the next level where data is put in a system and, as such, is processed. At the top, knowledge can be explained as the intellectual dimension applied to data and information and makes it personalized (Alavi and Leidner, 2001). As such, we define knowledge to be about *interpretation and relating data and information to contexts and personal experiences and beliefs*.

When discussing knowledge within an organizational context, it is usually split into the dimensions of tacit and explicit knowledge (Nonaka, 1994; Davenport, 1998; Newell et al., 2009; Jasimuddin et al., 2005). The differences between the two are of significant importance for knowledge management and will, therefore, be described in greater detail below.

Explicit Knowledge

Explicit or codified knowledge is often referred to as knowledge, which is objective, impersonal, independent of context, and easy to share (Hislop, 2013). Nonaka (1994) explains it as the knowledge that is transmittable in formal and systematic language. As such, explicit knowledge has often been articulated into formal documents, formulas, procedures and can be stored in archives or databases.

Tacit Knowledge

In contrast to explicit knowledge, tacit knowledge is directly linked to know-how and can best be explained as subjective, tied to personal experiences, and dependent upon context (Hislop, 2013; Newell et al., 2009; Nonaka, 1994). Tacit knowledge is embodied within individuals, which makes it hard to separate from the ones who possess it (Jasimuddin et al., 2005). Profound examples of tacit knowledge are riding a bike or swimming. It is impossible to explain the activity to the fullest, and the ones trying for the first time is

likely to fail. Tacit knowledge can thus be said to be rooted in one's actions, practical skills and be highly idiosyncratic (Jasimuddin et al., 2005; Newell et al., 2009; Nonaka, 1994).

The link between tacit and explicit knowledge

From the presentation of the two dimensions of knowledge, we can derive that they both play an essential role. Although explicit- and tacit knowledge have opposing characteristics, they are not as separate as one first might think. As presented, tacit knowledge was embodied within one's brain and actions. Explicit knowledge, on the other hand, has to be interpreted, understood, and applied. Thus Polanyi (1966) states that all knowledge is rooted in tacit knowledge and that solely explicit knowledge would be unthinkable. Resulting in that knowledge is not polarized into the two dimensions of explicit and tacit knowledge, but exist in a continuum where they act as the two extremities (Jasimuddin et al., 2005). Our definition of knowledge, which is about *interpretation and relating data and information to contexts and personal experiences and beliefs*, is conserving the tacit dimension and can, therefore, be utilized.

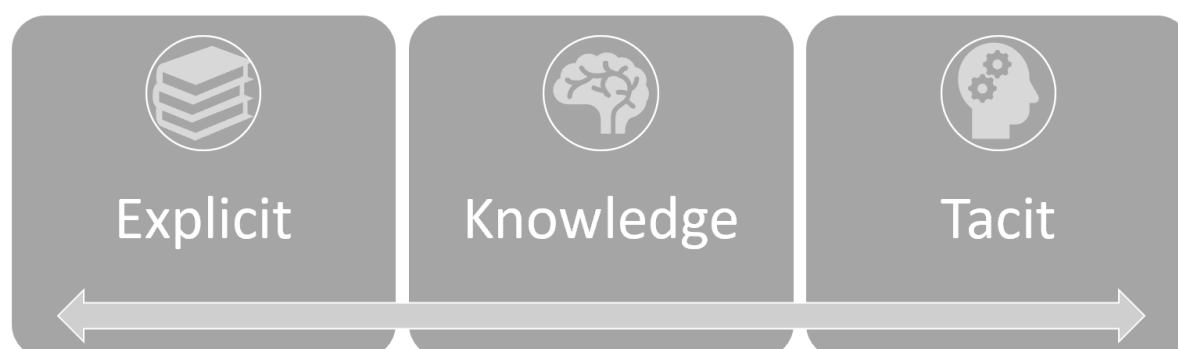


Figure 3: Continuum of Knowledge

2.1.2 Knowledge Management

First off, a definition of knowledge management has to be reached, and what knowledge management means for this thesis has to be determined. We start by looking at a few definitions of knowledge management.

Hislop (2013) defines knowledge management broadly as: *"an umbrella term which refers to any deliberate efforts to manage the knowledge of an organization's workforce"* (p. 56). Somewhat more narrowly, Bhatt (2001) views knowledge management as comprising a

range of processes or activities: *"knowledge management process can be categorized into knowledge creation, knowledge validation, knowledge presentation, knowledge distribution, and knowledge application activities"* (p. 1).

Taking this into account, we want to emphasize Hislop's (2013) definition as it leaves room for all these activities in addition to all deliberate efforts to manage them. As we presented in 2.1.1, Knowledge, knowledge always contains an interpretation of information, meaning a human perspective. Looking at knowledge management from a leadership perspective, social processes connected to both fields become the natural focus.

Sanz-Valle et al. (2011), do Carmo Caccia-Bava et al. (2006), and Ajmal and Koskinen (2008) all found that culture is of paramount importance to knowledge management in an organization. Trust was identified as one of the main factors of knowledge management (HRMagazine, 2009). This is supported by Rolland and Chauvel (2000), who highlight trust as the single most important precondition for knowledge exchange and Ford (2003), who identify trust as most important for knowledge acquisition. Commitment has been linked to knowledge management by increasing the individual's willingness to participate in knowledge processes (Van den Hooff and de Ridder, 2004; Robertson and O'Malley Hammersley, 2000).

In a study on choosing knowledge management style, Hansen et al. (1999) state that leaderships prioritizing knowledge management and being clear on the strategy and its importance is the way to void conflict and misuse of resources. Prioritization is opposite Claver-Cortés et al. (2007), who found organic structures to be of the rise in knowledge-intensive firms, all though for a small-sized comparative study, and fitting for knowledge management. Mueller (2012) and Oliver and Reddy Kandadi (2006) points out that employees need time to perform knowledge processes, but that it is not always compatible with how things are organized, inferring a lack of prioritization.

The connection between the social factors and knowledge management is definitively present, and we will further elaborate on the factors in section 2.4 Significant Factors. The context in which these factors need to be managed will, therefore, be presented in 2.2 Knowledge-Intensive Firms and characteristic contributions of leadership in section 2.3 Leadership.

2.2 Knowledge-Intensive Firms

A knowledge-intensive firm, KIF, is a firm that consists of knowledge workers. (Alvesson, 2004; Starbuck, 1992; Politis, 2003). Dul et al. (2011) recognize the knowledge workers as the main competitive force within KIFs. Thus one can argue that KIFs are distinguishable from traditional firms in being more dependent on their personnel rather than the traditional resources such as capital and equipment (Alvesson, 2000). Their dependence upon their employees also make KIFs more vulnerable towards turnover than companies who have knowledge stored in procedures or routines (Lee and Maurer, 1997; Urbancová and Linhartová, 2011)

These types of companies can be found in a wide range of fields e.g. law, accounting, engineering-, management-, and other fields of consulting (Alvesson, 2004; Newell et al., 2009). Common for all of them is their dependence on knowledge and that they can be referred to as knowledge-intensive (Alvesson, 2004; Newell et al., 2009).



Figure 4: Characteristics of Knowledge-Intensive Firms

Knowledge-intensive firms are not only distinguished by their employees but also by how they facilitate for them to be at their most productive. Facilitation is done by having a specific organizational structure and allowing their workers to work with high degrees of influence and freedom, as such, providing them with the desired autonomy. In the

following sections, we will present knowledge workers, autonomy, and organizational structure as these are important parts of knowledge-intensive firms, illustrated in Figure 4 Characteristics of Knowledge-Intensive Firms.

2.2.1 Knowledge Worker

Knowledge-intensive firms distinguish themselves by gaining their competitive advantage through their human capital, namely their employees (Politis, 2003; Swart and Kinnie, 2003; Starbuck, 1992; Dul et al., 2011). Cortada (1998) claims that all workers in the 21st century applies knowledge and, therefore, can be categorized as a knowledge worker. Others, however, think of knowledge workers as a more special category and that they have a unique position within the contemporary workforce (Newell et al., 2009). Their particular position can further be explained by being associated with creativity, strong analytical- and social skills, and high degrees of theoretical knowledge (Frenkel et al., 1995). In addition to these skills, they are known to be specialized in esoteric fields, often supported by high formal degrees, and have strong abilities to solve non-routine tasks (Hislop, 2013; Newell et al., 2009).

The work of knowledge workers is separate from traditional work by being mainly intellectual (Hislop, 2013; Drucker, 1999; Politis, 2003; Starbuck, 1992). Being mainly intellectual implies that most of the work is internal processes and somewhat intangible. Resulting in knowledge workers often being self-managed (Drucker, 1999) and with high intrinsic motivation (Alvesson, 2000). Their abilities impact the organization, and some of the implications will be addressed in the next sections regarding KIF characteristics, which knowledge workers are a part of 2.2.2 Autonomy and 2.2.3 Organizational Structure.

2.2.2 Autonomy

Knowledge work varies from traditional work through mainly consisting of internal processes and its intangible nature, as presented in 2.2.1 Knowledge Worker. These characteristics require a higher need for creativity and problem solving than more tangible work processes (Newell et al., 2009). Alvesson (2004) states that in knowledge work, subjective and personal judgment is taken in order to solve the client's individual and complex problems. Strict policies, close management, and not being allowed to follow new

and exciting paths could mitigate creativity, innovation, and knowledge processes. Thus, autonomy can almost be classified as a prerequisite for knowledge workers (Robertson and O'Malley Hammersley, 2000; Frenkel et al., 1995; Alvesson, 2004). Especially so, as lack of autonomy would drastically reduce the employee's commitment towards the organization (Robertson and O'Malley Hammersley, 2000). The effects of commitment are further discussed in 2.4.3 Commitment.

Although autonomy is highly demanded, it may be hard to pinpoint what it entails exactly. Hall (1968) explain that autonomy: *"involves the feeling that the practitioner ought to be able to make his own decisions without external pressures from clients, those who are not members of his profession, or from his employing organization"* (p. 93). High autonomy might seem reasonable in theory. However, questions can be asked whether it is possible to be a part of an organization and serve clients without being affected by pressure from managerial rules, bureaucracy, or client demands. Nevertheless, we deduce that autonomy is referring to the degree of freedom an employee is experiencing regarding their work practices and decision making. Intellectual work is not as bound to presence at company locations as traditional work and allows knowledge workers to perform their services from wherever (Alvesson, 2000). Thus, implying that managers could lose the privilege of feeling control over their employees as they no longer can keep an eye on them.

2.2.3 Organizational Structure

Knowledge-intensive firms distinguish themselves from other organizations by downplaying hierarchy (Alvesson, 2004; Newell et al., 2009). This reduction is in line with Mintzberg (1979), who claims that organizations with a high need for creativity should de-emphasize hierarchy.

Burns and Stalker (1994) explain that organizations operating in environments characterized by lots of changes tend to be organically organized. Similarly, Alvesson (2004) states that knowledge-intensive firms often deviate from bureaucratic principles such as standardization, routinizing, and supervision due to high customization in their work. Further, Alvesson (2004) elaborates that moving away from such principles weakens the position of management, creating a flatter organization, increasing networking, innovation, and making it more ad hoc. Burns and Stalker (1994) similarly present organic

organizations as moving authority and control from the manager and over to wherever the needed competence is in the organizational network. Increasing communication across traditional hierarchic and resulting in consulting instead of commanding leaders, distributing the power of decision throughout. As such, the organizational structure of knowledge-intensive firms tends to be comparable to the organic structures described by Burns and Stalker (1994).

Removing boundaries within the organization enable the vertical information flow, while also allowing the organization to function as a marketplace for knowledge (Nurmi, 1998). Networks can be formed across what in traditional firms would be departments, sections, and entities throughout the organization. Allowing knowledge to be shared, adapted, and applied in new contexts. Knowledge created in networks increases one's interdependence of each other, and the best way to deal with such is through communication (March and Simon, 1958). Supporting this line of thought is Alvesson (2004), which characterizes extensive communication as a trait of KIFs.

2.3 Leadership

Leadership is a broad concept that can be defined from several perspectives, several of which have been leading at their own time. Leadership theories range from traits theory where the focus is on the individual leader's traits, contingency theory, which is situational dependent, to the contemporary theories of transformational leadership and postmodern theory of leaders as servants (Clegg et al., 2005). Northouse (2004) defines leadership in general as *"a process whereby an individual influences a group of individuals to achieve a common goal"* (Northouse, 2004, p. 3). This definition follows general definitions of leadership that include one actor's influence on others in a structuring-, facilitating-, and guiding manner (Yukl, 2002). However, Yukl (2002) also states that leadership influence is both subjective and difficult to ascertain. Combining this with leadership, which mostly focus on the leaders and not followers, adds to the complexity.

It is shown in the literature that people-oriented leadership styles correlate to learning and facilitate such endeavors in the organization (Politis, 2001). Thus with a knowledge management focus and leader's role in enhancing it, it is natural to look at people-oriented leadership styles for answers. Burns (1998) emphasizes the empowering and individual

focus of transformational leadership. While Greenleaf (2002) does the same for servant leadership theory, it is quite apparent that both of these fall in this category. Both servant leadership and transformational leadership showed positive correlations towards learning (Choudhary et al., 2013).

2.3.1 Transformational Leadership

Transformational leadership, known for inspirational long term goals and strong values, was made popular by James McGregor Burns (Northouse, 2004). Burns (1998) states that the idea behind transformational leadership is the dual elevation of motivation and morality of both leader and subject through their mutual involvement. It is thus separated from transactional leadership, which is focused on the one time transacting action (Burns, 1998). Transformational leadership is found to affect knowledge management practices positively in several settings, prominently in manufacturing settings (Noruzy et al., 2013; Politis, 2001).

As a basis for transformational leadership and how it can be done, we view the four factors as compiled and presented by Bass (1996). These are charismatic leadership or idealized influence, inspirational motivation, intellectual stimulation, and individual consideration (Bass, 1996, p. 19-20). The first factor of idealized influence is about being a role model, and leading by example, this can be argued to be akin to trait leadership theory, that the leader needs some predisposition towards charismatic behavior (Northouse, 2004). Inspirational motivation is about arousing team spirit and building commitment towards the goals of the organization (Stone et al., 2004). Communication is crucial to this aspect by clearly envisioning future states. Intellectual stimulation focuses on creativity and questioning of values and ideals. Mistakes are not frowned upon, and everyone is involved in problem-solving.

Lastly, there is a focus on the individual. This focus takes the form of coaching, where the leader identifies potential and tries to mold the employees to reach higher states. Tasks are delegated according to individual needs, and each person is treated differently to accommodate different potential and expectations. That the individual focus happens in a coaching manner, may imply some distance between leader and follower (Birasnav et al., 2011). The individual is also a way to achieve organizational goals, as in contrast

with servant leadership, which we will present shortly (Stone et al., 2004).

Yukl (2002) states that transformational leadership is highly applicable in different settings and that it is mostly contextually independent, even though its effectiveness might vary. The independence from context can be viewed in light of Bass and Avolio (1993), who state that the leadership style affects culture, and culture affects leadership. They are interrelated. They propose that leadership through values, such as transformational, makes for opportunities of changing the culture, and thus making transformational leadership more widely applicable. Even so, Bass and Avolio (1993) state that the leadership style needs to be adjusted to already existing culture as well.

Table 1: Transformational Leadership Summarized

Transformational Leadership
Provide direction
Developing
People-oriented
Empowering
Role models
Building organizational commitment
Inspiring
Trusting environment
Individual coaching

As one can see in Table 1 Transformational Leadership Summarized, based on the theory presented in this section, transformational leadership includes several aspects that are highly regarded in knowledge management. Nevertheless, although transformational leadership is found fitting when it comes to knowledge management in general, it has also been criticized for being too focused on values and long term goals to function all by itself in a day-to-day setting (Hislop, 2013).

2.3.2 Servant Leadership

Greenleaf was the first to articulate the concept of servant leadership after his many years as a manager in practice (Parris and Peachey, 2013). In Greenleaf's essay *The Servant as Leader*, it becomes apparent that the leader is first and foremost a servant, and secondly, the servant must lead when that is best for the people (Greenleaf, 2002).

Bass (2000) has high aspirations for servant leadership: *"the strength of the servant leadership movement and its many links to encouraging follower learning, growth, and autonomy, suggests that the untested theory will play a role in the future leadership of the learning organization"* (p. 33). Supporting this, Eva et al. (2019) found that servant leadership is more prominent than ever through a review of the field, with more articles coming out than before. The contemporaneity and relevance for learning organizations form an argument to involve servant leadership as a leadership theory of interest in knowledge management.

Servant leaders are empowering in nature, they facilitate, and they develop. The focus is on serving first and leading second (Greenleaf, 2002). According to van Dierendonck (2011), servant leaders can be characterized by the following: empowering and developing people, humility, authenticity, interpersonal acceptance, providing direction, and in general, can be compared to a sort of stewardship (van Dierendonck, 2011, p. 1233). In short, these characteristics are about giving the individual follower personal power and appreciating the value in each individual, accepting that one can need help and benefit from this, and actively seeking contributions from others. Humility is also about facilitating and providing for their followers. Authenticity is about behaving in a way that is right individually and following regular codes of conduct, acting with integrity. Interpersonal acceptance is about showing empathy and understanding other's point of view and where they originate. Providing direction is about providing guidance and clarifying expectations. Stewardship is about going in front as an example and accepting responsibility as a servant leader (De Wit, 2017).

Leadership as a servant enables self-managed employees, which in turn is an important leadership attribute with positive indications for knowledge creation (Politis, 2001). He also states that a culture of considerate orientation is useful for developing such a leadership style, with a focus on trust and room for failure. Servant leaders find creating a trusting atmosphere to be important, as well as a place where mistakes are allowed (Ferch, 2005). If the culture is facilitating people-interaction and has a focus on considerate factors, it is possible to develop servant leadership (Politis, 2001). As presented here, the culture is antecedent to the leadership style. A culture of low power distance is also advantageous to servant leadership (van Dierendonck, 2011), and it is applicable across many cultures,

even though the perception of serving and attributes might differ (Parris and Peachey, 2013).

Servant leaders have not been found to feel a great affiliation for the organization itself but rather emphasize the people who constitute it (Stone et al., 2004). Even though the leadership style is about the individual follower's growth before the goals of the organizations, it is assumed that the employees in this case act in the interest of the companies as well (Eva et al., 2019). This, however, does not need to be the case, and as such, this way of performing leadership might have its drawbacks, especially dependent on context.

While transformational leaders and servant leaders both show concern for their followers, the overriding focus of the servant leader is upon service to their followers. The transformational leader has a greater concern for getting followers to engage in and support organizational objectives.

Table 2: Servant Leadership Summarized

Servant Leadership
Provide direction
Developing
People-oriented
Empowering
Facilitating
Employees over the organization
Enabling autonomy
Trusting environment
De-emphasizing power distance

It is possible for leaders that want to focus on knowledge as their main competitive advantage to adapt ways of thinking from the servant leadership literature to come closer to these goals (Choudhary et al., 2013; Politis, 2003). It is also connected to what knowledge workers show as one of their main characteristics in section 2.2.1 Knowledge Worker. An overview of the characteristics presented on servant leadership is shown in Table 2 Servant Leadership Summarized.

2.3.3 Management

One cannot present leadership without also addressing management and the discussion of where the dividing lines are between the two. In a practical working environment, it can be hard to separate the two, as they are often used interchangeably (Kotterman, 2006). However, several lines are drawn in theory. Yukl (1989) describes the divide on management and leadership with the ones arguing for a distinction saying that leadership influences, management does. Kotter (1990) presents a view that leaders provide vision and communicate this, often longer-term, while management is about shorter-term planning and organizing and getting things done.

In comparison to leadership, management is a relatively new field of expertise which emerged when larger and more complex organizations developed a higher need for control throughout the last century (Kotterman, 2006). Zaleznik (1977) reviews managers as problem-solvers and as characterized by being analytic, intelligent, and hard-working. Furthermore, managers are considered tough-minded, persistent, and perhaps most importantly, tolerant, and benevolent.

So far, we have discovered some typical traits of managers and that their task is to provide stability and order to organizations. Extending our understanding of management, Drucker (2002) states that management's responsibility and concern are everything that affects the performance and results of the organization. As such, managers are concerned about keeping the status quo within the organization and have adopted a short term focus accordingly (Kotterman, 2006). Managers coordinate and plan future activities, as well as using tactical tools like budgets and time schedules to control and monitor ongoing activities. (Kotter, 1990; Kotterman, 2006). Although management could sound bureaucratic and administrative, which it also is, it mainly revolves around human beings (Drucker, 2001). Management is continuously looking to increase performance by taking advantage of their employees' strengths and minimize the effect of their weaknesses. Thus, managers are often functioning as diplomats or mediators within the organization and can often turn a win-lose situation into win-win by de-escalating conflicts through negotiation or by utilizing their position within the organizational hierarchy (Zaleznik, 1977).

Although managers set impersonal goals to watch the bottom line or to keep within

the scheduled time, it is also strongly dependent upon soft factors (Zaleznik, 1977). Commitment is required to gather the employees around shared values and to attain their goals (Drucker, 2001). Culture is pulled forward as a premise that has to be met by the managerial style, and the employees have to be nurtured and developed as organizational needs, and opportunities change with time (Drucker, 2001).

Table 3: Management Summarized

Management
Problem-solving
Organizing
People-oriented
Control
Stability
Planning
Operational focus
Bottom line focus
Short term goals

The characteristics of management, as found throughout this section, are presented in Table 3 Management Summarized.

2.3.4 Combining Leadership and KIF

So far, in the thesis, we have discovered that knowledge encompasses both a tacit and explicit dimension and that personal interpretation is a crucial element of knowledge (Nonaka, 1994; Polanyi, 1966). Knowledge management was defined as an *"umbrella term which referred to any deliberate efforts to manage the knowledge of an organization's workforce"* (Hislop, 2013, p. 56) and, as such, includes all kinds of knowledge processes. Knowledge-intensive firms were characterized by consisting of an elite type of workers, knowledge workers (Starbuck, 1992). Knowledge workers brought new premises into the organization, which influenced how the organization is structured (Alvesson, 2004). Organizational hierarchy is downplayed, and the workers enjoy reduced measures of control from their superiors due to their ability to be self-managed (Drucker, 1999). They are also characterized by requiring higher degrees of autonomy. Leadership was defined as *"a process whereby an individual influences a group of individuals to achieve a common goal"* (Northouse, 2004, p. 3), and the styles of transformational and servant leadership

were explored as both are found to have a positive influence on knowledge management (Choudhary et al., 2013). The debate on the lines between management and leadership is unresolved (Kotterman, 2006); as such, it was found necessary to include aspects of management as well. Tables on important aspects of transformational- and servant leadership and management have been merged in Table 4 Leadership and Management Summarized.

Table 4: Leadership and Management Summarized

Transformational	Servant	Management
Provide direction	Provide direction	Problem-solving
Developing	Developing	Organizing
People-oriented	People-oriented	People-oriented
Empowering	Empowering	Control
Role models	Facilitating	Stability
Building org. commitment	Employees over the organization	Planning
Inspiring	Enabling autonomy	Operational focus
Trusting environment	Trusting environment	Bottom line focus
Individual coaching	De-emphasizing power distance	Short term goals

The order of characteristics in the different columns does not have a direct connection and cannot be compared row by row.

The fields of knowledge management, knowledge-intensive firms, and leadership, will now be combined to help us provide propositions to answer our research question:

How should leaders focus to enhance knowledge management in KIFs?

Resulting propositions will be presented below, as well as excerpts of what theory supports them.

Bass (1996) claims transformational leadership exerts idealized influence through being a role model and leading by example, while servant leadership presents follower growth and facilitation as an example to follow (Stone et al., 2004). Choudhary et al. (2013) found both types of leadership to enhance learning as a knowledge process. Thus, a way to encourage knowledge processes is:

Proposition 1: Leaders encourage knowledge processes through leading by example.

Van Dierendonck (2001) presents servant leadership as encouraging for follower learning and growth. Politis (2001) also find servant leadership to be enabling self-managed

employees positively for knowledge creation. Combining these with knowledge workers' strong abilities of creativity, social-, analytical skills, and ability to be self-managed (Frenkel et al., 1995; Drucker, 1999) forms the foundation for:

Proposition 2: Leaders who serve their knowledge workers increase knowledge processes.

As organizations grew larger and became increasingly complex, they also developed a higher need for control (Kotterman, 2006). However, a new type of worker has emerged, the knowledge workers. Drucker (1999) states that knowledge workers are mostly self-managed, while Frenkel et al. (1995) explain that they are associated with creativity, strong analytical and social skills, as well as high degrees of theoretical knowledge. These characteristics made knowledge workers demand autonomy in their work, Robertson and O'Malley Hammersley (2000), Frenkel et al. (1995) and Alvesson (2004) classified it as a prerequisite for knowledge workers. Leading us to believe that knowledge workers mitigate the need for control and that leaders do not focus on it, which yields the following:

Proposition 3: Knowledge workers' strong abilities diminish leaders' focus upon control.

The subjective and intangible nature of knowledge work requires more creativity and problem solving than physical work processes (Newell et al., 2009). Mintzberg (1979) stated that low degrees of hierarchy in an organization had a positive correlation with creativity. Furthermore, fewer organizational boundaries increase information flow and, therefore, can allow new ideas to be shared and exchanged throughout the organization (Nurmi, 1998). Knowledge-intensive firms dependence upon knowledge leads us to:

Proposition 4: Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.

Management's role in organizations is to maintain the status quo (Kotterman, 2006), implying that managers do not always welcome change. Knowledge processes, like knowledge creation, is dependent on making something new. Hansen et al. (1999) are explicit that knowledge processes need to be prioritized. Claver-Cortés et al. (2007) found that organic structures (Burns and Stalker, 1994) are compatible with knowledge management and emergent in KIFs, where direct prioritization is difficult, while Mueller

(2012) and Oliver and Reddy Kandadi (2006) emphasize that required time needs to be prioritized for knowledge processes.

Proposition 5: Leaders must prioritize knowledge processes for them to occur.

2.4 Significant Factors

Social factors have been stated necessary for both leadership and knowledge management throughout the theory presentation (Sanz-Valle et al., 2011; Ajmal and Koskinen, 2008; Ford, 2003; Van den Hooff and de Ridder, 2004; Hofstede, 1991; Kotterman, 2006; van Dierendonck, 2011). The following section is, therefore, devoted to presenting the factors of trust, culture, and commitment. Each of these will be presented, forming the basis for a proposition regarding how leaders could affect knowledge processes in the context of KIFs. These together can provide a better understanding of our field of research within knowledge management and leadership in KIFs.

2.4.1 Trust

Before moving forward, trust must be clearly defined. We will use the definition that Robinson (1996) provided: *"one's expectation, assumptions or beliefs about the likelihood that another's future actions will be beneficial, favourable, or at least not detrimental to one's interests."* (p. 576), due to it covering well what we mean by trust, as well as not going deep into the discussion of perceived risks as part of the trust aspect that is prominent in trust theory.

Trust is highly connected to knowledge processes and by some pointed out as a prerequisite: Rolland and Chauvel (2000) highlight trust as the single most important precondition for knowledge exchange. While Ford (2003) points out that interpersonal trust is most important for knowledge acquisition. Gilbert and Tang (1998) explain that trust in organizations itself is vital as it allows employees to be vulnerable and show their weaker sides without any negative consequences and thus create a healthy environment for development. Furthermore, Mooradian et al. (2006) explain that trust makes people more willing to share knowledge than otherwise. Opposite this, Politis (2003) finds too high trust in peers to negatively impact the dissemination of knowledge. Nevertheless, several authors exemplify trust as essential for knowledge processes, and we can, therefore, say

that leaders who desire to create effective knowledge processes should emphasize trust in their leadership style. We do, however, focus on leadership and thus do not go further into the trust factor than to distinguish between trust in the organization and interpersonal trust, even though these, in turn, constitute different constructs as ability, benevolence, and integrity (e.g., Mayer et al. (1995)).

Von Krogh et al. (2000) propose several recommendations for leaders who are looking to create trust. These include making mutual dependencies, make trustworthy behavior part of the performance review, increase individual reliability by creating a map of expectations, share personal information, and use symbolic gestures for interdependence (Von Krogh et al., 2000). Trust can also be said to be suited for knowledge workers, who require autonomy and is generally skilled labor (Alvesson and Sveningsson, 2003), as shown in the presentation of knowledge-intensive firms in section 2.2. As such, trusting leadership can be suited for knowledge processes in a KIF context. Also, leaders' show of trust is positive in the general setting as well.

Thus, when evaluating leadership's effect on knowledge processes, it is imminent that leadership facilitating trust is important for knowledge processes, leading to:

Proposition 6: Trust is cultivated by leaders to encourage knowledge processes in KIFs.

2.4.2 Culture

Defining culture is in itself problematic, and organizational culture is often used without further definition. We will, however, try to compile a general definition. From Strand (2007), we have it is about an overall vision, values of the organization, and a shared understanding amongst the employees. Also, culture emphasizes longevity and a shared understanding of values and how things are (Cameron and Quinn, 2006). Following the management literature, we will be taking the stand that culture is a dimension that can, to a certain degree, be impacted (Strand, 2007; Cameron and Quinn, 2006). This will allow us to explore the impact that leadership can have on culture in a KIF. Culture can profoundly impact knowledge management in the organization (Sanz-Valle et al., 2011; do Carmo Caccia-Bava et al., 2006; Ajmal and Koskinen, 2008). Hofstede (1991) also emphasizes that the culture needs to be in accord with the strategies, and thus that

knowledge management practices need to be following the culture.

Importance of culture for knowledge management, as defined in the literature, is a culture where mistakes are not hidden away but talked about between project teams and to the top management, who are helping to solve the problems rather than trying to find a scapegoat (Mueller, 2012). Another aspect identified by Mueller (2012) is that the project teams need time to perform knowledge activities after the projects are done, but that this is not necessarily compatible with how management is done. Oliver and Reddy Kandadi (2006) also found this to be accurate, that if knowledge management practices were not supported, employees did not find time to do these activities. As such, we present the following:

Proposition 7: Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.

2.4.3 Commitment

Commitment is closely linked to knowledge management, individuals who feel higher commitment towards their organization are more likely to participate in knowledge processes (Van den Hooff and de Ridder, 2004; Robertson and O'Malley Hammersley, 2000). Cabrera et al. (2006) nuance this view. They find organizational commitment to play a lesser role compared to other factors such as support from leaders and peers, rewards, work autonomy, self-efficacy, and personality. Going even further, Teh and Sun (2012) offer a critical view upon organizational commitment, identifying continuance commitment to negatively impact knowledge sharing. This is caused by fear of losing their competitive advantage over other employees in the organization, or that they do not find the urgency to share since they have no intentions of leaving (Teh and Sun, 2012). Organizational commitment can, however, also be used to describe turnover behavior (Mowday et al., 1979; Robertson and O'Malley Hammersley, 2000; Hislop, 2013). As shown in 2.2 Knowledge-Intensive Firms, turnover can be an issue. Thus commitment helps mitigate that effect and retain knowledge. According to Robertson and O'Malley Hammersley (2000) retention, and attraction of skilled employees is a critical part of knowledge processes. Organizational commitment is also closely tied to leadership and organizational culture (Joo, 2010). The three components of commitment can have different effects on knowledge processes (Hislop,

2003), but it requires further research.

Meyer and Allen (1991) conducted a literature review creating a framework of commitment for further research. This framework has become dominant within the field (Solinger et al., 2008), and we thus choose to use it ourselves. Meyer and Allen (1991) divide commitment into three components, affective-, continuance- and normative commitment. The components can affect an employee's organizational commitment, but it is the sum of them, which make up the employee's feeling of organizational commitment (Meyer and Allen, 1997).

Affective commitment can be described as individuals staying because they want to (Meyer and Allen, 1997). It can be caused by self-identification (Kanter, 1968), a strong link between values, desire for further participation, and willingness to put in a sustainable effort (Mowday et al., 1982).

Continuance commitment entails the perceived cost and gains of leaving (Kanter, 1968). The costs will, according to Becker (1960), increase, as one will accrue side bets, which are smaller benefits that one attains. Employees with continuance commitment as their primary commitment to the organization tend to stay because they have to (Meyer and Allen, 1997).

Normative commitment refers to the employee's feeling of obligation towards the organization (Meyer and Allen, 1991). This obligation can be due to rewards and other incentives. Individuals dominated by normative commitment usually stay there because they feel that they ought to do so (Meyer and Allen, 1991).

We propose that commitment is an important factor to secure, as it mitigates a critical challenge in KIFs, through retention. There is some support for facilitating knowledge processes as well, but this support is indecisive. In our KIF context, we believe that knowledge retention is an integral part of knowledge processes, and as commitment's further impact on knowledge processes is unclear, we propose the following:

Proposition 8: Leaders must ensure commitment from employees to secure knowledge processes.

2.5 Theory Summary

In table 5 Summary of Propositions, we have compiled all propositions presented in section 2.3.4 Combining Leadership and KIF and throughout section 2.4 Significant Factors.

Table 5: Summary of Propositions

Number	Proposition
1	Leaders encourage knowledge processes through leading by example.
2	Leaders who first serve their knowledge workers increase knowledge processes.
3	Knowledge workers' strong abilities diminish leaders' focus on control.
4	Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.
5	Leaders must prioritize knowledge processes for them to occur.
6	Trust is cultivated by leaders to encourage knowledge processes in KIFs.
7	Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.
8	Leaders must ensure commitment from employees to secure knowledge processes.

These propositions are implying how leaders should focus to enhance knowledge processes in a KIF, given our theoretical background. It is, however, not entirely clear what the causal effects each of these have on knowledge management. Thus, we are in section 3 AMO-Framework, arguing to use the AMO framework as a way to organize the propositions and try to give a causal connection between the propositions and knowledge processes, as previously done by Argote et al. (2003).

3 AMO-Framework

We are utilizing an ability, motivation, and opportunity-, AMO-, framework (Argote et al., 2003) in an organizing manner to have a framework for leaders to enhance knowledge management practice. This structuring will be done through integrating the previously made propositions, summarized in section 2.5 Theory Summary, with AMO in the present section. How AMO can be fitted to knowledge management has been elaborated by Argote et al. (2003), stating in their model causal relationships of ability, motivation, and opportunity for knowledge management practices. This view of using the AMO-model as an organizing framework is supported by Siemsen et al. (2008), even though they come from a different school of operational management. Worth to note is that AMO does not prioritize or give an indication for what to prioritize between ability, opportunity, and motivation in this capacity (Siemsen et al., 2008).

AMO is a well-established model within HRM work, although many perspectives are still to be tested within that area as well (Marin-Garcia and Tomas, 2016). This model dates back to Vroom (1964), even though the causality has emerged since then (Siemsen et al., 2008), as this was a model of motivation mostly. Later Bailey (1993) applied ability and motivation within the HR framework (Marin-Garcia and Tomas, 2016). Argote et al. (2003) developed the AMO-model of knowledge management in general terms based on the special issue it was developed in but emphasized the importance of context. We want to expand the use of AMO for leaders in knowledge-intensive firms by focusing on the leaders and workers within such a firm.

We will be using the AMO-framework described in the manner above to answer our primary research question :

RQ: How should leaders focus to enhance knowledge management in KIFs?

This will be done by answering three sub-research questions addressing the factors of how ability, motivation, and opportunity is connected to leadership and knowledge management in KIFs.

Siemsen et al. (2008) present an operational management view on the AMO-model, which indicates a different view on the workings between the three factors. Namely, a

constraining model, implying that the least developed factor is restricting the ability to perform knowledge sharing, for instance, contrary to the most used perspective that AMO is cumulative. This is, however, based on quantitative analysis, so even though it may have merit, we choose not to prioritize a restricting model at this time, as the AMO-framework presented by Argote et al. (2003) is using the cumulative view of the three factors.

As presented, the AMO-model consists of three dimensions for successful knowledge management. These are ability, motivation, and opportunity. The employees need to have the required skills, the appropriate motivation, and they have to be facilitated with the right opportunities by their employers (Marin-Garcia and Tomas, 2016). These three factors will, in turn, be elaborated upon in the following sections 3.1 Ability, 3.2 Motivation, and 3.3 Opportunity.

Before continuing, to discuss the three factors, we wish to emphasize that we are not proposing a theory of ability in itself, nor motivation, or opportunity. We do, however, use this framework for adding causal meaning behind ability, motivation, and opportunity as connected to knowledge management.

3.1 Ability

In order to answer our main research question, it has been broken down into three sub-research questions. In this section, we will present the first sub-research question regarding how leadership has to take into account the abilities of the workers themselves for knowledge processes and what is meant by ability. Therefore, the sub-research question is:

Sub-research question: How does the ability of knowledge workers and characteristics of KIFs impact how leaders should facilitate knowledge processes?

Abilities revolve around the capabilities of an individual to perform knowledge processes Siemsen et al. (2008). Capabilities include a person's skills and proficiency to carry out tasks and processes (Kim et al., 2015). A person's abilities can be developed through education, experience, and training, although some aspects are also innate (Argote et al.,

2003). This ties in with knowledge workers, whose abilities are often referred to as a characteristic that separates them from other workers, as presented in 2.2.1 Knowledge Worker. Argote et al. (2003) further argue that whether organizations are specialists or generalists affects their ability to learn from experience, making the context even more important to consider. Also, factors that increase a person's ability to manage knowledge need not be specific to him or her. They can include previous interactions and common language, enhancing the ability to perform knowledge processes (Argote et al., 2003).

3.2 Motivation

Motivation is strongly connected to leadership as one of the main tasks of leaders is to motivate and provide vision and direction, as described in section 2.3 Leadership. Although motivation is said to be intrinsic in knowledge workers regarding knowledge processes shown in section 2.2.1 Knowledge Worker. It implies concerns about how leadership should be done. Thus raising the question of:

Sub-research question: How are leaders impacting knowledge workers' motivation to perform knowledge processes in KIFs?

Furthermore, there are external motivational factors that can impact the motivation of knowledge workers to perform such work as well. Rewards and incentives are important aspects of motivation, according to Argote et al. (2003). Rewards and incentives can also include social aspects, not just monetary rewards. Social connections and how the employees view themselves concerning each other makes for motivation to perform knowledge processes that would not have happened otherwise. Trust is, as such important, directly affecting this relationship (Robinson, 1996).

3.3 Opportunity

Opportunity entails which context the knowledge workers have for knowledge processes (Argote et al., 2003), some of these can arguably be affected by leadership. How leaders affect opportunity is the focus in the last sub-research question:

Sub-research question: How are leaders impacting knowledge workers' opportunity to perform knowledge processes in KIFs?

Opportunities could stem from experiences, both direct and indirect. An example of indirect experience is learning by observation (Argote et al., 2003). Opportunity is also directly related to the distance within the organization; as such, reducing physical and social distance makes for opportunities of knowledge processes. Informal networks are an example of such distance being reduced and thus increasing opportunity (Argote et al., 2003). Culture can be an enabling aspect for opportunity, as it affects the context to which knowledge processes are to occur. It is heavily connected to knowledge management success (Ajmal and Koskinen, 2008; do Carmo Caccia-Bava et al., 2006; Sanz-Valle et al., 2011).

Now that we have a firm understanding of what ability, motivation, and opportunity entails, we will form our theoretical framework in the following section, where we will combine the theoretical approach found in section 2 Leadership & Knowledge Management in KIFs, with the organizing framework presented here.

3.4 Theoretical Framework

Throughout the theory, several propositions have been established to help answer our main research question:

How should leaders focus to enhance knowledge management in KIFs?

We will here categorize the propositions after where they best fit the AMO-framework, arguing how they fit the categories.

Ability

The sub-ordinate research question presented in 3.1 Ability is:

Sub-research question: How does the ability of knowledge workers and characteristics of KIFs impact how leaders should facilitate knowledge processes?

We will, at this stage, sort out which proposition will be able to contribute to answer this question and provide an explanation of how. When considering the sub-research question, it is clear that propositions directed at the abilities of the knowledge workers themselves should be associated with the ability aspect of the AMO-framework, as presented in 3.1 Ability. Following this reasoning, proposition 3: *Knowledge workers' strong abilities diminish leaders' focus on control*, has been placed under the ability factor. The direct link between the abilities of the workers, along with how leadership adapts as a result of it, makes it well suited to contribute to the sub-research question. Furthermore, the sub-research question states that propositions involving characteristics of knowledge-intensive firms also affects the ability to perform knowledge processes and should be categorized under the ability branch. As such, also proposition 4: *Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes*, fit the requirements of ability, and will be used to answer the sub-research question as theory implies that it is done due to the abilities of the knowledge workers and it being a characteristic of KIFs. The propositions found fitting to the ability perspective of the AMO-framework has been summarized in Table 6 Ability Propositions.

Table 6: Ability Propositions

Number	Proposition
3 → A1	Knowledge workers' strong abilities diminish leaders' focus on control.
4 → A2	Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.

Motivation

The sub-research question presented in section 3.2 Motivation was:

Sub-research question: How are leaders impacting knowledge workers' motivation to perform knowledge processes in KIFs?

Motivation, as described in the AMO-framework under 3.2 Motivation, has to do with people, just like leadership. As such, leadership and motivation are linked. Proposition 1: *Leaders encourage knowledge processes through leading by example*, which is based on leaders being inspirational for their followers can thus be said to be well suited to the motivational aspect of the AMO-framework. Trust can be an important factor in social relationships, and building trust to enhance knowledge processes can be said to be motivational. Thus proposition 6: *Trust is cultivated by leaders to encourage knowledge processes in KIFs*, relates to the motivational aspect for knowledge workers in the AMO-model. Another factor going into social relationships has to do with commitment; being more committed leads to more knowledge processes being performed, thus promoting commitment fosters the motivation to participate. Following this logic, proposition 8: *Leaders must ensure commitment from employees to secure knowledge processes*, can be categorized as a motivational proposition. The overview of the propositions that suited the motivational section of the AMO-framework has been listed in Table 7 Motivation Propositions.

Table 7: Motivation Propositions

Number	Proposition
1 → M1	Leaders encourage knowledge processes through leading by example.
6 → M2	Trust is cultivated by leaders to encourage knowledge processes in KIFs.
8 → M3	Leaders must ensure commitment from employees to secure knowledge processes.

Opportunity

The sub-research question presented in section 3.3 Opportunity was:

Sub-research question: How are leaders impacting knowledge workers' opportunity to perform knowledge processes in KIFs?

As described in section 3.3 Opportunity of the AMO-framework, it is about enabling context for the employees to perform knowledge processes. As such, proposition 2: *Leaders who first serve their knowledge workers increase knowledge processes*, is applicable in the opportunity section. Secondly, we have proposition 5: *Leaders must prioritize knowledge processes for them to occur*; this is also about giving a fitting context, that allows for inclusion in the opportunity factor. An enabling context can also be linked to culture supporting knowledge management, as proposed in proposition 7: *Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs*, this will be characterized as an opportunity proposition going forward. The three propositions fitted to the AMO-framework are shown in Table 8 Opportunity Propositions.

Table 8: Opportunity Propositions

Number	Proposition
2 → O1	Leaders who first serve their knowledge workers increase knowledge processes.
5 → O2	Leaders must prioritize knowledge processes for them to occur.
7 → O3	Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.

Theoretical Framework

In figure 5, Theoretical Framework, the sorted propositions within our AMO-model are shown, as well as the sub-research questions, forming the theoretical framework for this thesis. This framework is the backbone of the thesis going forward, which we will analyze and discuss within.

In the next chapter, we will present our methodology. We will go over how we reached our research question, design, and methods. Following this, we will evaluate how we performed our case study in detail, going through each step. Finally, research criteria will be evaluated, and ethical considerations will be presented before the chapter culminates with our personal reflections.

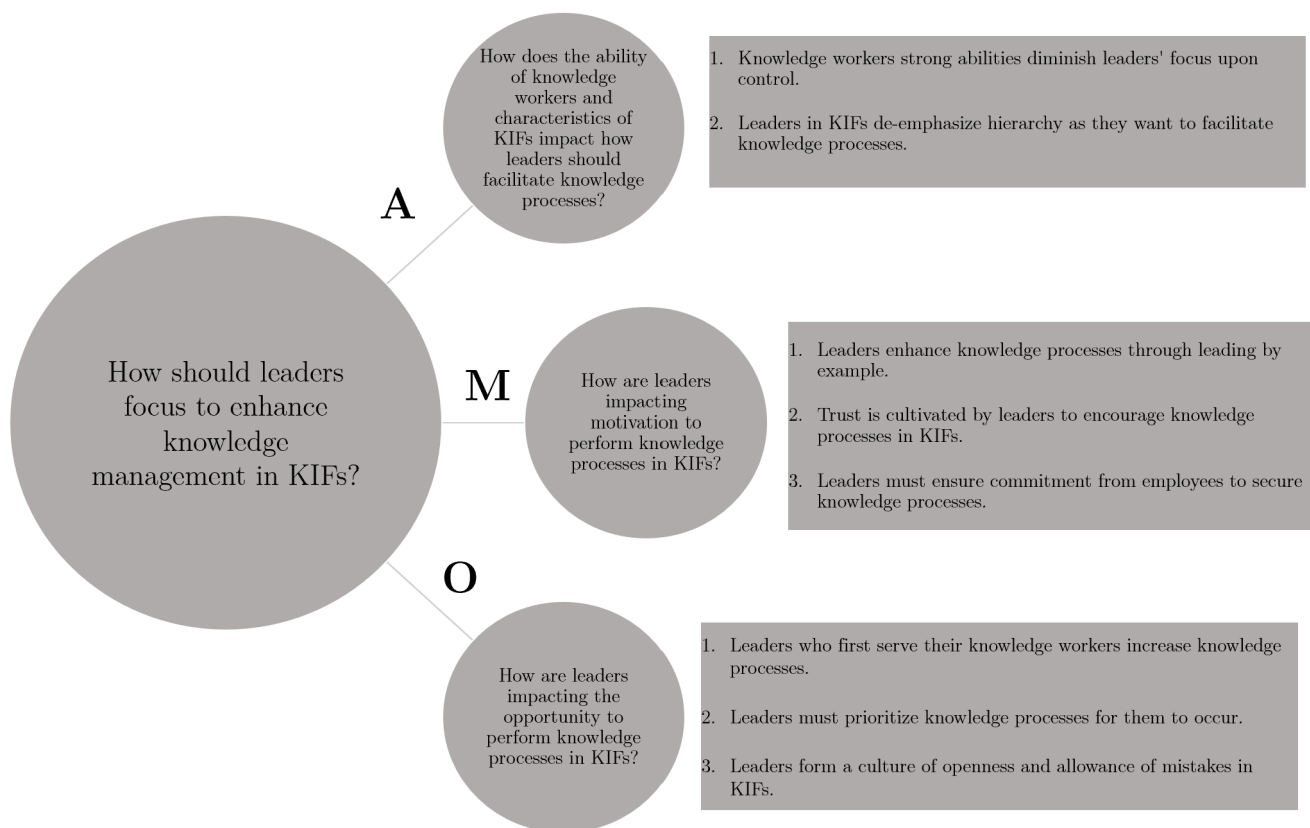


Figure 5: Theoretical Framework.

4 Methodology

The purpose of this chapter is to present how we performed our research to provide an answer to our research question:

How should leaders focus to enhance knowledge management in KIFs?

This is done by providing insight into the chosen and performed research method, research design, data collection, analysis, and interpretation of the results. Also, measures taken to ensure anonymity for interview objects and case company will be elaborated.

4.1 Research Method

Bryman (2016) states that there are three different strategies for conducting social research. These are quantitative research, qualitative research, and mixed methods. The three methods can be said to work in a continuum. The qualitative and quantitative methods represent each an end of the continuum, and the mixed methods is located in the middle containing elements from both ends (Newman et al., 1998).

The quantitative approach is associated with the ability to test theories by dealing with quantifiable data over a broad specter and create generalized results through statistics (Bryman, 2016; Creswell, 2014; Dalland, 2012). However, our research is not about testing theories or create generalized results per se, but rather investigate the in-depth effects of leadership on knowledge management in a specific context. With this consideration in mind, we assess that a quantitative approach is unsuitable for our research. Mixed methods contain elements from both the quantitative and the qualitative approach (Newman et al., 1998; Bryman, 2016; Creswell and Poth, 2007). Thus, since we are mainly interested in discovering and not testing, we can use the same reasoning as for the quantitative research approach to exclude mixed research methods in our research. Mixed methods research is also vastly more resource consuming, as it contains elements of qualitative and quantitative, leading to several steps of analysis and data gathering (Yin, 2014; Bryman, 2016); as such, it is not within our research scope to perform such a design.

"Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2014, p. 4).

Leadership's complexity induced through interaction between individual and groups to serve a common purpose contain elements of all the aspects Creswell (2014) mentions and a qualitative research methodology can thus be suiting to explore it in depth. Furthermore, Bryman (2016) emphasizes the importance of words over numbers in qualitative research, allowing more abundant and more in-depth data in contrast to the hard and reliable data gathered in quantitative research. This richness allows us to make a thorough look at the processes and discover underlying causes and effects. It manifests our assessment that a qualitative approach is better for obtaining a more insightful exploration of leadership's impact on knowledge management in KIFs.

4.2 Research Design

The research design provides our research with a framework that guides and structures the research method during the collection of data and the associated analysis (Bryman, 2016). To choose between the different research designs, Yin (2014) suggest considering three conditions, the form of the research question, the degree of control the researchers possess over behavioral events, and the focus upon contemporary events.

Table 9: Selecting a Research Design

Method	How?	No Behavioral control	Contemporary focus
Experiment	✓	X	✓
Survey	X	✓	✓
Archival Analysis	X	✓	✓
History	✓	✓	X
Case study	✓	✓	✓

Adopted from Yin (2014, p. 9)

The first condition, the form of the research question, refers to what one is trying to answer, and is done by categorizing the research question into one of the five basic categories of questions: "who," "what," "where," "how," and "why." Our research is looking to answer how leadership affects knowledge management in knowledge-intensive firms and is thus in the how-category. The explanatory nature of how-questions steers method choice towards the experiment-, history-, or case design methods (Yin, 2014). The second condition to consider was one's behavioral control. Our research is targeting a specific organizational context within a real-life business, which leaves us with little to no influence over the

behavior. The experimental design is dependent upon behavioral control and thus not a suitable design for us. The last condition to guide the choice of research design was to distinguish between historical or contemporary events. Our research will be conducted in a real-time organization focusing on their current day-to-day activities. The contemporary focus of the study leaves us with case design as the ideal option, summarized in Table 9 Selecting a research design.

Dubois and Gadde (2002) explain that: *"The interaction between a phenomenon and its context is best understood through in-depth case studies."* As such, the case study fits our research as its purpose is to provide an in-depth examination of leadership's effect upon knowledge management in KIFs, a real-world case with important contextual conditions (Bryman, 2016; Yin, 2014). Providing an in-depth examination of a subject requires an iterative process (Yin, 2014), as illustrated in Figure 6. This process contains the following steps: plan, design, prepare, collect, analyze, share. These steps will be used as a framework to explain how we have conducted the research for the thesis and constitutes the following sections of this chapter, presented in Table 10 Master's Thesis Processes.

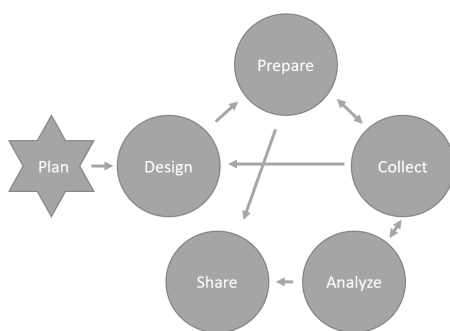


Figure 6: The Iterative Nature of Case Studies

Figure from Yin (2014, p.1)

Table 10: Master's Thesis Processes.

Steps	Content
4.2.1 Plan	Initiating Research
	Literature Review
4.2.2 Case Design	Research Question
	Sub-RQs & Propositions Unit of Analysis
4.2.3 Preparations	Interview Guide
	Sampling Interviewees
4.2.4 Data Collection	Interviews
	Other Material
4.2.5 Analysis	Data Coding
	Using Empirical Findings
4.2.6 Sharing Results	Sharing Results

Compiled from Yin (2014)

4.2.1 Plan

The first step of six in Yin's (2014) model of case studies is the plan. In this section, we will present how we initiated our research and how we conducted the literature review.

Initiating Research

Bryman (2016) recommends that the first step of conducting research is reflecting on areas of interest. After our project thesis (Høydal and Skoog, 2019) within the field of knowledge management in project-based organizations (PBOs) in the fall of 2019, we performed a new evaluation of whether or not we wanted to continue with knowledge management and in which direction. The context of knowledge-intensive firms was decided as we established contact with a consulting firm in November 2019. We chose to continue with knowledge management in PBOs as the link to knowledge-intensive firms were strong, but wanted to focus exclusively on leadership within this field, as this was in both researchers' interests. When the decision was reached, the planning processes started. A rough draft with milestones regarding additional literature review, problem statement formulation, the interview process, analysis, and finally, writing up the thesis was structured.

Literature Review

When carrying out a literature review, there are two main types, systematic and narrative (Bryman, 2016). A systematic review emphasized the review to be replicable, scientific, and transparent. Thus, search words or phrases, findings, and which databases utilized are logged. Search criteria are developed beforehand and used consistently as criteria for inclusion. The narrative approach, on the other hand, is not focused upon being replicable but instead provides a broad overview of the existing literature within the field of study to further define possible research questions.

The narrative approach has few constraints regarding the search process (Bryman, 2016), which makes it a good starting point to get an overview of data for newer researchers. Narrative literature reviews lend itself to a snowballing effect, where the researcher is freer to follow emerging topics of interest (Bryman, 2016). Due to this reasoning, we chose to pursue the narrative approach for our thesis. In order to make sure that the sources are credible, some source criteria were defined. Firstly we made sure that the sources chosen had been peer-reviewed in addition to looking at the number of previous citations, indicating other researcher's approval or interest in the articles. Here we considered at least ten proper citations to be minimum. Lastly, we subjectively reviewed the references used within the sources.

Our supervisor recommended literature which, helped construct the starting point of

our literature review. Following this, most of our literature was found doing searches on knowledge management, knowledge-intensive firms, leadership, the factors of trust, commitment, culture, and combinations of these. Searches were performed in Google Scholar and Oria, which offered information on citations and peer-reviewed status. These search engines also provided relevant articles on the same topics as the currently viewed, and this sort of snowballing was purposely done. The decision of not specifically addressing specific journals such as "The journal of knowledge management" or "Leadership Quarterly" was made as we mostly focused on the intersection between several fields, and our research question had limited previous research. Exemplified by how the following search: *allintitle: knowledge firms knowledge management leadership* on google scholar only receives 11 results. Of these, two were considered suitable for our criteria.

- Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: an empirical investigation of manufacturing firms.

Ali Noruzy, Vahid Majazi Dalfard, Behnaz Azhdari, Salman Nazari-Shirkouhi & Aliasghar Rezazadeh

The International Journal of Advanced Manufacturing Technology 2013, 386 Citations

- Strategic analysis of knowledge firms: The links between knowledge management and leadership

Anooshiravan Merat, Damien Bo

Journal of Knowledge Management 2013, 59 Citations

4.2.2 Case Design

When designing a case study, its questions, propositions, and the unit of analysis are of high importance (Yin, 2014). As such, we have dedicated this section address and provide an overview of the processes.

Research Question

The term research question refers to a question with a determined goal formulated in such a manner that is answerable through research methods (Dalland, 2012). We had already decided to further explore the field of knowledge management in knowledge-intensive firms

and project-based organizations from our project thesis, as presented in section 4.2.1 Plan, where the research question was as follows:

How should knowledge management be done in a project-based knowledge-intensive firm?

To answer this, we explored significant factors within knowledge management, such as trust, organizational commitment, culture, and leadership. We found that leadership was able to impact all of the above and, as such, should be a key focus area for knowledge management. Leadership's influence upon knowledge management intrigued us, and we chose leadership to be the center point of our master thesis. Resulting in the following research question:

How should leadership be done to enhance knowledge management in a project-based knowledge-intensive firm?

The research question was later revised as it became apparent in our pilot interview that the case company mostly had deliveries and far fewer projects. The reevaluation of our initial research question led us to remove project-based from the contextual environment of our research question. It was also moderated to address leaders' focus, being more in line with our theoretical framework having areas of focus. As a result, our research question became:

How should leaders focus to enhance knowledge management in KIFs?

This research question is broad in scope and required us to make propositions and sub-research questions to answer it, more on this to follow.

Development of Sub-Research Questions and Propositions

An instrument for narrowing the scope and creating a focus for research is by formulating propositions (Yin, 2014). The propositions were also used to combine the literature presented. They were developed by combining theory on knowledge-intensive firms, knowledge management, and leadership, directing focus to this concrete context. Soft factors such as trust, culture, and organizational commitment is a significant component of both leadership and knowledge management and also formed the foundation for some propositions.

The propositions did not converge to answer our research question, and it was apparent that we were missing a link between the research question and the propositions. To attenuate this, we chose the AMO-framework, which previously had been used in the context of knowledge management by Argote et al. (2003). By developing sub-research questions within the AMO-framework, it functioned as a way of structuring the propositions to give a more precise answer to how leaders should focus to enhance knowledge management in KIFs. Sub-research questions were formulated for each of the factors, keeping within Creswell (2014) advice on keeping the amount below 5 to 7; ability, motivation, and opportunity and narrowed the scope down to leadership's effect upon knowledge workers' knowledge processes. This was done in line with Bryman (2016), who emphasize research questions as essential to narrow the scope of research to be manageable.

Unit of Analysis

Yin (2014) presents the process of choosing a unit of analysis as fundamental, and that two steps should be taken into consideration, defining and, bounding the case. We initiated contact with our case company in November 2019, which means that instead of the conventional way of first creating a research question and then find a suiting case, we had a case and thus needed to specify our unit of analysis within these boundaries.

The case company is selling consulting services, fitting our research into the connection of leadership and knowledge processes as this firm has a high intensity of leaders and is dependent on their knowledge. We did not research the entire company, as they are located at several locations throughout the country. We focused upon one geographic location, and this department constitutes the case company throughout the thesis. Furthermore, one section within the department was also excluded from the research as these served a more traditional support function within the company, not matching the other two sections, which are more typical consultants with external client services. Thus limiting the case to the consultants and leaders within the case company at these two sections.

To further delimit the level of analysis, we focused on the knowledge processes of knowledge workers, making this the dependent variable, making our primary focus to be on how measures made by leaders, organized in the AMO-framework, can impact these.

4.2.3 Preparation

As presented initially in section 4.2 Research Design, case studies are conducted with a contemporary focus where the researchers have little to no behavioral control (Yin, 2014). For us, this implied that planning was especially important to be able to smooth the process and avoid unnecessary hick-ups along the way. Clarified guidelines and common expectations had to be established, but still welcome unpredictable changes. As such, the processes of composing an interview guide and selection of interviewees will be presented next.

Development of an Interview Guide

The interview guide function as a manuscript which helps guide and structure the interview (Kvale and Brinkmann, 2015). Developing an interview guide is a process where both the theoretical and the mental aspect is prepared for the meeting with the interviewees (Dalland, 2012). As such, much consideration was put into formulating each question, and whether they, in sum, would provide us with the needed information. A structured interview would provide us more directed data, which would be easier to analyze. In contrast, an unstructured would allow us to pursue more spontaneous and unexpected findings (Dalland, 2012). We chose to follow something in-between, a semi-structure.

Semi-structured interviews allowed our interview guides to provide support in formulations of questions, helpful assistance for novice researchers as we are, and still allow us to follow the interviewees' line of thought without the restrictions of a structured interview guide. The interview guide contained questions on the themes of knowledge-intensive firms, knowledge management, and leadership, as well as the background of the interviewee. In the process of formulating the questions, we were particularly concerned with avoiding yes/no questions, which provided little to no data and avoid leading questions. Resulting in more open-ended questions allowing the interviewee to elaborate. The sequence of the questions and structuring of the questions was also of high importance as we wanted to start with easy questions to make the interviewee feel comfortable in the interview setting. Leading to an approach that began with broad questions before narrowing it down into more specific areas, commonly known as a funnel strategy (Kvale and Brinkmann, 2015). A mock-up of the interview was done to determine whether we had succeeded in making

a suiting interview guide. In total, three mock-ups were done before the interview guides were found sufficient. The used interview guides have been attached in 8 Appendix.

Sampling Interviewees

Bryman (2016) summarizes research on sample sizes in qualitative studies, finding them to range greatly, all the way from 1 in some studies to over 300 in others. As no precise number is found by Bryman (2016), we chose to follow our supervisor's recommendation of conducting at least ten interviews. When sampling for qualitative research, reaching data saturation is the most important (Bryman, 2016; Creswell, 2014), and ten was as such an estimate for achieving that.

We initiated the sampling process by holding a small presentation for one of the leaders within the case company. Briefly explaining our research as well as expressing our consideration regarding interviewees. Representative distribution of gender, sections, and positions was emphasized, depicted in Figure 7 Distribution of Interviewees, and is directly related to authenticity and fairness as reviewed in 4.3 Research Quality Criteria. We went collaboratively through the organization and found potential suiting interviewees. Before we left, the information letter, attached in 8 Appendix, regarding our research was put up in the location of our case company and also distributed by mail to the employees.

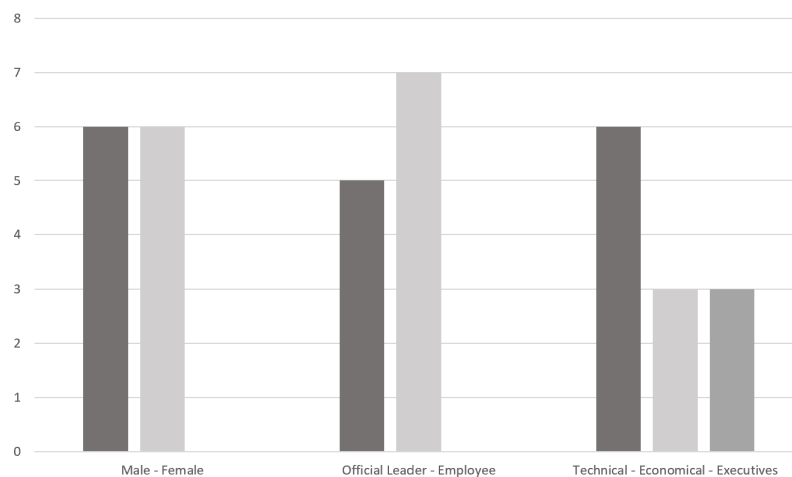


Figure 7: Distribution of Interviewees

An inquiry regarding participation along with a sign-up sheet was sent to 12 purposefully selected candidates, which is an excellent way to make a sample that best fits the needs for answering our research question (Creswell, 2014), of which 11 participated. Additionally, one interviewee was included through recommendations and offering of nuanced views

on our topic, called snowball sampling by Bryman (2016), which brought the total of interviewees to 12.

4.2.4 Data Collection

To gather data, we performed semi-structured interviews with everyone in our sample, before supplementing with documents and other written materials to get more sources and insight into the company.

Interviews

Interviews themselves can best be characterized as craftsmanship, which has to be learned through personal experiences (Kvale and Brinkmann, 2015). As a result of this, we chose to have one consistent main interviewer while the other took notes and actively paid attention to details as body language, mimic, and follow-up questions. As we used a semi-structured interview guide, it gave us some freedom in formulating the questions and functioned well. Although some mistakes were made in the beginning.

Example: During a follow-up question regarding the consequences of many deliveries upon leadership it was formulated as: *"Are measures made to reduce the effect?"* instead of *"Which measures are made to reduce the effect?"*. Resulting in the mistake that an elaborating question being converted into a simple yes/no question. Addressing the mistake, a routine for preparation was established before each interview, clarifying which topics we wanted to emphasize as well as mental preparation on how to structure the interview and question formulation following Bryman's (2016) tips. In total, 13 interviews were carried out; this includes an initial trial interview with our contact in the case company to provide us with a better overview of the organization. The interviews were carried out in meeting rooms at the case company to reduce the effect of the asymmetrical power distance, which arise in social research (Kvale and Brinkmann, 2015). We had two exceptions, one caused by an interviewee being in another city and the other as a result of Covid-19 regulations. Both these interviews were thus carried out over Skype. The length of the interviews is presented in table 11 Interview information.

Two audio recordings for each interview were carried out to provide us with a safety net in case a recording would fail or give us another opportunity to understand mumbling sections. Recording allowed us to listen actively, being less disrupted by taking extensive

Table 11: Interview Information

Pseudonym	Interview Length	Official Leader
Alex	49:40	✓
Alex	39:39	✓
Blake	35:57	
Charlie	1:07:17	
Drew	55:39	
Elliott	59:21	✓
Finley	1:00:49	✓
Gray	50:28	
Haven	51:51	✓
Indigo	1:13:36	
Jordan	1:05:10	✓
Kyle	1:12:51	
Lee	24:59	

notes, thus being more present in the interview setting (Kvale and Brinkmann, 2015).

Other Material

To complement the interviews, we reviewed documents on the organization describing their business processes and niche. We also utilized the organizational map, an official organizational presentation, and their web-page. Different ways of gathering information are beneficial to have a better view of the organization as well as offering depth to our understanding (Bryman, 2016; Kvale and Brinkmann, 2015)

4.2.5 Analysis

Our analysis is divided into three processes, transcription, data coding, and comparing our empirical findings with existing literature on the subject. This section will, as such, progressively review the processes and how they have been performed.

Transcription

We transcribed all of our recorded interviews. This was done to help with the codification and having correct citations for our empirical findings (Bryman, 2016). The process of transcription is also beneficial to process the interview again after first impressions have settled, in addition to being able to focus entirely on what is said allows catching more detail. Transcription can thus be said to initiate the analyzing process (Kvale and Brinkmann, 2015).

Data Coding

Coding is a natural next step for most qualitative data analysis after the transcription (Bryman, 2016). Our initial codification of the transcribed materials resulted in an immense amount of 1st-order categories, leaving us feeling a bit overwhelmed, which is typical at this preliminary stage, according to Gioia et al. (2013). As a measure to cope with the high complexity, the 1st-order categories were used to form broader groups helping to provide us with somewhat of an overview. Processing the data allowed themes to emerge as we asked ourselves, what is going on? Building our comprehension step by step.

The process presented above is referred to as developing 2nd-order theoretical levels of themes (Gioia et al., 2013), and is similar to what Bryman (2016) refers to as axial coding. Throughout this process, our initial 145 pages were broken down into a more manageable bulk of citations and categories. The 2nd-order theoretical themes were then combined into aggregated concepts that have been used to form the sub-sections of chapter 5 Empirical Findings. However, some empirical findings, such as numerous communication channels leading to information getting lost, have been excluded as time limitations do not allow us to cover everything although interesting. Thus further discussed in 8.4 Further Research. The coding sheets following the Gioia methodology (Gioia et al., 2013) for the sections used 5 Empirical Finding has been attached in 8 Appendix, while one example is presented in Figure 8 Example of Coding Using the Gioia Method.

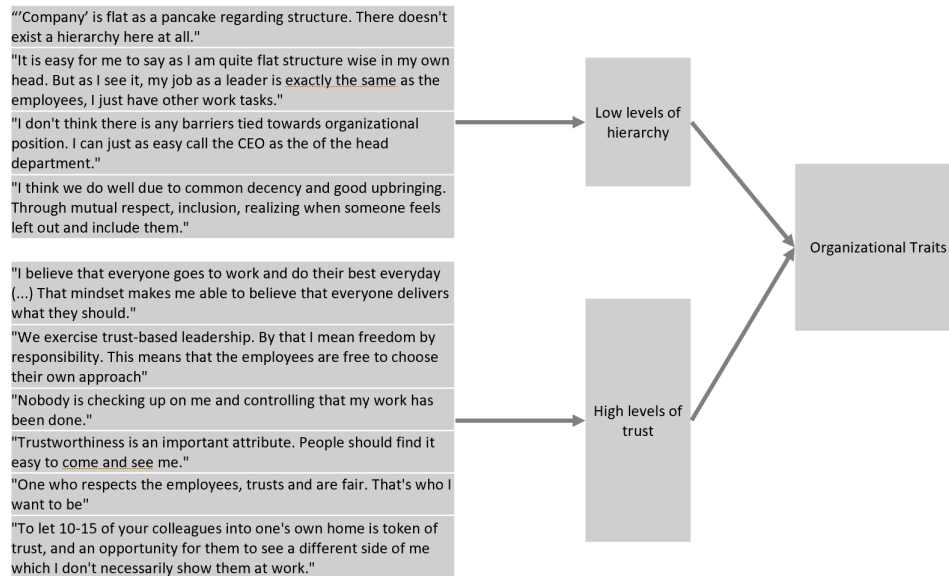


Figure 8: Example of Coding Using the Gioia Method
Gioia Method for coding (Gioia et al., 2013).

Using Empirical Findings

The analysis has been conducted using systematic combining through an abductive approach (Dubois and Gadde, 2002), embracing the iterative nature of case studies (Yin, 2014). Dubois and Gadde (2002) explain that by addressing the different steps of research iteratively, one is better suited to get a comprehension of the theory, the empirical findings, and their connection. Such an approach allows the theoretical framework to develop simultaneously as the data collection and analysis is being conducted. This is coherent with our research, as our empirical findings did, to a large degree, delimit our theoretical scope when establishing propositions, although the propositions presented in this thesis are founded on theory. Such an approach is found beneficial in developing new theories (Dubois and Gadde, 2002), in line with how we have utilized the AMO-framework combining context, knowledge management, and leadership.

To evaluate our theoretically constructed propositions, we used empirical findings. Allowing us to enlighten differences between how theory says things are, and how we found them to be, making a foundation for theoretical discussions.

4.2.6 Sharing Results

For presenting our results, we applied the AMO-framework (Argote et al., 2003). Providing us with a coherent structure through having a framework for organizing our propositions

and the rest of our thesis following the theoretical background. As our research is comprehensive, this way of structuring the thesis facilitates a much-needed reader experience, which is vital in case research (Yin, 2014). Applying the AMO-framework leads to an intuitive and clear overview for presenting our analysis, discussion, and conclusion. Throughout the thesis, the AMO-framework as a tool for leaders to enhance knowledge management will be revised based on our analysis and discussion. The revised framework emphasizes the most important focus area, opportunity, for leaders looking to enhance knowledge management in a knowledge-intensive firm setting. Our research leads to practical implications of how leaders should perform leadership within this revised framework, as presented in 7 Discussion and 8 Conclusion.

4.3 Research Criteria

Bryman (2016) presents two primary criteria to assess qualitative research as a response to the qualitative criteria of quantitative research. These are trustworthiness, which mirrors validity, reliability, objectivity, and authenticity, which represents the lacking criteria of positivist construction, based on Lincoln and Guba (1986), Guba (1981) Lincoln and Guba (1985), and Manning (1997). Although other criteria exist, such as sensitivity to context, commitment and rigor, transparency and coherence, and impact and importance (Bryman, 2016), we chose to focus upon the two primary criteria initially presented. In the following subsections, both will be explored.

4.3.1 Trustworthiness

Trustworthiness consists of four criteria: credibility, transferability, dependability, and confirmability (Lincoln and Guba, 1986; Guba, 1981; Lincoln and Guba, 1985). We will now evaluate our thesis in light of these criteria to provide an assessment of its trustworthiness.

Credibility

Credibility is established through conducting research through proven and renowned methods and, thereafter present the findings accordingly (Bryman, 2016). It is about analogously answering the research criterion of internal validity, which is not a fitting construct in this setting (Guba, 1981; Lincoln and Guba, 1986, 1985). The methods used

are described in depth throughout this chapter, similarly for the findings in 5 Empirical Findings. For credibility, Lincoln and Guba (1986) propose six criteria: prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, and member checks. For prolonged engagement, it is about finding salience and possible distortions through extensive contact. This was our initial plan, but due to unforeseen circumstances, we were not able to have as much direct contact with our case company as we anticipated. These circumstances also cover persistent observation, as this is a follow up of salient factors. We performed triangulation, interviewing from different perspectives, as well as considering other written materials to complement our interview findings. Peer debriefing was performed in cohort with our supervisor, although not disinterested, he performed evaluations of our work, keeping us honest. Negative case analysis is about finding negative aspects until no further aspects can be found. We did our best to perform our case research assiduously, done through interviewing until theoretical saturation (Bryman, 2016) was reached in both leader and employee positions. Finally, there are member checks, which relates to balancing our findings by presenting them to the interviewees for a perception check and find out whether interviewees agree with the presented empirical findings. This was not performed, as there was little contact with the case company after the outbreak of Covid-19.

Transferability

Case study research is about going in-depth and can be lacking in the possibility to be generalized to other milieus (Yin, 2014). Thus, to establish trustworthiness, it is crucial to offer enough information about the specific context that further researchers can evaluate how well our results can be transferred to their setting or time (Lincoln and Guba, 1985). We have had a focus on knowledge-intensive firms and the workers and leaders in such a firm throughout this thesis; this contextual focus offers support for trustworthiness in the form of providing thick data as a building block for transferability (Lincoln and Guba, 1986). How thick is not explicit, raising the question of applicability for this criterion in practice, as it is challenging to ascertain required data for evaluation, and that could differ from research to research.

Dependability

This criterion is about being open with choices and information taking into account,

basically being prepared to have the research process audited (Guba, 1981; Lincoln and Guba, 1985, 1986). We have described in detail our process of creating research questions, how we plan to solve our research questions as well as whom we have interviewed and how within ethical limitations which is further described in 4.4 Ethical Considerations. Chapter 4 Methodology, as such, functions as an instruction manual for the potential auditor to follow, laying the foundation to ensure that such a process could occur. A general critique of the dependability criterion, however, is that it is resource-demanding and requires qualified auditors to perform.

Confirmability

Objectivity is not fitting with naturalists' view in qualitative social research, and thus propose a shift towards data confirmability for evaluation of trustworthiness (Guba, 1981; Lincoln and Guba, 1985). As presented in 4.2.3 Preparation, we were focused on getting representatives from throughout the organization; this is in line with Guba (1981), who explains that collecting data from a variety of perspectives increases confirmability. Guba (1981) refers to this process as triangulation and, thus, also other data material, documents, and presentations in our case, should be included to ensure confirmability of the end product. Lincoln and Guba (1986) presents an external audit of the final product to be a resource-demanding, but fitting way to ensure confirmability within the naturalistic view.

4.3.2 Authenticity

Authenticity is related to the importance and wider impact of the research (Bryman, 2016). Similar to trustworthiness, authenticity is constituted by several other criteria. These include fairness, ontological-, educative-, catalytic- and tactical authenticity (Guba, 1981; Lincoln and Guba, 1986; Manning, 1997). These will be used to assess the authenticity of our research.

Fairness

Fairness is about having a representative selection of candidates and, as such allowing different groups to present their view on the matter (Lincoln and Guba, 1986). This point is thoroughly considered with our selection of interviewees. Both in gender ratio, employee and leader ratios as well as when interviewing leaders and employees, we could connect them. Informed consent, although not achievable due to the nature of the research, is a

part of fairness evaluation (Manning, 1997), we strove to have informed consent from our interviewees, more on this below.

Ontological Authenticity

Ontological authenticity is about how our research can improve members' understanding of themselves in the social milieu (Bryman, 2016). We believe that our research allows members to understand better the context that knowledge-intensive firms operate within and typical characteristics of them, thus providing ontological authenticity. Direct examples of how this has been achieved are through the explanation of the purpose and dialogical conversation (Manning, 1997). Before initiating the data collection, we were open regarding the purpose of the study, as open as one can be when not limiting research to initial assumptions, through presenting the purpose in writing and following up orally before consent was gathered, in line with Manning (1997).

Educative Authenticity

Quite similar to ontological authenticity, educative authenticity is about the respondents' understanding. However, while ontological authenticity is about the respondents' understanding of his/her place in the social milieu, educative authenticity is referring to the understanding of other members in the same milieu (Bryman, 2016). One way of assuring educative authenticity is to perform an internal audit when the inquiry is close to a final draft (Manning, 1997). This has, however, not been conducted, as it is not common in a master's thesis, but could be a flaw in our research. Being explicit about purpose also facilitates educative authenticity (Manning, 1997), which is presented above and further in 4.4 Ethical Considerations.

Catalytic Authenticity

The research conducted should stimulate action and changes in the environment it is undertaken in, to ensure catalytic authenticity (Manning, 1997; Bryman, 2016). We have in 8.2 Practical Implications, made members more able to make changes than before the research was performed. What leaders should focus on to enhance knowledge management was intangible, utilizing the framework which practical implications are based on offers a more reliable link between leadership and knowledge management. Although follow-up activities are recommended to ensure the effect of catalytic authenticity (Manning, 1997), this will not be carried out by the researchers as this thesis is the end of the research and

relations with the case company will cease to exist.

Tactical Authenticity

Tactical authenticity addresses whether participants have been empowered to act on the findings of the research conducted (Manning, 1997). We believe that tactical authenticity is provided by empowering leaders in the organization with a strong theoretical foundation. This eases the process of implementing changes related to knowledge processes and, as such, could make them more efficiently conducted. Furthermore, concrete examples of how it could be enhanced in the case company itself are provided in 8.2 Practical Implications, building tactical authenticity.

4.4 Ethical Consideration

Throughout the thesis, several ethical considerations have been made. We will, in this section, summarize some of the more prominent ones with the basis in four primary areas of ethical principles, which need to be evaluated according to Bryman (2016): Harm to participants, lack of informed consent, invasion of privacy and the use of deception. Several of these areas overlap, and as such, they will not form the structure of this section but will be addressed throughout.

Bryman (2016) indicates that research needs to be in alignment with local regulations and university ethics standards. As a step of conducting empirical research in Norway, an application was sent to the Norwegian Centre for Research Data, NSD. In order to get the application approved, information regarding how the material would be collected, stored, and handled had to be given and be per the General Data Protection Regulation, GDPR. In addition, a draft of the interview guide had to be attached to control that our research could not expose vulnerable groups or easily identified personnel, keeping with protecting interviewees.

The interview setting provided us with new ethical challenges. To handle these, a compliance form including information on how the information would be handled and what we were researching was distributed and signed before the interviews, supporting informed consent as emphasized by Bryman (2016). Informed consent also relates to the time investment of participating, and we informed everyone that each interview would last around an hour, which we adhered to, to the best of our and interviewee's ability,

as shown in Table 11. To further protect against invasion of privacy, we made it clear that everything was voluntary to answer, despite agreeing to be interviewed and that this consent could be refuted at any time. We further ensured privacy by not recording background information but storing it separately per Bryman (2016). During interviews, the interviewee is in a disfavored position regarding asymmetrical power relations (Kvale and Brinkmann, 2015). To counterbalance this, we strongly emphasized the interviewees' feeling of comfort in the interviews. We carried out interviews in their locations, they were given time to settle before we thoroughly explained how the research was going to be conducted and the information handled. Attempts to familiarise us with the interviewees and the organization itself were made through working from their location a couple of times a week, to be available for clarification and give access to what we collected of material to the individual.

An important factor when performing any research is anonymity, and especially so when performing in-depth interviews where each individual can be easily recognized, more so than in quantitative research (Bryman, 2016). To help ensure our obligation to the interviewees, we recorded and transcribed without background information and names, and kept names separate with a link to each interview. When using the interview material, which was conducted in Norwegian, we translate to written English while keeping the meaning as best we can, but adjusting some formulations for anonymity's sake. Translating may cause problems in interpretation, but we estimated that the loss in quality would outweigh the strain of having the interview in English for our interviewees, in addition to the translating benefits of conserving their privacy. In addition, we present all interviewees with a gender-neutral name, as we did not interview that many leaders and employees and wanted to make the differentiation on a hierarchical level when presenting our empirical findings. Ensuring anonymity and the safety of interviewees is a special consideration in the NSD application, as shown above as well. These measures were taken to shelter participants from harm in accordance with Bryman (2016)

Regarding deception, we believe that, to the best of our abilities, we were forthright when presenting the goals, measures, and implications of our research. As such, no deception is involved. However, with social research, it is difficult to know beforehand emerging themes and topics of interest that might alter direction during the research process that was not

informed beforehand (Bryman, 2016). Despite this, we had no intention of deceptiveness and believe that we have conducted our research in line with ethical standards. We also evaluated the drawbacks of being open with our goals and motives when it came to truthful answers from the interviewees and concluded that our research topic required no ethical breach to ensure the quality of research.

4.5 Personal Reflections

This thesis is the first large research project we have conducted, and we can, therefore, at best, be referred to as novices researchers. Our limited experience has probably resulted in some unfavorable solutions throughout, especially when starting fresh in a literature review to get a comprehension of several large research fields. The work has, to some frustration, been carried out in trial and error fashion where we have made an attempt and thereafter received feedback from our supervisor. Having an iterative process of research and feedback, as such, the learning curve has been steep, and several areas of improvement are identified and will be addressed in 8.4 Further Research.

The challenge of combining leadership and knowledge management is by far the most significant encountered throughout our research, causing a lot of hair-pulling and stress. Leadership is a comprehensive theoretical field and was hard to break down into bits providing a clear answer to how leaders should focus to enhance knowledge management. Different models such as von Krogh et al. (2012) model looking at distributed and centralized leadership were considered, but led to several chained dependencies, increasing the complexity rather than decreasing it. We also considered focusing solely on a single factor such as trust to make research narrower. We also considered using the model proposed by Ipe (2003) for focusing exclusively on knowledge sharing. However, it did not fit our interests and made us reluctant to choose such a path. The breakthrough came with the AMO-model (Argote et al., 2003; Siemsen et al., 2008), it allowed us to structure our propositions while allowing width in the research, at the same time having causal implications while considering knowledge management in accordance with our definition of consisting of all processes. The AMO-framework was adopted late in the research process, offering limitations on applicability and fit, which is further elaborated in 8.3. As well as which factors were included, a factor such as power is important for both leadership and

knowledge management, but was excluded based on time and is indirectly touched upon through hierarchy and control.

The collaboration on the project thesis (Høydal and Skoog, 2019) started late and was a hectic period for us, making the work intensive, and red eyes common. However, being satisfied with our final product, the results left a bitter disappointment, making us determined to do better in the master's thesis. A significant lesson learned, regarding starting late, caused an earlier start and utilizing our supervisor to the fullest this time around. We therefore sketched out a plan early in January. Although our plan was incompatible with the busy schedule of the case company, and we quickly fell behind, it left us eager for progress. We did, however, have milestones to drive progress, and thankfully pulled through their tardiness. We planned to start the interview process early, and we were relieved that we were able to carry out 12 out of 13 interviews before the outbreak of Covid-19. As the scheduled interviews were mainly done before the pandemic, thankfully, our research has received less direct complications than others might have. Nevertheless, as a consequence, we had limited opportunities for performing short follow-up interviews with our case company, and ensuring educative authenticity (Manning, 1997), through checking our findings with the interviewees. It also limited our opportunity to stay at their location, getting to know the company more in-depth. As the university closed down, our access to resource materials was limited and inhibited us from attaining books, hampering our research.

There was no guarantee that the researchers would also write this thesis together. Coming from different backgrounds, both regarding work and theoretically, we did not always see eye to eye when deciding on the direction of our thesis. We, however, concluded that working together would be beneficial for both parties, even though it created a strain on choosing fields of research, it allowed for learning through combining different perspectives. The most important lesson learned was regarding the complementary skills of the researchers, while one was creative and coming up with ideas, the other was more focused on precisely presenting the meaning. One reason the researchers successfully cooperated without a previous relationship could be attributed to both their work experiences, having to cooperate without previous relationships in the past. These experiences are something both the researchers value and will impact further collaborations.

5 Empirical Findings

This chapter consists of our most relevant empirical findings; the structure is based on the emerging themes from the codification of interview materials. The findings have been categorized into 5 different sections: Organizational traits, perspectives of leadership, leadership challenges, knowledge processes, and strategies to increase productivity and knowledge processes. These categories will give empirical data to answer our main research question of:

How should leaders focus to enhance knowledge management in KIFs?

through our three sub-research questions:

How does the ability of knowledge workers and characteristics of KIFs impact how leaders should facilitate knowledge processes?

How are leaders impacting motivation to perform knowledge processes in KIFs?

How are leaders impacting the opportunity to perform knowledge processes in KIFs?

During the codifying of interview material, some distinguishing characteristics of the case company have been discovered; these will be presented in 5.2 Organizational Traits. The case company also expresses that leadership is something that they value highly. Both employee and leader's view on leadership is presented in 5.3 Perspectives of Leadership Within the Case Company. Nothing is perfect; thus, identified challenges related to leadership has been presented in 5.4. The two last subjects presented in this chapter relates to knowledge management. The first contains findings upon knowledge processes itself, 5.5 Knowledge processes, while strategies to improve them will be presented in 5.6 Strategies to Increase Knowledge Processes.

5.1 Case Description

The case company is a Norwegian medium-sized energy and environmental consulting firm. The company delivers a broad specter of professional services within these fields, ranging from billing control to overhaul of buildings' energy profile. The company is perceived to be a Nordic leader within their field and covers a niche specter that few other competing

companies address. Being a consulting firm, they are characterized by the need for billable hours to stay afloat as they sell services and not products. The company is founded by electricians, several of whom are still working in the organization, giving the company a unique starting point and opportunities.

Nationally the company employs around 60 employees. They have three departments nationwide, but they are mostly concentrated at their main office. Amongst these employees, there is a wide specter of backgrounds, both in education and work experience. Ranging from no formal education to master's degrees and freshly educated to almost 30 years of experience. Another key characteristic is that they work on up to 300 deliveries and on-going projects, so there is a large variety on the customer side and high flexibility. The scope of this master's thesis limits us to one location, and therefore findings will be limited to the main office, with one exception, more on this in 4 Methodology.

5.2 Organizational Traits

During the data codification, some typical and characteristic traits of the case company organization have been discovered. These characteristically traits are essential to better understand the context that the case company is performing their daily operations within. The identified traits involve low levels of hierarchy and high levels of trust.

5.2.1 Low Levels of Hierarchy

Like all other larger organizations, our case company also consists of several organizational layers. Nevertheless, the social distance between the organizational layers is almost nonexistent. The majority of the employees coincide with this description, and one of them compares the organizational hierarchy with a pancake.

"'Company' is flat as a pancake regarding structure. There doesn't exist a hierarchy here at all." Drew

Although a little exaggerated, the impression of low hierarchical levels correspond with the mindset of several leaders. The leaders recognize their employees as smart and highly competent. One of the leaders emphasizes that they basically do the same thing; it is just their task at work, which is different.

"It is easy for me to say as I am quite flat structure-wise in my own head. But as I see it, my job as a leader is exactly the same as the employees, I just have other work tasks." Jordan

Another leader illustrates the low distance within the organization with an example of seeking assistance in their day to day job. If one requires some information, the threshold to ask across hierarchical levels are low.

"I don't think there are any barriers tied towards organizational position. I can just as easily call the CEO as the head of department." Elliott

Both leaders and employees emphasize that the organizational structure within the company is flat. During the data collection, neither leaders nor employees have expressed concerns regarding positional distance. They also expressed their delight over a high scoring in a program called great place to work. One of the employees explained that they could excel at this due to common decency and mutual respect regardless of role.

"I think we do well due to common decency and good upbringing. Through mutual respect, inclusion, realizing when someone feels left out and include them." Charlie

5.2.2 High Levels of Trust

One of the most prominent traits within the case company is the high levels of trust, permeating the organization from top to bottom. This mindset flows from the thought of work pride among the members of the organization.

"I believe that everyone goes to work and do their best every day (...) That mindset makes me able to believe that everyone delivers what they should."
Alex

Many of the leaders emphasize that the leadership conducted in the company is based upon trust. They explain how they let their employees choose their own path and solutions when dealing with customers and tasks.

"We exercise trust-based leadership. By that I mean freedom by responsibility. This means that the employees are free to choose their own approach." Elliott

All employees confirm that they are given the freedom to solve and choose tasks as themselves see fit. They also explain that they do not feel supervised doing their work, but rather that they carry the responsibility for getting their own job done themselves.

"Nobody is checking up on me and controlling that my work has been done."

Blake

Some of the leaders express trust as a necessity to reduce barriers and increase communication flow. High levels of trust make it easier to ask for advice, cooperate, and enhance knowledge processes. Further, the leaders emphasize the perception of trustworthiness as important.

"Trustworthiness is an important attribute. People should find it easy to come and see me." Finley

"One who respects the employees, trusts, and is fair. That is who I want to be." Haven

Trust is also actively fostered through social goals. One of the employees brings forth that inviting several of one's colleagues home to him/herself is a token of trust. Adding positive effects as closer personal ties, reducing barriers for communication, and conflicts.

"To let 10-15 of your colleagues into one's own home is a token of trust and an opportunity for them to see a different side of me which I do not necessarily show them at work." Charlie

Nevertheless, the large freedom in how to perform their work provides the organization with both drawbacks and advantages. A drawback identified is the organization's lack of centralized systems and structures. The findings upon this will be presented in 5.4.2 Absence of central systems and procedures.

5.3 Perspectives of Leadership Within the Case Company

"The image popping into mind is the leader who shows the way from the front."

Jordan

There are several important aspects to pay attention to for leaders within an organization. We have, in this section, divided leadership in the case company into four major aspects based upon the empirical findings solely. These aspects are leaders as supporters, leaders as facilitators, leaders as supervisors, and leaders as pathfinders. Each of the different aspects is presented in the following subsections.

5.3.1 Leaders as Supporters

The case company allows its employees to operate with high degrees of freedom, resulting in employees taking many decisions on their own. The increased freedom also provides a larger opportunity span, and some of the employees' express concern regarding them making the contribution the company needs. To address these concerns, the employees need to get support and directions from their leaders.

"The most important responsibility one carries as a leader, independent of level, is to be supportive." Alex

A broad specter of the interviewees mentions support during the interviews. Employees require support in their day to day job to reduce uncertainty, be productive, and increase the feeling of confidence in their task being performed in the intentional way. One of the employees concurs with the leader who emphasizes support as the most important responsibility and identifies support as a key function of the leadership role.

"I think the most important leadership task is to function as a support for the employees that you are leading" Indigo

An important aspect of being supportive is to push aside work tasks when someone reaches out to you. A support function is not necessarily something one can plan for, but rather something that happens spontaneously, making days unpredictable. One of the leaders captions it as being both exciting and more time consuming than initially estimated.

"One aspect that I find exciting is that I spend more time on leadership than what I initially thought I could get away with." Alex

The unpredictability of proving support set high demands towards the availability of the leaders. The employees do not necessarily know when they will need assistance and pressing issues can often just be a phone call away. Depicted by an employee who stresses that the leaders should be available when they are needed and that problems can not necessarily wait until it fits their schedule.

"My opinion is that a leader is a person who you should be able to lean on when you need it, not when they are available" Drew

Leaders' busy time schedule and the challenge it implicates regarding availability is found to be important. It will, therefore, be further addressed in section 5.4.1 Leaders' Time Schedule, Presence, and Availability.

5.3.2 Leaders as Facilitators

Workers' opportunity to carry out tasks the way they see them fit indicates considerable freedom in their day to day activities. The leaders who provide them with such a freedom can be said to function as facilitators. An employee uses a football analogy to describe how preconditions should be facilitated by the leaders to make their employees effective at their job, including a broad specter of considerations ranging from work structure, IT-systems, templates to the facilitation of flexible working hours.

"If I were a footballer, I would have expected the field to be prepared. It should be cut and marked. My jersey and shoes should be at my place, all so that I could do what I do best. Play football." Charlie

Half of the leaders emphasize that leadership is about making the ones around you perform. Receiving support from several of the other employees who also point to facilitation to be of importance when handling personnel, workflow, and reducing friction and resistance.

"For me, leadership is about making others perform, bring out the best in each individual. Facilitate so that every individual is able to be as good as they can, be able to perform at their job and thrive doing it." Elliott

"I expect a leader to handle personnel and workflow. Facilitate so work can be done without high levels of friction and resistance." Kyle

Leadership through facilitation is shown by making adaptations fitting the different individual needs of their employees, varying in both severity and difficulty to facilitate. They can be ranging all the way from facilitating flexible working hours to accommodate every family's morning schedule to make adaptation to fit individual limitations towards sickness. One employee expresses that the closest leader and the company have been very helpful in alleviating the workload during a rough patch.

"During a rough patch privately, I had my workday reduced. I experienced facilitation that helped me in many areas. It made me able to work partially instead of taking a full sick leave. I'm left with a really good feeling." Gray

Others explain that they do not need to be at the office to be able to do their job. Allowing their employees to work from wherever they find suitable is another way that the leaders function as facilitators and choose to trust that they will do their job from where they find it fit and in time.

"I am not dependent on my office location to my job, I can work from the customers' location, from the cabin, from home or from the office." Charlie

5.3.3 Leaders as Pathfinders

"I was once asked to draw myself as a leader. What I chose to draw was a mountain, myself with a backpack and the people I led following behind me."

Finley

There is a common consensus between all the leaders that a leader should lead from the front. Implying that a leader should help set the direction for the future and lead their employees towards a common goal. However, still emphasizing that it is a joint effort, meaning that they do it together and that they are on the same level.

"I am standing in the same line as my employees, hauling on the same rope."

The leader star is only to guide the direction." Elliott

Further underlined by the idea of functioning as good examples for their employees. When leading from the front everyone is paying attention to one's actions, resulting in the leaders

not only have to talk the talk, but also walk the walk.

"It's like raising children. You have to behave the same way you want your employees to behave." Jordan

It is stressed that in cases where the leaders do not portray the best role model, they do avoid presenting themselves as such. Instead, they find being authentic and knowing their own limitations important. In such situations, they find it better to accentuate other employees who excel in their field.

"I do not attempt to lead from the front on areas where I am no good. In those cases, I rather support someone who should lead by example in that field."

Alex

It is further explained that new pathways constantly has to be made as the company is dependent upon billable hours and deliveries to stay in business. As such new territories outside the existing company paths are never far away. Presenting a concrete example of where leaders are guiding their employees in everyday life by finding new opportunities:

"Sometimes, I sell something that we have never delivered before. In those cases, I can't just hand the task over to someone else. Instead, I help create that path of service. Not in detail, but stake out a rough path of the way forward."

Alex

5.3.4 Leaders as Supervisors

To be able to make good and deliberate decisions in general, a good overview is essential. Meaning that information about the state of affairs has to be acquired by the leaders in the workday. This reasoning is in line with one of the employees who express it like this:

"The most important task a leader has is to keep an overview of what one is doing. I am then referring to the leader knowing his/her department." Blake

Some of the other employees elaborate further and explain that controlling, planning, and knowing which measures to use in order to reach the planned objectives is essential.

"The most important task a leader has is to keep control of what's happening. What is the goal, how shall we reach it, who can contribute towards it, and

which financial and time frames we have to keep within." Gray

This view upon leadership can be compared to a more strategic one where plans are made for longer periods of time. These are desired by the leaders, but hard to find time to do in practice. Frequent interruptions and bureaucratic tasks make it unachievable to do so.

"One's desire is to be more strategic, plan and lay outlines for the organization to follow. But then one just get swamped by administration, questions and those type of things." Jordan

Some other leaders also agree but might find the level to be more of a tactical nature. Thus referring to project managers need to be in a more directing role. Implying that leadership also have a more controlling aspect. However, it is underlined that focus upon helping each other perform not should be neglected.

"As a project manager, one has to be more controlling. That being said, one should still support each other." Alex

5.4 Identified Leadership Challenges

Leadership has to make several adaptations to fit the environment it is functioning within. Throughout the codification process, challenges regarding leadership within the case company were identified. These findings will be presented in this section and include the dilemma of leader's busy time schedules and availability in 5.4.1 Leaders' Time Schedule, Presence, and Availability, and the issue of central systems in 5.4.2 Absence of Central Systems and Procedures.

5.4.1 Leaders' Time Schedule, Presence, and Availability

As we discovered in 5.3 Perspectives of Leadership Within the Case Company, leaders function as supporters, facilitators, pathfinders and supervisors. However, leaders' tight time schedule makes it hard to provide these services at a given time. They are often caught up in meetings, visiting clients, or busy doing their own tasks. Their busy schedule makes them unavailable. The leaders explain that their work weeks are busy and scheduled from beginning to the end during a week.

"A typical week is a wall to wall carpet in my calendar; it is quite a lot of meeting activities. It can be work meetings, staff meetings, or customer meetings." Finley

Leaders' busy time schedules are not necessarily appreciated by the employees who experience their leaders to be unavailable when they seek their presence. Several employees find it challenging to get in touch with their leader when problems arise.

"My experience is that the leaders have been unavailable. They are always busy with something. When I am in need of sparring with my leader on something, they are never at their desk." Indigo

This is in contrast with the importance of the supportive role that we discovered through our interviews. Both leaders and employees emphasize the opportunity to get assistance from their leader highly. However, the employees do not feel that this need is met from the leaders' side.

"My opinion is that a leader shall be easy to lean on. Not a person one has to seek out for a week to get in contact with. One shouldn't have to check their calendar to see if they are on vacation or not " Drew

Both the leaders and the employees express that leaders unavailability leads to unfortunate effects for efficiency, through having to use more time to look up something that the leader might already know, or have the opportunity to look up. As such, the threshold of initiating contact with the leaders is raised. Some of the employees explain that the unavailable leaders make the employees feel like their problems are an additional burden for the leaders.

"The threshold to ask for help increases. Long waiting times before contact and the feeling of being a burden on the leaders make one hesitate and try to figure things out by ourselves." Indigo

"If someone is very busy for a period, then it can function as a natural barrier because one doesn't wish to bother or disturb them. " Elliott

5.4.2 Absence of Central Systems and Procedures

A challenge that is pointed out by several of the leaders is the absence of systems and standardization within the company. Our empirical findings have been divided into three main categories; these are founder spirit, company priorities and underlying causes.

Founder Spirit & New Employees

Start-up companies and new areas of business are often related to high risk, enthusiasm, and aspiring business ideas. This also reconciles with our case company. Even though it was founded a while ago, the organization has been strongly influenced by the characteristic traits of its founders. However, as some of the leaders express, with organizational growth, the need for structures and centralized systems emerges.

"In 'company' the founders are still within the organization, and a founder's profile isn't necessarily very structured. Transforming from a start-up towards a larger company present a need for routines and structures." Finley

Several of the employees have been employed at the case company for many years and been part of the gradual expansions and new fields of business. Although no guidelines have been standardized, they manage as they were a part of the company when everyone was working with figuring out how to move forward with this type of service. However, many of the leaders recognize how the lack of structure is making it difficult to train new employees. When entering a firm, especially straight out of school, the level of experience is low, and it is hard to draw parallels and see the large picture. When no existing structure can be used as a point of reference, it is even harder.

"It is just dreadful for new employees. There are no guidelines, no procedures, there isn't anything. Just a bunch of people who have done things as good as they can for years." Jordan

The same leader explains that they have experiences in the past where the new employees were overwhelmed by the lack of structure. An example presented is when they employed someone from a more structured field of work, where services and the way of work were more rigid and streamlined. The contrast to the case company could hardly have been larger.

"We employed someone who had experience from banking and who thought it was horrific. The employee was used to follow procedures, and here at 'Company', it is just mayhem." Jordan

Company Priorities

Existing employees explain that they find it hard to know what to prioritize due to the lack of common guidelines. There is a request for clearer guidance when it comes to company priorities. The lack of company guidelines can, at times, be pleasing as one can choose to focus on what one enjoys and value. However, overall, the employees express that they have difficulties understanding how it can be beneficial for the company to have so many subjective opinions on how the company should prioritize.

"When it is this free, it is also free for me to choose to solve my tasks in my own way. I can choose to do the tasks that I find fun first or serve the customer I like best. But, for the company, it would be clever to have a better system. To make sure that their priorities are being followed up on and make sure that their most important customers get served." Indigo

Another employee point towards the same problem but is more ambivalent. The lack of guidelines can be both a weakness and a strength. It makes the company flexible, better to maneuver, and thus better suited to meet their clients' needs.

"Our strength is that we don't run everything according to strict rules. We adapt to every client." Kyle

However, also recognizing it as a problem. When asked about their largest weakness, the answer quickly turns to the structure.

Unstructured, we miss obvious things. Through missing guidelines, easy things to fix often slip by us." Kyle

Underlying Causes

Both leaders and employees point towards different aspects as to why the structure is lacking. One aspect is the founders' spirit which has taken a firm grip within the organization and is still affecting the way of working.

"It is the general approach. Jump straight into it and try to figure it out as we go. So there is a lack of structure there, definitively. But then again, as long as one has professional competence and an understanding of how things should look like at the end, well, then one is able to solve it as one goes." Haven

One of the employees points to rapid turnover amongst the leaders and thus inconsistent leadership as a reason for the missing structure as there has been a shift in priorities. It was expressed that recent leadership has a much larger focus on economy and that customer, development, and internal goals have been receiving less attention. Hence, the focus has been directed outwards instead of handling internal matters like structure.

"Since 2016, the focus has been upon economy. Everything that touches upon internal and development goals has been neglected." Kyle

The same employee also express concerns about the leaders not being given enough time to get comfortable in the position to introduce a clear philosophy for how they should develop. Stability needs continuity to be formed, and that is a luxury the case company has not been receiving the last couple of years.

"The last five years my department hasn't had stable leadership, we have changed leaders one a year (...) It has brought noise and uncertainty. The leader hasn't had a clear philosophy, uncertain in their role, leaders, without education." Kyle

Summary

The lack of structure causes unreasonable doubt between the employees within the case company. They are having trouble knowing how to behave as the case company has not issued any guidelines to help the employees make decisions for the best of the company. The founder spirit has been strongly influencing the organization and made it flexible and able to think on its feet in order to come on top. However, this has also created a vacuum of standardization and caused problems for new employees who are trying to find their spot within the company.

Furthermore, high turnover amongst the leaders has left the focus upon short term economic goals, neglecting internal processes like building a strong support structure within the organization. The combination of external focus, high turnover, and the inherent

founders' spirit is likely the cause of the absence of common systems and procedures.

5.5 Knowledge Processes

Knowledge as a field is wide and contains a long list of aspects and processes. In this section, we have collected the most profound and prioritized knowledge processes identified during the interviews at the case company. The section will start by presenting how the case company is working with keeping an overview of existing knowledge in 5.5.1 Knowledge Mapping, how the company is trying to build expertise within different aspects in 5.5.2 Groups of Professionals. In 5.5.3 Hindrances and Initiatives for Knowledge Sharing, challenges, and measures taken to encourage knowledge sharing is presented. Lastly, the ongoing process of keeping their employees up to date and promote continuous learning is depicted in 5.5.4 Development of Personal Competencies.

5.5.1 Knowledge Mapping

"We see that people want to know who is the competent person on a specific topic, there are a lot of questions about whom to talk to" Jordan

To remedy this, knowledge mapping is done throughout the organization. Previous attempts were made in excel, which was found to be too work-intensive and hard to work with. However, there are new initiatives to perform knowledge mapping with the new HR system that is being implemented. Another leader lends insight into this:

"This was attempted done formally with mapping but was left without anyone in charge of the efforts. We are, however, exposed to competence mapping quarterly throughout goal and plan." Elliott

Even though there were some formal mapping of competence before, it's basically the goal and plan conversations that keep the leaders in the loop of what competencies the employees develop.

On the other hand, there are examples of leaders and employees who generally know who to ask when they have questions about something. Closely connected to the size of the organization, working tightly facilitates for an informal competence mapping.

"One works so closely, leading to knowing each other and people's main areas of expertise, which makes it easier in the informal areas to ask the right people."

Elliott

"Given that I've worked here for so long, I know whom to ask for help." Gray

Group of professionals acts as a place where people can ask questions, and thus it contributes to knowledge mapping as well. More on groups of professionals to follow.

5.5.2 Groups of Professionals

For the case company to deliver high-quality services, best practices are continuously developed and improved. These function as guiding systems for the employees in their day to day work and provide them with rough instructions to help solve their tasks more efficiently. The responsibility of establishing best practices within a subject is done by the group of professional for that subject

"We have groups of professionals that shall be the expertise that provides the rest with support, best practices, and templates for how things should be conducted." Indigo

A group of professionals doesn't have to consist of the most knowledgeable on the subject, but should according to an employee, at least know what's moving in the organization regarding the specific subject.

"Not necessarily that we should be the experts, but we should know what's going on and be up to date on what happens within the subject at a larger scale, such that if anyone has a question, they can come to us" Lee

Several in the organization specify the different groups of professionals as drivers for best practice. Here illustrated by one of the leaders

"Best practice is developed in the group of professionals that we have." Alex

One employee emphasizes that there is considerable variation in the performance of the different groups of professionals. As we are conducting interviews, only one group of professionals is used as an example of a well functioning one.

"There is a large variety in how the different groups of professionals perform. This is dependent upon who is contributing to them and how they are driven forward." Indigo

When it comes to how one team is able to be successful where others are not, several factors are brought up. Having time at the founding of the group, well-defined subject that is in demand, working well together, and personal qualities such as a wish to instruct and help. One practical solution to the time dimension is proposed:

"What might be a successful approach is to have someone with experience, and someone new, that has some time to take that structural aspect (...) who needs to learn it anyway." Lee

Participants in a group of professionals explain that they experience a lack of governance from their leaders.

"We haven't been given instructions on what to deliver. It is such a wide field, and little existing structure creates a need for a push in the right direction"
Indigo

They are willingly participating in the groups and have a desire to contribute to their field of specialty regardless of group success:

"Being up to date on my subject is okay, that's something one takes time for anyways" Lee

While the participants in the groups of professionals point at a lack of governance, the leader with the overall responsibility for the groups of professionals point to another problem. More precisely, the conflict between billings and internal time. Resulting in that both retaining personnel in the groups and recruitment for them is made difficult.

"We have gone several rounds on how to utilize groups of professionals, but the discussion always stop during the discussion of billings and internal time (...) development and operations cannot be done at the same place, then development would lose 10/10 times" Jordan

5.5.3 Hindrances and Initiatives for Knowledge Sharing

In order to get the corporate wheels to turn, knowledge has to be shared within the company. There is a common consensus between both the leaders and the employees that people are more able to perform if they cooperate. A prerequisite for expanding one's horizon is thus through sharing knowledge and information. In one arena where knowledge is shared is in projects with more than one employee.

"I am among those who strongly believe that 2 or 3 people together think better than 1. Having others to discuss with allows one to expand one's horizon."

Jordan

Placing employees actively on projects where they can learn from more experienced co-workers, and thus allowing knowledge sharing to happen is an initiative for knowledge sharing that both leaders and employees share

"If there is someone who hasn't done one type of survey, and we know someone's about to perform one, we send that person out with them." Alex

"Taking colleagues out on projects (...) is part of the increasing of competence that we have done." Charlie

The sharing in projects does not have to stop there but can be shared further in other areas.

"In projects one shares, but one can share success stories and methods in other arenas afterward." Elliott

Sectional and department meetings are almost unanimously recognized as an arena for sharing, and as such we are going more in-depth on that in its own section, also for the before mentioned arenas for methods and success stories. One employee views leaderships active role in knowledge sharing to be crucial; this is congruent with what the other employees feel as well, that leaders need to be aware:

"I believe that it needs to be anchored in the leadership. Unless the leaders have a relation to knowledge sharing, I think it's hard to perform." Blake

On a more personal level. Generally, it is a widespread culture for sharing, but one leader brings up an important point for sharing to take place:

"Someone has to take the initiative of their own accord and show that they want to know" Haven

S/He is also reminiscent of the fact that in worse times, knowledge sharing might not be as widespread as it is now, and that the culture could change if there were a more competitive environment. That being said, it is pointed out that in the current situation, the culture is to be helpful. Exemplified by one of the employees expressing joy over the current situation and that people drop what is in their hands to help.

"Everyone is willing to help (...) There is a large difference from my previous employer! Here everyone is replying, 'we'll fix that'." Drew

5.5.4 Development of Personal Competencies

The markets that the case company is operating within is continually evolving and thus changing the needs of their clients. In order to keep up with the changes in the market, the employees have to develop themselves and keep their knowledge up to date. Doing so, all of the employees express to us that they have great influence over what they want to pursue when acquiring new knowledge. Through quarterly meetings, development goals are agreed upon between the individual employee and their closest leader. The employees mainly decide these goals with little involvement from the leader.

"I have full authority to choose my own goals. The only exception is the demand for billings." Drew

Making every employee pursue their own personal interests is a deliberate action as it provides motivated employees through freedom in their day to day work life. However, as half of the leaders point out that it perhaps should have been done with more guidance and in a more direct connection to the company's overall strategy in order to provide a larger competitive advantage.

"In 'Company' we've perhaps not been steering development in such a way that it should've been, but let people do it on their own." Alex

Employee's strong influence over their own development can be an important reason for employee's continuous curiosity and interests in their subject. As one of the employees points out, colleagues who have been working at the company for years are interested in joining the training course for the newly appointed as this allows them to understand the comprehensiveness of their work further.

"I am now conducting training for the newly appointed employees. Doing so, one who is almost 50 and an experienced worker comes by and tells me that s/he wants to learn that as well. That's a good sign within a knowledge firm, in my opinion." Charlie

One of the leaders emphasizes this as the key ingredient when trying to develop new knowledge or to increase one's existing knowledge within the field simply. This leader recognizes curiosity as the single most crucial factor in the quest for new knowledge.

"The most important factor we have in every single employee is curiosity. It isn't rocket science. Curiosity will make you come out on top in 98% of the times." Alex

The case company presents its employees with the option of payment for courses and training programs. They offer a fixed sum every year, which the employees can apply and get approval for. In return, the organization demands the course participant to share some of the knowledge they acquired at an upcoming department or section meeting.

"The way it works is that if you attend a course, you have to share some of the knowledge at the next scheduled department meeting." Indigo

The same person also expresses that the system could be even better if the case company were willing to let one save the sum for some years to take more expensive courses. Emphasized by the fact that s/he had applied for a course for several years without it being accepted, resulting in no participating in courses those years.

"The last course in a series of three is twice as expensive as the two initial ones. The sum per person is thus not enough to cover it. So my application has been rejected. I have applied for three years straight, all rejected." Indigo

5.6 Strategies to Increase Knowledge Processes

In the last section of this chapter, we will present findings upon direct measures and strategies that the case company has introduced to increase both operational business processes and knowledge processes. The initiatives that will be presented are the organizational office layout as a means to improve learning in 5.6.1 Open Landscape as a Learning Mechanism. Regularly meeting within the different sections and departments as a formal learning arena and place for information in 5.6.2 Official Meetings as a Tool for Leaders and Employees. Lastly, the quarterly goal and plan conversation will be presented as a strategy to involve and motivate the employees in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation.

5.6.1 Open Landscape as a Learning Mechanism

Sitting in an open landscape is a structural change to increase sharing that has been touched on by several employees and also amongst management. It also entails mixing the different sections in an open landscape to enhance learning, illustrated by one of the leaders:

"We mixed people together. Before, economic and technical were separated. (...) So then we mixed together the sections. (...) To get the daily knowledge sharing. And this we've gotten a lot of positive feedback on" Elliott

One employee illuminates the benefits to communication that's occurred:

"We've sat completely separated in different buildings, technical and economical, and then putting us together facilitates communication." Charlie

Most of the employees are fond of sitting in the landscape with easy access to other colleagues and leaders, as well as the opportunity to learn from each other in the day to day activities.

"We are lucky that we are sitting in an open landscape. I have someone next to me who is really competent. Someone behind me, who is just to ask." Drew

"I learn a lot by sitting in the open landscape" Gray

A Leader presents that sitting in the landscape is related to accessibility. All the closest leaders are present in the landscape.

"When one sits in the landscape, one is open for approaching, which we are open about." Elliott

However, the new way of organizing the layout does not only improve communication and other learning benefits. It can also provide some drawbacks. This includes worse workflow when sitting in the landscape and not organized as strongly on projects and different customer groups. Employees experience that the workflow has been reduced, but that the bigger picture of what is going on in the organization has increased based on the changes to seating and organizing in the workplace.

5.6.2 Official Meetings as a Tool for Leaders and Employees

One general structure that has been brought up in a variety of capacities is section meetings and division meetings that are weekly and bi-weekly, respectively. There, a lot of coordination is done, including but not limited to coalescing and distributing information. These are structured arenas that can be utilized by both leaders and employees in several ways. One major usage, which several employees brought up is the distribution of work:

"We have section meetings where we perform a status update concerning what others need to know, distributing workload and such." Blake

It's also used as an arena for sharing of information and other work-related information

"We have section meetings once per week (...) we try to have half an hour with work-related, or tips and tricks. So if one has learned something, share it with the rest." Drew

Gray tells about different speakers at the divisional meetings, which is used as a formal learning arena. The employee elaborates on how it's also about learning what 'Company' is doing as a whole, even though it might not be relevant for everyone all the time. Another employee elaborates on the usefulness of such formal arenas on learning:

"There are contributions to learning in sectional and division meetings (...) but, I experience that there's much more learning day to day than from that."

Indigo

There is a change among the employees in what they view as the focus. Before the sharing focus has been lower, but as one employee puts it, there's some focus on the divisional meetings now.

"We try in divisional meetings (...) in the divisional meetings there's at least some agenda for sharing now" Kyle

A leader elaborates on whom can share in the division meetings and the thought behind having a sharing platform there for everyone.

"It can be that this is a subject I know a lot about, so I can have a presentation about it on the division meeting so others can learn as well" Finley

However, in an already pressed working day regarding billable hours, another leader elaborates on some time issues for the presenters.

"Then it appears that when someone is to present there's a lot of preparation time, right" Jordan

Section and division meetings are arenas for the leaders to inform everyone, especially in the division meetings. This has been a change from earlier when there were only section meetings. This allows section meetings to be more about sharing at a lower level.

"We started with division meetings to collect the whole department and take collective information there. Thus, we sit in section meetings, mainly focusing on technical subjects, production, and things of interest to only the section. This I believe encourages knowledge sharing almost daily" Elliott

5.6.3 Goal and Plan: A Tool For Involvement and Evaluation

In order to include the employees in the process of directing the company, a system consisting of quarterly meetings for goal planning has been introduced. This strategy is to motivate the employees to perform in their day to day jobs and can best be classified as the backbone for the leader-employee follow up program. In this section, we will present our empirical findings on the subject. This includes how the employees are evaluated, what parameters they are measured after, and why.

Evaluation of the employees

During quarterly scheduled meetings, the employees and their closest leader meet to agree upon goals. Together they make a rough plan for the next quarter with 10 goals that should be achieved. The next meeting will then start with evaluating the agreed objectives using traffic signals.

"After each quarter, we evaluate the goals together; how did it go? Is it green, is it yellow or is it red? We are doing a kind of balanced scorecard process."

Alex

Several of the employees found the goals motivating and appealing to their competitive instinct. Furthermore, the goals are evaluated with an open mind and that minor deviations from achieving the objective is accepted, is found to be positive. This understanding and flexible mindset are reckoned as important to maintain and encourage employees.

"It triggers my competitive instinct. You get red, yellow, or green flags on whether you achieved the goal or not. And I do not want any red flags on that freaking form" Drew

"The evaluation of goals isn't rigid. If I set out to get 300 billable hours and only got 290, then the goal is achieved. It is a question about motivation. I become more motivated when given the green flag as the deviation is so low. If I were given the yellow, I would become demotivated." Charlie

However, how closely each of the employees follows up on their goals varies greatly. Some who was eager to pursue their goals kept them on their desk at all times while others felt like it was something that was left in a drawer at their desk until the next meeting.

"We do the goal and plan meeting, think about it for a week and then forget all about them until next time." Drew

"I have collected all my goals to remind myself of what I am trying to accomplish" Kyle

The overall impression presented was that goal and plan meetings function as a wake-up call. They allowed both the leaders and the employees to take one step back and have a look at how their work schedule and every day working life really was.

"The goal and plan conversations... They make you wake up. First of all, they push you to get through your objectives and what to think through (...) They make both me and my leader aware of how the every day working life is." Gray

Measurement parameters

The goals that form the baseline for evaluation in the case company is divided into four different categories. These categories consist of economic goals, customer goals, internal goals, and learning goals. The goals count equally. However, there are 2 additional customer goals as they are a focus area and a driving force for the company.

"The goals count equally, but instead of an equal amount of goals in each category, we have chosen to have 2 on economy, 4 customer-, 2 internal- and 2 learning goals. The distribution also tells you a bit about what we emphasize." Alex

Although all goals are intended to be of equal importance, neither the majority of leaders nor the employees felt that it was so in practice. Both groups felt that the external customer goals and the economic goals often were prioritized over internal and especially learning goals.

"The learning goals aren't very prioritized. One's first priority is to deliver on the projects. Then one tries to have the other goals in mind." Elliott

"It is easiest to delay learning goals. You don't feel like you have the time to sit down and complete them. It is just easier to prioritize economic and customer-oriented goals instead." Gray

Purpose of Balanced Score Card

It is pointed out by the leaders that the evaluation process also is an action made to involve their employees more in the overall strategy of the company. As well as giving them the opportunity to impact their own day to day work schedule.

"When we initiate the goal and plan meeting, we explain the main company objective and an addendum priority list. Then we ask: What do you want to contribute with? In other words, there is a lot of involvement of the employees and flexibility to let them control their own day to day life." Alex

A clear example of involvement through goal and plan meetings is that they have put sustainability on the agenda. This has been brought up by several employees and has now resulted in external lectures that have been included in the internal meetings and become a fixed topic for the next quarter, all in order to enhance employees' knowledge on the subject.

"We have discovered in our goal and plan, that there is a wish to learn more about sustainability. Thus, I've said that all quarter, we will focus on having something about this at every department meeting." Alex

Some of the employees also explain that the result of each individual is made anonymous and put together to present the overall accomplishment of the department. Providing an overview of the department's performance in the last quarter.

"When we present it in the department, the data is made anonymous (...) It paints you a picture of the departments' performance if you have red, green, green, yellow." Charlie

6 Analysis

This section uses the AMO-model presented in section 3.4 Theoretical Framework as a structure to analyze our propositions with empirical findings presented in section 5 Empirical Findings. Providing answers to the propositions presented in section 3.4, Theoretical Framework, and forms the foundation to answer our research question:

How should leaders focus to enhance knowledge management in KIFs?

Throughout the analysis, the propositions will be evaluated to see if they have merit in the empirical context of the case company. Further theoretical implications will be assessed, based on the results of the analysis, in section 7 Discussion.

Before looking at the individual proposition, the results of the analysis for each aspect of the AMO-model will be presented. Following this, each presented propositions will be answered by first briefly explain the theory from which the proposition stems. Thereafter, we will present empirical findings supporting and opposing the proposition before summarizing and concluding on their merit and need for revision.

6.1 Analyzing Ability

This section contends with how the characteristics of knowledge workers and KIFs impact leadership and knowledge processes to answer the ability part of our AMO-model, presented in section 3.4 Theoretical Framework. Covering one aspect of leadership in KIFs and provide insight to focus areas in this specific context to enhance knowledge processes. The results of analyzing the ability propositions are presented in Table 12 Concluded Ability Propositions

Table 12: Concluded Ability Propositions

Nr	Proposition	Conclusion
A1	Knowledge workers' strong abilities diminish leaders' focus on control.	Not Supported
A2	Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.	Supported

The first proposition is based on the strong abilities of knowledge workers, and the resulting

implications for the controlling function of leadership, which impact leadership suitability. The second proposition directly evaluates hierarchy as a characteristic of KIFs and the implications that follow.

6.1.1 A1: Strong Abilities Leads to Less Control

As presented in 5 Theoretical Framework, the proposition is as follows:

Proposition A1: Knowledge workers' strong abilities diminish leaders' focus upon control.

The proposition revolves around employees in KIFs' strong abilities, presented in 2.2.1 Knowledge Worker. Their intellect, creativity, and ability to solve non-routine challenges make leaders feel little need for exercising control in their day to day leadership for knowledge processes to occur.

Empirical findings from the following sections contribute to answering the proposition: 5.2.2 High Levels of Trust, 5.3.2 Leaders as Facilitators, 5.3.4 Leaders as Supervisors, 5.4.2 Absence of Central Systems, 5.5.2 Groups of Professionals, and 5.5.4 Development of Personal Competencies.

Supporting the proposition

In section 5.2.2 High Levels of Trust, the employees explain that no one is controlling that their work has been done. The leaders emphasize their leadership practice is based on providing their employees with the freedom to solve their tasks the way they see fit. Both statements supportive towards the proposition as none indicate any sort of controlling aspect; instead, it is based upon trust in their employees. Further indications of trust, that directly neglects control are that the employees can work from home and other places they see fit, as shown in 5.3.2 Leaders as Facilitators.

Following this line of thought, the employees emphasized in 5.4.2 Absence of central systems and procedures, that there was no standard guideline to affect the worker's prioritizing of tasks and customers. This could indicate that controlling mechanisms have not been prioritized by the leaders and thus never been developed. As such, less standardized systems allow the workers to utilize their strong abilities and be creative in solving their tasks. Creativity is a key aspect of knowledge development and learning,

strongly supporting that the abilities of the employees affect leadership focus. It is also connected to culture, as shown in 6.3.3 Leaders making a fitting culture.

In 5.5.4 Development of Personal Competencies, it came forth that the leaders showed low interference in what the employees put their minds to regarding personal development. The employees expressed joy over the freedom of choice and lack of restrictions from their superiors. The leaders were aware they could have directed the development in a better suiting direction for the company; however, it was a deliberate action as it motivated their personnel.

Opposing the proposition

Some employees emphasize control as the most important leadership task in 5.3.4 Leaders as Supervisors. Contradicting our proposition and indicating that control should not be neglected even though the company consists of workers with strong abilities. Also, some of the leaders indicate a desire to be more in control and steer the organization towards planned competence goals. Both statements indicate that leaders focus on the same areas as if their workers were less able.

Groups of professionals have been formed as an initiative to introduce control through standardization and forming best practices, described in 5.5.2 Groups of Professionals. This formation illustrates that leaders are looking to develop more standardized practices to ensure that the tasks are solved according to expectations and give them increased opportunities to control the behavior of their employees. Several employees point towards unclear deliverables for the groups of professionals as a consequence of leaders' lack of control, hurting its participants' prioritization and indicating that leaders should exert some control for knowledge processes to prosper.

Despite knowledge workers' desire for freedom and autonomy, it became apparent in 5.4.1 Leaders' Time Schedule, Presence, and Availability that several of the employees sought after support from unavailable leaders. It was resulting in spending excess time to get things done due to leaders' lack of presence, reducing available time for knowledge processes.

Conclusion

Although employees show strong abilities and can solve their day to day work with good

results, the leaders still would like to have more control. This is, to a certain degree, supported by some employees who wanted increased support from their leaders. Lack of control is found especially diminishing for the returns on some knowledge initiatives like groups of professionals. Leading us to the conclusion that leaders should not reduce their focus upon control, but rather adapt ways of control fitting the premise of their workers and facilitating knowledge processes. Thus, we find the proposition to be not supported.

We would, however, rephrase the proposition by making it the following instead:

Knowledge workers' strong abilities change the leaders' focus on control.

6.1.2 A2: Low Hierarchy to Enhance Knowledge Processes.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition A2: Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.

The proposition revolves around the flat structure in knowledge-intensive firms, presented in 2.2.3 Organizational Structure, and that this is a deliberate act done by the leaders in order to remove barriers and thus facilitate knowledge processes through increased information flow and creativity for knowledge workers.

The following sections from the 5 Empirical Findings have been used to answer the proposition: 5.2.1 Low Levels of Hierarchy, 5.3.2 Leaders as Facilitators, 5.3.3 Leaders as Pathfinders, 5.4.1 Leaders' Time Schedule, Presence, and Availability, and 5.6.1 Open Landscape as a Learning Mechanism.

Supporting the proposition

One of the employees does in 5.2.1 Low Levels of Hierarchy describe the hierarchy as entirely flat, supported by one of the leaders who perceive no barriers tied to hierarchical positions. He/she elaborates that he/she could just as easily ask the CEO for help as his/her closest leader or any other employee. This is interpreted as a sign of leaders deliberately reducing the positional distance to increase vertical communication and reduce barriers. Encouraging their workers to seek information, propose new ideas, and generally increasing the flow of information.

Following this argument are the findings presented in 5.3.2 Leaders as Facilitators, where

half of the leaders explain that their role is to make the employees perform. They are taking individual needs into account in their efforts to provide them with the best possible circumstances to do their job. This indicates that leaders facilitate their employees to a large degree. Furthermore, section 5.3.3 Leaders as Pathfinders point towards leaders being averse to come across as better than their employees. They instead accentuate employees who are role models on their field and support them, highlighting leaders' desire to develop their employees and give knowledge processes like learning and knowledge sharing prosperous conditions.

Deliberate structural changes have been implemented to enhance knowledge processes in the firm. Section 5.6.1 Open Landscape as a Learning Mechanism, showed how the seating was changed from being organized in different sections to combining them, increasing the information flow. The leaders themselves were included, being dispersed throughout the office landscape, in the same manner, deducing the gap between leaders and employees.

Opposing the proposition

Although it seems like the hierarchy is absent, there are still indications of its existence. Section 5.4.1 Leaders' Time Schedule, Presence, and Availability presents examples of employees expressing disgruntlement over the leaders' lack of presence when in need to discuss ongoing work processes. Indicating some positional distance between leaders and employees, and thus the existence of hierarchy.

Conclusion

The employees experience low levels of vertical positional differences throughout the organization. This is assessed to be a direct result of the leaders' intent of facilitating their employees, removing barriers for communication, and increasing the flow of information. The positional distance between leader and follower has been downplayed and could almost be said to be insignificant, although some inequalities exist in tasks and need for presence. Concludes that the proposition of leaders downplaying hierarchy to facilitate knowledge processes is supported.

6.2 Analyzing Motivation

The following section will answer leadership's impact on the motivational part of our AMO-model presented in 3.4 Theoretical Framework. Thus the sum of the propositions,

presented in Table 13 Concluded Motivation Propositions, will provide us with an answer to how leaders can influence their followers' motivation to carry out knowledge processes, implying how leaders should focus, in KIFs.

Table 13: Concluded Motivation Propositions

Nr	Proposition	Conclusion
M1	Leaders encourage knowledge processes through leading by example.	Partially Supported
M2	Trust is cultivated by leaders to encourage knowledge processes in KIFs.	Supported
M3	Leaders must ensure commitment from employees to secure knowledge processes.	Partially Supported

The first proposition evaluates leaders' influence on their employees through being role models. Following this, we set out to answer how leaders can affect their employees' motivation through trust and its implications. Lastly, we look at how commitment can be an influencing factor for the willingness to participate in knowledge processes and leaders' part in enhancing commitment.

6.2.1 M1: Leaders as Role Models

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition M1: Leaders encourage knowledge processes through leading by example.

The proposition stems from the theory presented in 2.3 Leadership, where leaders can be referred to as role models for others and examples to follow. We will here analyze how they act as role models and if they provide motivation through this behavior.

Empirical findings from the following sections have provided us with the information needed to answer the proposition: 5.2.2 High Levels of Trust, 5.3.1 Leaders as Supporters, 5.3.3 Leaders as Pathfinders, 5.4.1 Leaders' Time Schedule, Presence, and Availability, 5.4.2 Absence of Central System and Procedures, and 5.5.4 Development of Personal Competencies.

Supporting the proposition

Curiosity amongst individuals is accentuated as the most valued trait by the leaders for

knowledge processes, as depicted in 5.5.4 Development of Personal Competencies. Also, in 5.4.2 Absence of Central Systems and Procedures, we have a clear example of how leaders accentuate curiosity and drive development through diving headfirst into new opportunities. This happens from time to time, as shown in 5.3.3 Leaders as Pathfinders, and is an example of how leaders motivate employees to develop necessary knowledge.

Although leaders emphasize in 5.3.3 Leaders as Pathfinders that part of their function as a leader is to be an example for their employees, which they regard as a strong suit, although authenticity is stressed. Indicating that, in areas where they lack skills, they have to recognize their limits and accentuate others instead, laying the grounds for others to shine when appropriate. This is exemplified through the use of groups of professionals, where leaders are establishing key personnel within a field of expertise to perform knowledge processes, as illustrated in 5.5.2 Groups of Professionals.

Opposing the proposition

Although it seems like the common perception is that the leaders are examples to follow, there are also areas where they are not. In 5.4.1 Leaders' Time Schedule, Presence, and Availability, the employees point to the problem of getting the hang of their leaders in situations where their guidance is needed. Such situations where necessary support is deprioritized could harm knowledge processes deteriorating the helpfulness of colleagues acting in an akin manner. If the absence of leaders is a direct result of high levels of trust, found in 5.2.2 High Levels of Trust, it could indicate that these levels are reducing employees' perception of leaders as someone one can reach out to when in need. Thus providing a negative example of behavior that should not be followed, as being supportive was found important in 5.3.1 Leaders as Supporters.

Conclusion

Overall, the leaders are well aware of their strong suits and are actively trying to set an excellent example to follow, highlighting qualities such as curiosity and courage to explore new opportunities as beneficial for knowledge processes. Leaders' unavailability does depict itself as a limitation for knowledge processes as it could create precedence for being unavailable, negatively impacting employees to be available for such processes. Although we do get the impression that the proposition is supported, our empirical findings do not clearly depict to what degree the followers are motivated by their leaders' example. As

such, we conclude that the proposition is partially supported due to the inconclusive level of motivation being projected.

6.2.2 M2: Leadership, Trust and Motivation

As presented in Figure 5 Theoretical Framework, the proposition is as follows:

Proposition M2: Trust is cultivated by leaders to encourage knowledge processes in KIFs.

The proposition revolves around leaders trusting their employees to enhance knowledge processes, as well as building trust from a knowledge worker perspective. As trust fosters trust and the connection between knowledge processes and trust is strong, trust can be used as a strategy to enhance knowledge processes indirectly, as presented in 2.4.1 Trust.

The empirical findings from the following sections have been used to provide an answer to the proposition: 5.2.2 High Levels of Trust, 5.4.1 Leaders' Time Schedule, Presence, and Availability the leaders, 5.4.2 Absence of Central Systems and Procedures, 5.5.4 Development of Personal Competencies, 5.6.1 Open Landscape as a Learning Mechanism, and 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation.

Supporting the proposition

The leaders explicitly express that they believe their employees attend work to perform their best, portraying how the leaders within the case company perceive trustworthiness and trust itself as important, as shown in 5.2.2 High Levels of Trust. Leadership is carried out in the company in a trusting manner and in the belief that their employees are capable of handling their tasks. This is supported by the employees who explain that they experience little supervision on their day to day work and are free to pursue opportunities, supporting leaders' claim of performing trust-based leadership.

In section 5.5.4 Development of Personal Competencies, an indication of how trust lays the foundation for motivation is exemplified. Employees who have been at the company for years are attending the training of new employees to raise their competence. This is interpreted as a signal of trust as showing one's weaknesses often can be tied to losing face or reducing one's status within a group. Instead, this is by the other employees found inspiring. This is further exemplified in 5.6.1 Open Landscape as a Learning Mechanism,

where it is emphasized that when the employee needs help with something, it is just to ask.

Through the use of internal goals as described in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation, leaders encourage their employees to create and attend social events. This can be seen as a signal that the leaders are building trust amongst their colleagues with the direct purpose of enhancing work processes and thereby also important knowledge processes. Social events are depicted in 5.2.2 High Levels of Trust as a great way to create trust amongst the employees, as it allows bonds to be built across all sections within the department. It is also clearly stated that inviting colleagues home to one's own house is an explicit declaration of trust and that it leads to better information flow and less harshness within the work environment.

Opposing the proposition

Although trust is a good thing to have in a workplace, it is not a universal opinion that the levels of trust that the employees' experience are ideal. In section 5.4.2 Absence of Central Systems and Procedures, some of the employees raised the question of whether all the different prioritizing done by individual employees was for the better of the company. As they explain, there are no shared guidelines for the employees to follow, so the possibility of high variations in conducted work and services delivered is definitively present. This could further result in uncertain employees, which, over time, would not lead the knowledge processes in a uniform direction.

A question that comes to mind when considering the trusting leadership style is whether the trust is genuine or a direct consequence of the workload that the leaders are carrying. In 5.4.1 Leaders' Time Schedule, Presence, and Availability, the leaders review their calendar as a wall to wall carpet with appointments and meetings. One could thus argue that the trust is not in their workers itself but a necessary evil to be able to cope with their workload. This is emphasized by employees who express that their leaders tend to be unavailable and hard to get in touch with when they need support or guidance in their day to day work. This indicates that the unavailability could amplify the employees' uncertainty around pulling in the same direction as the leaders are the ones who could be the integrating factor and provide an overview for the rest of the workforce. Therefore we raise the question about high levels of trust, making the leaders feel like it is acceptable

to be less present as one believes that ones' employees are capable of solving the tasks themselves.

Another indication against trusting leadership as a well functioning motivation for knowledge processes is the fact that knowledge processes are not perceived as a priority by the leaders. The employees point out in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation that both the internal and development goals of the single employee have been neglected. Sending a signal that both categories not being as important as the customer goals and economic goals.

Conclusion

In the empirical data, there are multiple examples of trust, and the leaders also state it as important for how they want to be perceived and something which they hold highly. There is also the chance that trust is an organizational trait, thus inherent within all members of the organization. This can be a result of leaders, which, over time, has all been prioritizing trust and nurtured it over time. However, questions are raised about leaders encouraging knowledge processes as the goals tend to be neglected in comparison to other goals, moreover, whether the lack of a clear direction for knowledge processes could be detrimental. Nevertheless, we find the proposition to be supported as it shows the leaders' purpose of trusting their employees and that both development goals and internal are set each quarter, although not the most prioritized, state the fact the leaders do take knowledge processes and development of their employees sincerely.

6.2.3 M3: Committed Employees Secure Knowledge Processes

As presented in Figure 5 Theoretical Framework, the proposition is as follows:

Proposition M3: Leaders must ensure commitment from employees to secure knowledge processes.

The proposition was based upon the theory in 2.4.3 Commitment, which stated that individuals who felt a higher commitment towards their organization are less likely to leave, increasing knowledge retention. Especially important as knowledge-intensive firms have been found prone to high turnover in 2.2 Knowledge-Intensive Firms. Also, commitment is theorized to be important for other knowledge processes, especially sharing.

The empirical findings used in this analysis are from the following sections: 5.1 Case Description, 5.2.2 High Levels of Trust, 5.3.2 Leaders as Facilitators, 5.5.1 Knowledge Mapping, 5.5.2 Groups of Professional, 5.5.3 Hindrances and Initiatives for Knowledge Sharing, 5.5.4 Development of Personal Competencies and 5.6.3 Goal and Plan: A Tool for Involvement and Evaluation.

Supporting the proposition

Affective commitment is found actively fostered in the organization through social goals, exemplified by one of the employees who invited a large portion of his/her coworkers to his/her home, as shown in 5.2.2 High Levels of Trust. This allowed them to portray different sides of themselves and connect. Such social goals are a combined effort between the leaders and employees, giving leaders a way to secure commitment through accentuating values appreciated amongst the employees. Being able to ask everyone for help, and people dropping what is in their hands to help as shown in 5.5.3 Hindrances and Initiatives for Knowledge Sharing, is another example of affective commitment, which can be connected to strong commitment building by leaders.

Leaders work for knowledge retention through building side bets for their employees. This is illustrated in 5.6.3 Goal and Plan: A Tool for Involvement and Evaluation, where social goals are presented, creating belonging to the organization. Another display of high organizational commitment is long-lasting employments. The majority of the employees express that they have been with the company for quite some time, exemplified in 5.5.1 Knowledge Mapping. Employees know whom to ask for advice, based on their long-lasting mutual employment. The long-lasting employments indicate that turnover is low, at least among the majority of the employees, retaining knowledge in the organization. Whether commitment is actively secured by providing their employees with high levels of autonomy, as presented in 5.2.2 High Levels of Trust, or it being result of not all the employees having higher formal education, shown in 5.1 Case Description, and as such not the same opportunities for similar work elsewhere is hard to ascertain.

As an effort to encourage knowledge processes, the case company presents an opportunity to get paid course fees up to a certain amount. In return, the case company expects a presentation with lessons learned to be held at a department meeting, as presented in 5.5.4 Development of Personal Competencies. Employees who attend courses develop

normative commitment, as the organization is expecting knowledge acquired to be shared as a refund for their investment.

One of the leaders explained in 5.5.2 Groups of Professionals that recruitment and retaining those actively participating in the groups of professionals is an issue. Although productivity pressure is mentioned, we assess it to be a possible indication that either commitment has not been built sufficiently amongst the workers or that commitment does not play a part in knowledge workers' willingness to participate in such processes.

Opposing the proposition

Although the proposition state that commitment must be present for knowledge workers to participate in knowledge processes. It is emphasized in 5.5.2 Groups of Professionals that being up to date on one's subjects is something one always prioritize and find time for. Indicating to some degree that commitment to the organization is less significant and that the workers' commitment and pride in their work are of higher importance.

Accruing side bets is known to foster commitment, and this is shown to be happening in the organization as well. Several employees point out that they can work from where ever in section 5.3.2 Leaders as Facilitators. As such, commitment is increased. However, it also makes it harder to participate in knowledge processes as one is not present at the office. This increases the social distance and threshold for participation in knowledge processes along with it, indicating that not all commitment is positively connected to enhancing knowledge processes.

Conclusion

Leaders actively foster commitment through social goals allowing their employees to connect, enhancing communications. An indication of the commitment being high in the organization is displayed through long-lasting employments, retaining knowledge. Further, exemplifying the high commitment to colleagues is the fact that employees throughout drop what they have in their hands to help each other and being willing to share. However, questioning the importance of commitment building is the argument that knowledge workers are keeping up to date on their fields, independent of the level of commitment towards the organization. As we assess knowledge workers' motivation to be up to date on their field, regardless of commitment, to be of high relative importance, we conclude only partially supportive of the proposition.

6.3 Analyzing Opportunity

This section contends with how leadership affects the opportunity of employees to perform knowledge processes, to answer the opportunity part of the AMO-model presented in section 3.4 Theoretical Framework. This is a part of the overall leadership function in KIFs and gives insight into how it should be done in this specific context.

Table 14: Concluded Opportunity Propositions

Nr	Proposition	Conclusion
O1	Leaders who first serve their knowledge workers increase knowledge processes.	Supported
O2	Leaders must prioritize knowledge processes for them to occur.	Partially Supported
O3	Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.	Supported

The first proposition regarding the opportunity to perform knowledge processes relates to leaders serving the knowledge workers. Our second proposition directly evaluates the prioritizing effect of leadership on the opportunity to perform knowledge processes. The third proposition is based on the ability of leaders to shape culture and specifically one of openness and allowance of mistakes, which implies leadership suitability. The propositions in their entirety are presented in table 14 Concluded Opportunity Propositions.

6.3.1 O1: Opportunities Through Facilitation

As presented in Figure 5 Theoretical Framework, the proposition is as follows:

Proposition O1: Leaders who serve their knowledge workers increase knowledge processes.

The proposition stems from 2.3 Leadership, where positive effects like empowering the follower are discovered through the means of facilitation. As such, the proposition relates to this and make the assumption that this will apply for knowledge processes.

The following empirical sections are used to analyze the proposition: 5.3.2 Leaders as Facilitators, 5.4.1 Leaders' Time Schedule, Presence, and Availability, 5.5.3 Hindrances and Initiatives for Knowledge Sharing, 5.5.4 Development of Personal Competencies, and 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation

Supporting the proposition

A prime example of the leaders facilitating for their employees is presented in 5.3.2 Leaders as Facilitators. One of the employees had gone through a rough patch privately and was expected to take a full sick leave. The leaders, on the other hand, reduced the workload and facilitated his/her needs. As such, the employee was able to attend work and could thus contribute his/her knowledge in the office environment regularly.

Leaders serve their employees through distributing money to pay for courses and continued education, as shown 5.5.4 Development of Personal Competencies. BBy allowing and supporting their employees to look outside the organization to extend their knowledge, they also present new opportunities for them to learn. As such, they are increasing overall knowledge processes in the organization as this knowledge will be brought back and shared. The system is not perfect. As an employee points out, they are not allowed to accumulate their subsidized sum over several years in order to take more expensive and in-depth courses. This is resulting in employees having applications rejected and not pursuing any courses those years. Implying that knowledge processes could have been further increased if employee wishes were facilitated.

In section 5.5.3 Hindrances and Initiatives for Knowledge Sharing, it comes forth that the leaders actively prioritize the inclusion of employees to attend excursions and inspections out at the customers in order to increase their knowledge. Depicting how putting the development of their employees first is contributing to knowledge processes within the firm. Following this line of thought is how sustainability was chosen to be a focus area for the employees. During regular goals and plan meetings with the employees, the leaders were made aware that a large portion of them desired more information about sustainability. The result was as presented in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation that external lecturers were invited to present on the matter.

Some employees say that if the leaders were more available and as such that they could ask more questions of them and get more assistance with figuring out who knows what, that they would be more efficient themselves. This is shown in 5.4.1 Leaders' Time Schedule, Presence, and Availability. Thus, leaders being there to serve could lead to more time for knowledge processes amongst the employees.

Opposing the proposition

Although the employees appreciate that their leaders facilitate for them to be able to conduct their work wherever, as presented in 5.3.2 Leaders as Facilitators, we do raise the question of whether this is beneficial for both ongoing and emerging knowledge processes for the employee. Removing oneself from the office environment increases the social distance and could mitigate the degree of cooperation and knowledge sharing amongst the employees throughout the organization.

It is also pointed out by one of the leaders that solely facilitation from them does not provide the employees with the knowledge they need. The leaders could have laid out the groundwork, but the initiative to get the knowledge they want still has to be taken by them, as presented in 5.5.3 Hindrances and Initiatives for Knowledge Sharing. Indicating that facilitation alone does not necessarily increase knowledge processes per se, but rather lowering the friction for them to happen.

Conclusion

We find serving to be beneficial for knowledge processes, and several employees and leaders are well aware of the benefits. Facilitating for knowledge processes is done through several means: letting people tag along on surveys to get knowledge from practice, participating in courses, being heard in the planning, and being available for questions and generally helping out. We have, however, found that serving is dependent on initiatives of the knowledge workers themselves and that serving thus can be difficult. An example of detrimental facilitation for knowledge processes can be working remotely, decreasing the opportunity for knowledge processes as one is not near colleagues and new input.

Overall we think the proposition is supported in a KIF context, where one can expect the knowledge workers themselves to take the initiative for knowledge processes, and thus having less risk of lack of initiative.

6.3.2 O2: Knowledge Processes Demands Prioritization

As presented in Figure 5 Theoretical Framework, the proposition is as follows:

Proposition O2: Leaders must prioritize knowledge processes for them to occur.

This proposition stems from the need to prioritize knowledge processes for them to occur, as shown in section 2.1.2 Knowledge Management. Prioritization of knowledge processes is

important in order to get the most out of the resources available and is in conflict with the organic structure of knowledge-intensive firms, and this led to the presented proposition.

We are using these empirical sections to analyze the proposition: 5.4.2 Absence of central systems and procedures, 5.5.2 Groups of Professionals, 5.5.3 Hindrances and Initiatives for Knowledge Sharing, 5.5.4 Development of Personal Competencies, 5.6.1 Open Landscape as a Learning Mechanism, 5.6.2 Official Meetings as a Tool for Leaders and Employees, and 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation

Supporting the proposition

In 5.4.2 Absence of Central Systems and Procedures, one of the employees points out that the leaders have focused upon economic aspects lately, resulting in development goals being neglected. Providing support to such a statement is our findings in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation, as some leaders point towards development goals not being as important as the others, coinciding with the view from several of the employees, making development goals to be left in the shelf until next evaluation and without any further attention. This neglect depicts how a lack of priority negatively impacts knowledge processes.

Employees point out that the change from group-based to an open landscape way of organizing the office has been at the cost of effectively distributing work assignments, as shown in 5.6.1 Open Landscape as a Learning Mechanism. However, both employees and leaders say that the flow of information is better with this way of sitting. This is a prioritization that the leaders have done to enhance knowledge processes, and information flow, rather than facilitating the individual worker distributing their work. A direct need for prioritization is shown in section 5.5.3 Hindrances and Initiatives for Knowledge Sharing, where one employee points out that the leaders need be prioritizing knowledge processes, in this case, knowledge sharing in particular, if they do not, then it is hard to perform knowledge processes at all.

The groups of professionals do not feel that their knowledge work is prioritized and that such it is difficult to perform that work to its capabilities. This is shown in section 5.5.2 Groups of Professionals. Prioritization between production and development is difficult, as shown by several leaders, one, in particular, points out that line work beats development any time when done simultaneously. Prioritizing is difficult also outside these groups, as

shown in 5.3.1 Leaders as Supporters, employees seek confirmation that what they do is right and need someone to lean on occasionally.

Section- and department meetings were expanded from just section meetings to include several meetings with the whole department to facilitate department-wide knowledge sharing. This is shown in 5.6.2 Official Meetings as a Tool for Leaders and Employees. There is a consensus that this facilitates some overall knowledge sharing and could provide employees with new knowledge. Exemplifying how it creates a common consensus for sharing is the practice of presenting a summary of lessons learned from attended courses, as presented in 5.5.4 Development of Personal Competencies.

Opposing the proposition

Curiosity is brought forth as the most important quality for development in section 5.5.4 Development of Personal Competencies. Curiosity is an individual characteristic that could be argued to outweigh the external opportunity produced by prioritization from leaders. It is also evident that the workers in the case company participate in knowledge processes and strive to stay updated on their field of work regardless of prioritization from their leaders, as shown in 5.5.2 Groups of Professionals.

The employees could show long-lasting employment in the case company. As a result, they had created themselves a personal map over whom to ask, as presented in 5.5.1 Knowledge Mapping. This has no direct connection to their leaders' priorities, as leaders present failed attempts at controlled knowledge mapping, but rather appears to be a beneficial consequence of their tenure in the organization. Thus it is evident that such processes happen without prioritization.

Conclusion

There is much evidence that leaders need to prioritize knowledge processes for them occur: in groups of professionals, time prioritization of development over line work, facilitating more extensive communication at the costs of task sharing efficiency (in open landscape), and through goals which are neglected without proper priorities. There are also several indications of leaders prioritizing knowledge processes such as in section- and department meetings and through allowing their employees to attend courses, allowing for knowledge processes, which could indicate that prioritization needs to be present for them to occur. However, it is also shown that employees learn what they need without

prioritization, and some leaders emphasize that curiosity is more important than all else. There are also findings that employees themselves perform mapping of knowledge during long employments.

We find that the proposition is supported in most circumstances, but given the nature of the knowledge worker and their reliance on keeping up with their work, it is evident they perform knowledge processes to stay up to date even without prioritization. This leads us to only partially supporting the proposition.

6.3.3 O3: Leadership Making a Fitting Culture

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition O3: Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.

This proposition is based on the need for a fitting culture for knowledge processes to take place, allowance of mistakes, and openness. It is also based on the fact that leaders can impact organizational culture. The theory that led up to this proposition can be found in section 2.4.2 Culture.

These sections of the empirical work give us a basis for analyzing the proposition above: 5.2.2 High Levels of Trust, 5.3.1 Leaders as Supporters, 5.3.3 Leaders as Pathfinders, 5.4.2 Absence of Central Systems and Procedures, 5.5.4 Development of Personal Competence, 5.6.1 Open Landscape as a Learning Mechanism, and 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation.

Supporting the proposition

In section 5.6.1 Open Landscape as a Learning Mechanism, it is evident that there is a culture for just asking each other questions whenever. This is a clear sign of openness within the company. It is also a direct leadership strategy for facilitating knowledge processes, as presented in the same section. Further emphasizing how openness is built is the social goals as presented in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation, leading to employees inviting their colleagues into their homes, as shown in 5.2.2 High Levels of Trust.

Leaders' focus on being supportive, as shown in 5.3.1 Leaders as Supporters, builds

a culture of trust. This trusting culture directly manifests itself through an employee who actively joins newer employees' training presented in 5.5.4 Development of Personal Competencies. This is an example of someone being willing to show that they do not necessarily know everything and thus being a good representation of leaders having built a culture where being open and vulnerable is accepted.

In section 5.3.3 Leaders as Pathfinders, there is a common understanding amongst leaders that one should go in front, creating an organizational culture where such activities are acceptable and even a preferred way to behave, as they are themselves role models for the rest of the employees. This exploratory culture, where failure is an option, can create the opportunity for knowledge processes to occur.

Opposing the proposition

The founding spirit within the company is still strong, and one can argue that leaders' ability to impact culture and change the existing one as they see fit can be limited. As shown in section 5.4.2 Absence of Central Systems and Procedures, there is a rift between the creative culture formed by having such a founder spirit and the perceived need for more structure and expansion of the company.

Even though the leaders focus on culture for enhancing knowledge processes in the case company, an important aspect of time and money is often brought up overshadowing the opportunity for performing such processes. This can indicate that not enough of a culture is built around such activities that they are prioritized utmost based on culture. Prioritizing of knowledge processes is analyzed in 6.3.2 O2: Knowledge Processes Demands Prioritization.

Conclusion

The leaders work to build an open and safe culture for knowledge processes, as shown through a trusting environment, ease of asking for help, workers showing their weaknesses and leaders who are leading from the front and being motivational figures. However, how much they can influence the company's culture is not as apparent. Empirical data show that some of the original culture is still strong and might not be compatible with new wishes of growth. We do, however, weigh the proposition mostly favorably, and it is supported in the aspect that leaders attempt to build such a culture for knowledge processes.

6.3.4 Summary

Throughout the chapter, the theoretical propositions, categorized within the AMO-framework, have been individually analyzed in light of our empirical findings. Five propositions have been found supported, two partially supported, while one was found not supported. The propositions and their associated conclusion is presented in Table 15 Concluded Propositions. How these empirical findings and our answers to the propositions provide a theoretical contribution will be discussed in the next chapter 7 Discussion.

Table 15: Concluded Propositions

Nr	Proposition	Conclusion
A1	Knowledge workers' strong abilities diminish leaders' focus on control.	Not Supported
A2	Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.	Supported
M1	Leaders encourage knowledge processes through leading by example.	Partially Supported
M2	Trust is cultivated by leaders to encourage knowledge processes in KIFs.	Supported
M3	Leaders must ensure commitment from employees to secure knowledge processes.	Partially Supported
O1	Leaders who first serve their knowledge workers increase knowledge processes.	Supported
O2	Leaders must prioritize knowledge processes for them to occur.	Partially Supported
O3	Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.	Supported

7 Discussion

So far, we have presented existing theory and our empirical findings and analysis on the subjects of knowledge management, knowledge-intensive firms, and leadership. In this chapter, we are looking to see how our research coincides with the theoretical foundation and how the propositions can contribute to answering the sub-research questions. This evaluation will be done in order to provide us with the basis to answer our main research question:

How should leaders focus to enhance knowledge management in KIFs?

Further, the discussion chapter serves as the arena where we discuss the theoretical contributions our analysis has brought. We will only look at the theory where our analysis gives a basis for discussing theoretical contributions. This section is organized as per the sub-research questions, where we will discuss all the propositions regarding one sub-research question individually and then having an overall look at answering the sub-research question.

Finally, this section will offer an evaluation of the applicability of using the AMO model for giving causal directives for leadership to enhance knowledge processes within a knowledge-intensive firm context, as it is theorized to work in general for knowledge process behavior.

7.1 How Leadership Affects the Ability for Knowledge Processes

The first sub-research question we will begin to discuss is the one regarding the ability of knowledge workers' impact on leadership. The sub-research question is:

Sub-research question: How does the ability of knowledge workers and characteristics of KIFs impact how leaders should facilitate knowledge processes?

In this section, the theoretical implications of the propositions regarding how the abilities of the workers and characteristics of KIFs affect how leaders should focus to enhance knowledge processes are discussed. The discussion will be done by going through the

individual propositions chronologically. First off, the proposition and a summary of the analysis associated with it will be presented before the theoretical contribution it brings will be discussed. In the end, a conclusion on how this affects what leaders should focus on will be drawn.

7.1.1 A1: Knowledge Workers' Abilities Implications for Control

As presented in Figure 5, Theoretical Framework, the proposition is:

Proposition A1: Knowledge workers' strong abilities diminish leaders' focus on control.

The proposition is based on Drucker (1999), stating that knowledge workers are mostly self-managed. Combining this with strong abilities (Frenkel et al., 1995; Newell et al., 2009; Alvesson, 2004; Starbuck, 1992) and autonomy being a prerequisite for knowledge workers (Robertson and O'Malley Hammersley, 2000; Frenkel et al., 1995; Alvesson, 2004), resulting in leaders willingly diminishing focus on control.

Summary of Analysis

In the analysis, it came forth that the proposition was not supported as both the leaders and employees desired more control in certain areas, especially in a supporting way for knowledge processes and initiatives such as groups of professionals. The employees were mostly happy with low levels of control in day to day activities, however.

Theoretical Contribution

Drucker (1999) presented knowledge workers as often being self-managed due to their strong abilities. Our analysis showed that they were mostly able to handle their day to day work with good results being left on their own, supporting this theoretical view. There was, however, a wish amongst the employees for more support from their leaders, in prioritization especially. Raising questions about to what degree knowledge workers are self-managed, and if what constitutes being self-managed need to be more precise. Kotterman (2006) explains that management was introduced to cope with the increasing level of complexity in organizations, with more knowledge workers, the complexity also increases. Thus, management is more prominent due to the contemporaneity of knowledge workers, and as such somewhat of a paradox. This finding is somewhat controversial as reducing control is a mainstay of knowledge management literature (e.g., Hislop (2013)

and Newell et al. (2009)).

The results on groups of professionals also give insight into the value of control for leaders in a knowledge-intensive firm. As shown in the analysis, this was an initiative that failed due to lacking control by the leaders. Implying that the workers were unable to manage themselves and contradicting Drucker (1999). Nevertheless, the workers also emphasized that their received freedom was appreciated and that they would not be without. This emphasis indicates support to Robertson and O'Malley Hammersley (2000), Frenkel et al. (1995), and Alvesson (2004), who claim that autonomy is a requisite for knowledge workers.

While management is about bringing stability and order into an organization (Kotterman, 2006), it is opposing autonomy, a discussion of whether this control could be done through a form of leadership emerge. Politis (2001) found servant leadership to enable self-managed employees while being facilitated by their leaders. His theory is supported by the analysis, which found that leadership in the case company is based upon giving the employees freedom to solve their tasks how they see fit.

Opposing the proposition is that some of the leaders wish to actively direct the development of their employees' competencies more than currently. The development could be done through coaching, being a part of transformational leadership (Bass, 1996; Birasnav et al., 2011), as shown to be fitting for knowledge processes (Politis, 2001; Noruzy et al., 2013). This coaching behavior could be a form of control on development and is found to be wanted. It is wanted even though the workers show high ability, and might even be hard to perform because of the knowledge workers' strong abilities.

While our analysis did not support the proposition, there might be another explanation besides theoretical incongruence with knowledge workers and leaders diminishing focus on control. This incongruence could be caused by whether the employees themselves are knowledge workers, according to Frenkel et al. (1995), Hislop (2013), and Newell et al. (2009) or knowledge workers as defined by Cortada (1998) who views all contemporary workers as knowledge workers.

Frenkel et al. (1995) connect knowledge workers to strong abilities within creative, social, and analytical skills. They are indicating high degrees of theoretical knowledge. Our analysis showed that the employees in the case company showed strong abilities through

handling day to day activities on their own. When we include Hislop (2013) and Newell et al. (2009) and their focus on high formal degrees as a characteristic to be knowledge workers, this is not supported in the company, as presented in 5.1 Case Description. Whether the workers of the case company are knowledge workers that are different from traditional workers, or that all workers are knowledge workers nowadays, as stated by Cortada (1998), is not entirely unambiguous.

Conclusion of Discussion

The discussion surprisingly contradicts theory on knowledge management (e.g., Newell et al. (2009)) and implies that leaders within KIFs should not reduce their focus upon control, but instead find ways to exert control without violating the premise of autonomy and effectiveness of being self-managed. The ability to be self-managed is brought into doubt, not offering full support to Drucker (1999). However, autonomy for knowledge workers was mostly supported, even though self-management and autonomy could be seen as closely connected in practice. This due to the positive effects control brings to an organization in terms of support structures for its employees. Based on the discussion we believe that Cortada's (1998) view on every worker being a knowledge worker is not supported, as there is more evidence of strong abilities and wish for autonomy as described by Hislop (2013); Frenkel et al. (1995); Newell et al. (2009); Alvesson (2004); Robertson and O'Malley Hammersley (2000). Again supporting our conclusion of that control is needed but congruent with employees' wishes.

7.1.2 A2: Hierarchy and Knowledge Processes.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition A2: Leaders in KIFs de-emphasize hierarchy as they want to facilitate knowledge processes.

Mintzberg (1979) found low degrees of hierarchy in an organization to be positively correlated to creativity. Similarly, Nurmi (1998) found reduced organizational boundaries to increase the flow of information. As hierarchy tends to be downplayed in KIFs (Alvesson, 2004; Newell et al., 2009) and knowledge work demands higher levels of creativity and problem solving than traditional work (Newell et al., 2009), led to the proposition at hand.

Summary of Analysis

The analysis showed that the organization had low hierarchical distances. This was assessed to be a deliberate act done by the leaders as they had actively done it to enhance creativity. Initiatives like open landscape with mixed seating were also implemented to reduce barriers and thus increase the flow of information throughout the organization. As such, the proposition was supported by our analysis.

Theoretical Contribution

Nurmi (1998) stated that removing boundaries within an organization increased the flow of information and allowed the organization itself to function as a marketplace for knowledge. Our empirical data supports this as it shows that employees within the organization had little to no barriers asking others in the organization for help. Both Alvesson (2004) and Newell et al. (2009) stated that it was a distinguishing characteristic of KIFs to downplay the hierarchy. Our findings indicated that the case company did the same, and are therefore in line with the KIF characteristics and supporting their research. Extensive communication was presented as a characteristic trait of KIFs (Alvesson, 2004), our empirical findings support the statement as the case company restructured their seating arrangements in order to facilitate and increase the communication between the different departments, technical and economical, in the organization.

Leaders within the case company accentuated skillful employees who could function as role models for the rest. This is supporting Burns (1998), who expressed that transformational leadership often is empowering and with an individual focus. However, Birasnav et al. (2011) often emphasize a social distance between leaders and followers in transformational leadership, which is not supported in our analysis and does indicate that the hierarchy has been downplayed in line with Alvesson (2004) and Newell et al. (2009) statements, supporting them. Making van Dierendonck (2011) view on servant leadership more appropriate as he found servant leaders to have low power distances. The analysis is further supporting servant leadership as half of the leaders in the case company express that their role is to make their employees perform as good as possible. This supports van Dierendonck (2011), De Wit (2017), and Eva et al. (2019), who state that servant leadership is about the followers' growth and expediting their development.

Conclusion of Discussion

Our discussion is in line with existing theory identifying positive effects by downplaying

hierarchy in the organization; as such, we are supporting Nurmi (1998). Alvesson (2004) and Newell et al. (2009) state that KIFs downplay hierarchy, which we found to be the case. The discussion supports more of a personal, low-power distance leadership style aligned with van Dierendonck (2011) over a leadership style with more of a social distance as described by Birasnav et al. (2011).

7.1.3 Answering the Ability Sub-Research Question

The purpose of this section has been to view how our research has contributed to the existing literature on knowledge management, knowledge-intensive firms, and leadership. The initial assumption regarding the connection between ability in the AMO-framework and the abilities of knowledge workers will be evaluated before moving on to answering the sub-research question. Explaining how leadership should be carried out within the context of knowledge-intensive firms in order to enhance knowledge management by focusing on ability. The sub-research question is:

Sub-research question: How does the ability of knowledge workers and characteristics of KIFs impact how leaders should facilitate knowledge processes?

Abilities in the AMO-framework revolve around an individual's capabilities to perform knowledge processes (Siemsen et al., 2008), including tasks and processes (Kim et al., 2015). Argote et al. (2003) explained that abilities were, to some degree, innate, but that most could be developed through education, training, and experience. In knowledge management theory, knowledge workers are described with strong inherent and developed abilities (Drucker, 1999; Frenkel et al., 1995; Alvesson, 2004). As such, knowledge workers should theoretically excel in knowledge processes. Our analysis found the employees in the KIF setting, to a large degree, be self-managed and able to solve their work independently of management by utilizing extensive communication and their co-workers. Supporting that the theoretical link between abilities for knowledge processes in the AMO-framework is congruent with knowledge workers' strong abilities.

We have now confirmed our initial assumption that knowledge workers are specially adapted to perform knowledge processes and will move forward to answer the sub-research question.

Our findings show that leaders in KIFs should downplay hierarchy and remove organizational boundaries in accordance with Alvesson (2004), Newell et al. (2009), and Nurmi (1998). This allows their employees to be more creative (Mintzberg, 1979) and enhances communication and thus flow of information (Nurmi, 1998). In opposition to our proposition, the leaders should not remove their focus on control as this brings important stability and order to the organization, but rather find new ways to exert control without neglecting knowledge workers' need for autonomy in their work. This version of control is important as autonomy was a pre-requisite for them to thrive (Robertson and O'Malley Hammersley, 2000; Frenkel et al., 1995; Alvesson, 2004). These findings are quite divergent, and it is thus hard to provide a clear answer to balance a need for control and de-emphasizing of hierarchy, more on this divergence in 8.4 Further Research.

7.2 How Leadership Affects Motivation for Knowledge Processes

The sub-research question that will be answered in this section is as follows:

Sub-research question: How are leaders impacting knowledge workers' motivation to perform knowledge processes in KIFs?

To answer this question, we will present the theoretical implication of the propositions regarding the effect of leadership on motivation to perform knowledge processes. We will go through each proposition, recapitulating the analysis, before discussing theoretical implications.

After each of the propositions with analysis and theoretical contribution has been done, we will discuss how the sum of the propositions answer the sub-research question as a whole, on our way to answer the main research question.

We are starting with leaders being role models and leading by example to create motivation for employees to perform knowledge processes. Our second proposition regarding leadership is based on the effects of trust and knowledge processes. Finally, we have the commitment of employees to participate in knowledge processes and leaders enhancing commitment.

7.2.1 M1: Knowledge Processes Encouraged Through Leading by Example.

As presented in Figure 5, Theoretical Framework, the proposition is:

Proposition M1: Leaders encourage knowledge processes through leading by example.

Serving the as basis for the proposition is the two leadership styles, transformational- and servant leadership. Bass (1996) claims that transformational leadership exerts idealized influence through being a role model and leading by example. While servant leadership presents follower growth and facilitation as an example to follow (Stone et al., 2004). Choudhary et al. (2013) found both types of leadership to enhance learning as a knowledge process.

Summary of Analysis

Leaders were well aware of their strong characteristics and actively presented them for employees to follow. Curiosity, persistence, and courage to explore new opportunities were areas where the leaders actively tried to transfer their mindset to the employees. The time schedules of leaders sometimes made them unavailable, which could deteriorate motivation, trust, and perceived supportiveness. However, the leaders took deliberate action to mitigate this by accentuating others who could act as role models. The proposition was, however, only partially supported due to the inconclusive level of motivation projected.

Theoretical Contribution

Our analysis shows that leaders in the case company, to a large degree, display their strengths for others to follow. This is done through selling services that they do not know how to deliver, pushing development and learning forward as they need to make it work. This offers support for leading by example, and being curious, encouraging knowledge processes actively. When this is the behavior of leaders being role models, this offers support to Noruzy et al. (2013) and Politis (2001) that transformational leadership is beneficial for knowledge processes. However, the same could be said for negative role modeling, as there are examples of leaders being unavailable. Thus, if they are idealized having an outward focus, this can negatively impact communication internally and other beneficial factors of the knowledge process. This, in turn leading to

the importance of awareness of role modeling for leaders' effect on knowledge processes and give nuance to Noruzy et al. (2013) and Politis (2001) in regards to knowledge processes and transformational leadership.

Authenticity was found especially important in the analysis; leaders would not depict themselves as something they were not. As such, they rather accentuated others as role models. This type of servant role modeling could impact knowledge processes by encouraging closer cooperation and more facilitation amongst the employees per van Dierendonck (2011). This could be suited in a KIF context since hierarchy and organizational boundaries often are reduced (Alvesson, 2004; Newell et al., 2009; Nurmi, 1998). Thus, facilitating the emergence of new collaborations that could lead to knowledge being applied in new contexts and thereby enhance such processes.

Conclusion of Discussion

Our discussion leads us to question the needed presence of leaders for role modeling to be useful for knowledge management. From a transformational perspective, we have that leaders being role models encourage knowledge processes when they are leading from the front being courageous and accepting challenges that push development, supporting Noruzy et al. (2013) and Politis (2001). From servant, it is more subtle accentuating of skillful employees and encouraging others to support each other. Both of these offer support to Choudhary et al. (2013), when being an example increases positive attributes for knowledge processes.

Alvesson (2000) found high intrinsic motivation to be a distinguishing feature of knowledge workers. We, therefore, question whether the power of leading by example is as strong for knowledge workers as it could be in other settings, but this requires more of a comparative study.

7.2.2 M2: Trust as a Measure to Enhance Knowledge Processes

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition M2: Trust is cultivated by leaders to encourage knowledge processes in KIFs.

Rolland and Chauvel (2000) highlighted trust as the single most important precondition

for knowledge exchange, and Ford (2003) did the same for knowledge acquisition. Gilbert and Tang (1998) explained trust as vital as it allowed employees to expose their weaknesses without negative consequences. Both transformational and servant leadership was found to build trusting environments where mistakes were not frowned upon (Stone et al., 2004; Ferch, 2005) and thus form the basis for the proposition.

Summary of Analysis

We found several examples of leaders who emphasized trust and trustworthiness highly. Furthermore, examples of encouraging arenas for where trust is built was presented by leaders and employees. It was done through internal goals, through believing in their employees' skills, and as a result, the organization itself contained high levels of trust. With this reasoning, we find it natural to support the proposition.

Theoretical Contribution

There is support for interpersonal trust, depicted through inviting several colleagues home on a visit, being prominent in accordance with Ford's (2003) view on trust. One can thus say that facilitating interpersonal trust is a motivational aspect also in knowledge-intensive firms, as in other organizational forms shown in theory. Leaders who enhance the institutional trust reap benefits when the employees take actions that could seem risky for themselves (Gilbert and Tang, 1998), and as such, is an important part of leader actions concerning trust. We found this institutional trust to be important for KIFs as well, where older employees participated in learning programs for newcomers, as shown in the analysis. Thus, both are important, and we move forward with the discussion looking at trust as interpersonal and institutional combined.

Von Krogh et al. (2000) presented several activities leaders should focus upon to build trust within an organization. These activities were identified as used within the case company as well. Increased individual reliability by creating common expectations was done quarterly, and trustworthiness was reviewed through the achievements of agreed goals and a joint plan. Providing support to Stone et al. (2004), they explain that transformational leadership creates inspirational motivation through clearly envisioned future states, thus creating a trusting environment, which might be suitable for knowledge processes, according to Gilbert and Tang (1998). Leaders have trustworthy behavior as part of the performance review which is shown in general theory to be efficient for knowledge processes (Von Krogh

et al., 2000), this can also be said to be true for knowledge-intensive firms following the analysis, where such activities are exemplified.

Mooradian et al. (2006) claimed that trust made people more willing to share knowledge with others. This is in line with our empirical findings as well; all one had to do to get knowledge from others was simply to ask, supporting his claims. However, having to ask for knowledge to be explicitly shared offers support to Politis (2003), who states that too much confidence in peers inhibits knowledge dissemination. Nuancing trust to not be purely positive. Nevertheless, being able just to ask anyone within the organization, regardless of position, could indicate the removal of organizational boundaries and, as such, increase information flow, which is essential for knowledge processes (Nurmi, 1998). Further implying that trust could be a contributing factor to the downplaying of hierarchy in KIFs, supporting Alvesson (2004) and Newell et al. (2009).

Trusting behavior could indicate the direct opposite of prioritizing knowledge processes as they have instead let their employees perform their tasks as they see fit. While Rolland and Chauvel (2000) and Ford (2003) emphasize trust, Hansen et al. (1999) declare prioritizing of knowledge processes a necessity. As our discussion of 7.3.2 Proposition O2: Leaders must prioritize knowledge processes for them to occur concluded that knowledge processes need prioritization from leaders to take place. Thus offering support to Hansen et al. (1999) while casting doubt on trust itself as the most important for knowledge processes, reducing our support of Ford (2003) and Rolland and Chauvel (2000).

Conclusion of Discussion

Empirical findings provided support to the importance of interpersonal- (Ford, 2003) as well as institutional trust (Gilbert and Tang, 1998) for knowledge processes. Examples of trust-building were done in accordance with Von Krogh et al.'s (2000) listed activities and correlated with how trust was built using transformational leadership (Stone et al., 2004), supporting these theories. Mooradian et al. (2006) found trust positive for the willingness to share knowledge, which is supported by our findings. The result was increased information flow, which could imply support to Nurmi (1998) that this is a result of the removal of organizational boundaries and an indication of lower hierarchical levels. Supporting Alvesson (2004) and Newell et al. (2009). However, it was brought doubt towards too high levels of trust, as it could negatively impact knowledge management,

as the discussion of 7.3.2 Proposition O2: Leaders must prioritize knowledge processes for them to occur supported Hansen et al. (1999) which stated that knowledge processes needed prioritization to take place. With this in mind, we conclude that trust perhaps functioning as an enabling factor which has to be present for the initiation of knowledge processes, but that once it has reached a certain level, other factors might have a more substantial impact on the effect of knowledge processes.

7.2.3 M3: Commitment and Knowledge Processes.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition M3: Leaders must ensure commitment from employees to secure knowledge processes.

The proposition is tightly connected to turnover as a significant problem for knowledge retention in knowledge-intensive firms (Lee and Maurer, 1997; Urbancová and Linhartová, 2011), through organizational commitment playing a role in turnover behavior (Mowday et al., 1979; Hislop, 2013). Van den Hooff and de Ridder (2004) and Robertson and O'Malley Hammersley (2000) find high commitment to increase willingness to participate in knowledge processes. While Robertson and O'Malley Hammersley (2000) present not being able to meet knowledge workers' demand for autonomy as especially detrimental for commitment.

Summary of Analysis

In the analysis, we show that groups of professionals give a good indication that knowledge processes do not need organizational commitment to happen, as knowledge workers are staying up to date on their fields regardless. However, the strong focus on social goals to foster commitment leading to better communication and internal knowledge processes is supportive of the proposition. When taking into account low turnover rates and commitment building factors in general performed by leaders, one can say that the proposition is partially supported.

Theoretical Contribution

Commitment is closely linked to knowledge management through the correlation between increased likelihood for participation in knowledge processes if the level of commitment towards the organization was high (Van den Hooff and de Ridder, 2004). Our analysis

does not support his claims; we found knowledge workers to keep updated on their field regardless of their commitment to the organization. It was instead supporting Alvesson (2000), who explain knowledge workers' to be intrinsically motivated and supporting Cabrera et al. (2006), who found that other factors can be more critical.

Our analysis supports the importance of commitment's effect on turnover (e.g., Mowday et al. (1979)). We find high levels of commitment and low turnover amongst employees in the organization. Being a knowledge-intensive firm, and as such, being dependent on their workers for knowledge, commitment is especially important to secure by leaders to retain knowledge. Allowing knowledge mapping by the employees leads to supporting Van den Hooff and de Ridder (2004), that higher commitment is having a positive correlation to knowledge processes. Not supporting these theories, we did find some negative aspects of commitment building over time through side bets. These include benefits as working from home, as this leads to reduced opportunity for face to face communication and being approached from colleagues negatively affecting opportunity to deal with knowledge as theorized by March and Simon (1958). Another aspect of autonomy found other than working from home is their task ownership, performing their tasks as they see fit, implying that leaders within the case company have found autonomy important for knowledge workers, offering tentative support to Robertson and O'Malley Hammersley (2000).

Removal of organizational barriers within an organization was found positive for information flow and allowed it to function as a marketplace for knowledge (Nurmi, 1998). The leaders actively foster commitment through social goals. These include activities across the sections of the organization and making the organization part of the employees' social life, which increases workers' affective- and continuance commitment and removes organizational boundaries. This is exemplified by how employees drop what they have in hand to help others if asked. Thus, disproving Teh and Sun (2012), who find continuance commitment to negatively impact knowledge sharing, and instead support the positive correlation between commitment and knowledge processes as stated by Van den Hooff and de Ridder (2004).

Conclusion of Discussion

Turnover is found to be an important factor for turnover behavior, supporting Mowday et al. (1979), Robertson and O'Malley Hammersley (2000), and Hislop (2013) in their

claim. The positive connection between commitment and knowledge processes is also evident in providing support to Van den Hooff and de Ridder (2004) and Robertson and O'Malley Hammersley (2000), although some factors might be more important, per Cabrera et al. (2006). However, we did not find continuance commitment to negatively affect knowledge processes to the degree proposed by Teh and Sun (2012). This discrepancy regarding the importance of different aspects of commitment supports Hislop (2003), who states that the constituents of commitment need to be evaluated separately to get a better understanding of commitment as a whole's effect on knowledge processes.

7.2.4 Answering the Motivational Sub-Research Question

The purpose of this section is to view how our research contributes to the existing literature on knowledge management, knowledge-intensive firms, and leadership. The initial assumption regarding the connection between motivation in the AMO-framework and leadership will be evaluated. Following this, an answer to the sub-research question will be provided. Explaining how leadership should be carried out within the context of knowledge-intensive firms in order to enhance knowledge management by focusing on motivation. The sub-research question is:

Sub-research question: How are leaders impacting knowledge workers' motivation to perform knowledge processes in KIFs?

The definition of leadership as "*a process whereby an individual influences a group of individuals to achieve a common goal*" (Northouse, 2004, p. 3) implies motivating a group to work together in order to accomplish a shared goal. Transformational leadership is found to include inspirational motivation (Bass, 1996), and servant leadership is emphasizing facilitating behavior to empower and develop their followers (van Dierendonck, 2011; Eva et al., 2019). With this reasoning, the link between the motivational aspect of AMO and leadership is evident. Also, Argote et al. (2003) focus on monetary and social factors for increasing motivation; we are focusing on the social factors for leadership's motivational effect.

Leaders affect the motivation of their followers through the power of example, in line with transformational leadership and Bass (1996). This increases the importance of being aware of one's weaknesses as also these can be transferred to their followers and not only their

strong suits. Nevertheless, leaders should still act as role models in areas where they excel. They also increase motivation for knowledge processes through facilitating and being examples of such behavior in accordance with servant leadership and van Dierendonck (2011). Trust is found to be an important factor for knowledge processes, and we along with Gilbert and Tang (1998), Rolland and Chauvel (2000), and Ford (2003) see it as something which should be fostered by leaders to motivate knowledge workers. However, our research raises the question of whether trust is an enabling factor that has decreasing influence as its level goes up and that too much trust can lead to less focus on other important factors for knowledge processes.

Securing knowledge retention through commitment building is found valuable in a KIF setting (Mowday et al., 1979; Robertson and O'Malley Hammersley, 2000; Hislop, 2013). Our findings also indicate that commitment is beneficial for other knowledge processes such as sharing as well in line with Van den Hooff and de Ridder (2004) and Robertson and O'Malley Hammersley (2000). Opposing Teh and Sun (2012), our findings do not show negative associations between continuance commitment and knowledge processes and therefore choose to emphasize commitment as an important aspect for leaders to focus on to motivate their followers. However, some aspect which might be favorable for commitment could prove themselves to be detrimental for knowledge processes such as home office, increasing social distance and the threshold for participation, and should thus be treated with care.

7.3 How Leadership Affects Opportunity for Knowledge Processes

The sub-research question that will be answered in this section is as follows:

Sub-research question: How are leaders impacting knowledge workers' opportunity to perform knowledge processes in KIFs?

To answer this question, we will present the theoretical implication of the propositions regarding the effect of leadership on the opportunity to perform knowledge processes. Each of the propositions will be presented, recapitulating the analysis, before discussing theoretical implications.

After each of the propositions with analysis and theoretical contribution has been done, we will discuss how the sum of the propositions answer the sub-research question as a whole, on our way to answer the main research question.

We are starting with leaders serving their knowledge workers to create the opportunity for employees to perform knowledge processes. Secondly, discussing the proposition on the importance of prioritization, before the proposition regarding a culture of openness and allowance for mistakes are examined. In the end, they are providing an answer to the sub-research question on opportunity.

7.3.1 O1: Serving For Knowledge Processes.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition O1: Leaders who serve their knowledge workers increase knowledge processes.

Combining knowledge workers' strong abilities of creativity, social-, analytical skills and ability to be self-managed (Frenkel et al., 1995; Drucker, 1999; Alvesson, 2004; Newell et al., 2009) with servant leadership as encouraging for follower learning, growth and positively enabling self-managed employees for knowledge creation (van Dierendonck, 2011; Politis, 2001) forms the foundation for the proposition.

Summary of Analysis

Serving is shown to be beneficial for knowledge processes as it allowed employees the benefits of performing what they are best at. It was also found that leaders are facilitating learning by letting people tag along on surveys to get knowledge from practice or by subsidizing course fees to increase participation in continuing education. A weakness in serving was found to be its dependency on follower initiatives, although the characteristics of knowledge workers were found likely to make up for it. The proposition is overall found to be supported.

Theoretical Contribution

The prime thought of servant leadership is serving first and leading second (Greenleaf, 2002). Our analysis, however, found the busy schedule of leaders to make them unavailable for their employees. It was making them deal with issues on their own, at the expense of

agreed learning goals due to their high production pressure and lack of time. Implying if the leaders did serve their workers, it would increase knowledge processes.

Subsidizing courses is a clear example of how leaders presented their employees with an opportunity to increase their knowledge at their initiative. Furthermore, providing less experienced employees with the opportunity to tag along with experienced co-workers is a specific plan of the leaders to increase knowledge processes, serving them with an opportunity to learn from others in a safe and supportive environment. These examples provide support to van Dierendonck (2011) and servant leadership in terms of developing and empowering.

Our analysis shows that serving might be detrimental to knowledge processes if the ones being served do not take initiative for such processes. Serving in the KIF context, however, can be beneficial for knowledge processes as they have high skills (Frenkel et al., 1995) and are self-managed (Drucker, 1999), thus diminishing this critique. Supporting Choudhary et al. (2013), who say servant leadership is beneficial for knowledge processes.

Conclusion of Discussion

Serving in KIFs where the knowledge workers themselves are skilled (Frenkel et al., 1995) and self-managed (Drucker, 1999) is overall supported throughout our discussion. There is clear evidence in the analysis of supporting, empowering, and developing employees for them to achieve better knowledge processes, as an aspect of servant leadership this is in accordance with Choudhary et al. (2013).

7.3.2 O2: Prioritization of Knowledge Processes.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition O2: Leaders must prioritize knowledge processes for them to occur.

This is based on Hansen et al. (1999), who are explicit that knowledge processes need to be prioritized for them to occur and Mueller (2012) and Oliver and Reddy Kandadi (2006) which emphasize enough devoted time. This is in contrast with Claver-Cortés et al. (2007) who found an organic structure to be suited for knowledge management, where direct hierarchical prioritization is less available.

Summary of Analysis

We found evidence that the leaders must prioritize knowledge processes: in groups of professionals, time prioritization of development over line work, facilitating more extensive communication at the costs of task sharing efficiency (in open landscape), through goals which are neglected without proper priorities, department meetings and courses. It is also shown that employees learn what they need to perform their specialty without prioritization, building knowledge maps, and some leaders emphasize that curiosity is more important than all else. This leads us to somewhat supporting the proposition.

Theoretical Contribution

Our theoretical contribution will be to see how much of a priority knowledge processes need to have in a specific knowledge-intensive firm setting, as such expanding the view on what needs to be prioritized and whether some knowledge processes are happening regardless.

Hansen et al. (1999), Mueller (2012), and Oliver and Reddy Kandadi (2006) state that prioritization needs to be present for knowledge processes to take place. Our analysis supports this theory through most of our findings. This expands the applicability of prioritization to be valid also for knowledge-intensive firms, especially the conventional knowledge processes, such as contributing to groups of professionals and more general competence goals set between leaders and employees. We are limiting the applicability of Claver-Cortés et al. (2007), where they found an organic structure to be fitting for knowledge management.

However, supporting Claver-Cortés et al. (2007) is that prioritization seems to be less important when directly related to the knowledge worker's field of expertise. This is also supporting the perception of knowledge workers as being self-managed and intrinsically motivated (Alvesson, 2000; Drucker, 1999), as our analysis shows that they keep up to date on their specialty even when they feel knowledge processes, in general, are not being prioritized.

Conclusion of Discussion

This discussion has contributed with nuance to Hansen et al. (1999), Mueller (2012), and Oliver and Reddy Kandadi (2006), stating a need for prioritization for knowledge processes as they pertain to knowledge workers especially. Most knowledge processes still need a strong prioritization from leaders, but the specific knowledge within their expertise

is, to some degree, excluded, supporting Claver-Cortés et al. (2007) in their view on the organic structure as a fit, by them finding a way to learn what is necessary regardless.

7.3.3 O3: Accommodating Knowledge Processes Through Culture.

As presented in Figure 5, Theoretical Framework, the proposition is as follows:

Proposition O3: Leaders form a culture of openness and allowance of mistakes to accommodate knowledge processes in KIFs.

The proposition is based upon the importance of having a culture where mistakes are not hidden away but communicated in order to solve problems (Mueller, 2012). Such a culture is also linked to servant- (Ferch, 2005; Politis, 2001) and transformational leadership (Bass, 1996), which actively fostered a culture where mistakes were not frowned upon.

Summary of Analysis

Our analysis shows that leaders within the case company are actively working to build an open and safe culture for knowledge processes. As a result, the leaders appeared as motivational figures in a trusting environment, which made it easy for their employees to show their weaker sides and ask for help. The proposition is found to be supported, even though how much one can change a culture is not one dimensional empirically or theoretically.

Theoretical Contribution

The analysis show leaders actively foster openness and removal of organizational boundaries through social goals as such one could say that culture is a way of downplaying the organizational hierarchy in the organization, supporting Alvesson (2004) and Newell et al. (2009). They find this typical for knowledge-intensive firms. This is by Nurmi (1998) emphasized as important as it increases information flow, and thus building such a culture enhances knowledge processes.

A culture of openness and room for mistakes, as presented by Mueller (2012), is also in line with knowledge workers' demand for autonomy as it removes some of the pressure to perform the tasks in a particular manner. This theory in a knowledge-intensive firm is supported by our analysis, which found a culture for asking each other questions whenever

and participating in learning programs that were not directly addressed to them. This is supporting that culture can impact knowledge processes in the organization (Sanz-Valle et al., 2011; do Carmo Caccia-Bava et al., 2006; Ajmal and Koskinen, 2008).

It was evident in the analysis that the leaders actively tried to build an open and safe culture within the organization. From the analysis, it is evident that leaders within the firm believe that culture can be changed over time, in accordance with Strand (2007). Secondly, that it is done through inspirational goals, expansion, and growth in this case, and as such, supporting Bass and Avolio (1993) that transformational leadership can affect culture, at least through inspirational goals from our analysis.

Although the leaders actively tried to adjust the culture present in the organization, the original culture was still strongly apparent. This could raise doubt to the level of impact leadership have on culture, opposing Strand (2007) and Cameron and Quinn (2006), who claim leadership is impactful on cultural change.

Conclusion of Discussion

Throughout the discussion, we find that a fitting culture can lead to enhanced knowledge processes, thus supporting Mueller (2012). It is also shown that what constitutes a fitting culture for knowledge processes also resonates well with knowledge worker theory, as presented by Alvesson (2004), Nurmi (1998), and Newell et al. (2009). Leadership impact on culture is, however, non-decisive, and this leads to neither supporting nor rejecting Strand (2007) and Cameron and Quinn (2006) but partially supporting Bass and Avolio (1993) that claims both that leadership can change the culture and needs to be adapted to it.

7.3.4 Answering the Opportunity Sub-Research Question

The purpose of this section has been to view how our research has contributed to the existing literature on knowledge management, knowledge-intensive firms, and leadership. The initial assumption regarding the connection between opportunity in the AMO-framework and opportunities provided by leaders in KIFs will be evaluated before moving on to answering the sub-research question. Explaining how leadership should be done within the context of knowledge-intensive firms in order to enhance knowledge management by focusing on opportunity. The sub-research question is:

Sub-research question: How are leaders impacting knowledge workers' opportunity to perform knowledge processes in KIFs?

Opportunities in the AMO-framework can be both direct and indirect. Argote et al. (2003) explain that it can be indirect learning through observation or more direct through reducing physical or social distance, thus increasing opportunities for knowledge processes, e.g., through informal networks (Argote et al., 2003). Depicting the enabling effect culture have on knowledge management (Ajmal and Koskinen, 2008; do Carmo Caccia-Bava et al., 2006; Sanz-Valle et al., 2011). The linkage to knowledge-intensive firms is evident as also Nurmi (1998) talk about benefits by reducing boundaries, Alvesson (2004) and Newell et al. (2009) does the same through reducing hierarchy. Our analysis has supported these linkages and also the link Hansen et al. (1999) provide to leadership when they state that knowledge processes have to be prioritized to take place, as prioritization usually is left to the leaders.

Leadership within the KIF context should be done in a serving manner with a focus upon developing a culture that is both open and allowing of mistakes, supporting Mueller (2012). By serving their employees who conduct preferred activities and behaviors, leaders will actively prioritize such activities as well as come across as open and helpful. In accordance with Hansen et al. (1999), we found prioritizing knowledge processes of utmost importance for the opportunity to perform these. Further, serving will lead to reducing social distance and, as such, increase opportunities for learning just as presented by Choudhary et al. (2013). The existing culture does, however, have to be taken into consideration as this might just have as much impact on leadership as leadership has on culture (Bass and Avolio, 1993).

7.4 Leadership and Knowledge Management within the AMO-Framework.

The discussion has to this point revolved around the theory on knowledge management, knowledge-intensive firms, leadership, and important factors for these. It has, however, to a lesser extent, although theoretical assumptions have been made, been discussed if the AMO-framework is suiting to combine these fields of theory. We will now address the

suitability and discuss whether and how it should be used.

Throughout the discussion, the theoretical link we established between leadership, knowledge management, and the AMO-framework has been up to evaluation. Knowledge workers' strong abilities: creative, social, analytical, self-managed, (Frenkel et al., 1995; Drucker, 1999; Starbuck, 1992; Alvesson, 2004) was found to be coherent with Siemsen et al. (2008) on the individual's capabilities for knowledge processes. Motivation was identified as a key aspect of transformational leadership in theory (Stone et al., 2004) and also an important part of leadership in practice through indirect measures, as shown in our analysis. Opportunity could be either presented directly or indirectly and was contextual for knowledge processes to occur (Argote et al., 2003). Our research show that leaders in the case company actively provided both types. The introduction of open landscape functions as a prime example of the leaders facilitating both reducing social distance and allowing learning through observation, thus giving the opportunity for direct and indirect learning, leading us to the conclusion that the AMO-framework is a possible categorizing framework for leadership in a KIF context.

When presenting the AMO-framework, we found two different distinct views on the model. These are cumulative (Argote et al., 2003) and a bottleneck approach (Siemsen et al., 2008). Throughout the discussion, we have found that all three of ability, motivation, and opportunity are positive for knowledge processes. However, we do find that some of them are not necessarily appearing to be cumulative, take, for instance, trust, where it is found beneficial up to a certain level, but over that there can be adverse effects, shown in 7.2.2 Trust as a Measure to Enhance Knowledge Processes. This could imply that it is more applicable to view the model as a bottleneck, and thus focusing on the factor that is restraining knowledge processes. AMO, in general, is thus fitting to map what sort of focus one can have to increase knowledge processes and form a basis for knowledge management. We want to emphasize the bottleneck view of the AMO-model, distancing ourselves from Argote et al's (2003) view on prioritizing between factors but rather offering support to Siemsen et al. (2008) that found coinciding evidence in their study, although it was quantitatively based and in a different setting.

Leadership, in general, can be described as intangible, as presented in 2.3 Leadership, but with this framework, it is possible to break leadership's effect on knowledge processes into

distinct factors. Whether leadership can readily affect ability, motivation, and opportunity is dependant on which factors one includes in each, and that work is lacking completeness. We are, however, of the opinion that it is helpful to distinguish between ability, motivation, and opportunity to understand better what elements should be focused on when wanting to enhance knowledge processes. This, in accordance with the AMO-model being viewed in a restraining manner, allows for causal leadership benefits for knowledge management. From this analysis, it is evident that knowledge management literature (e.g., Hislop (2013)) should look into evolving the AMO-framework to combine leadership and knowledge management with practical application. Frankly, we are surprised at the relatively low influence the AMO-framework has had in knowledge management literature thus far.

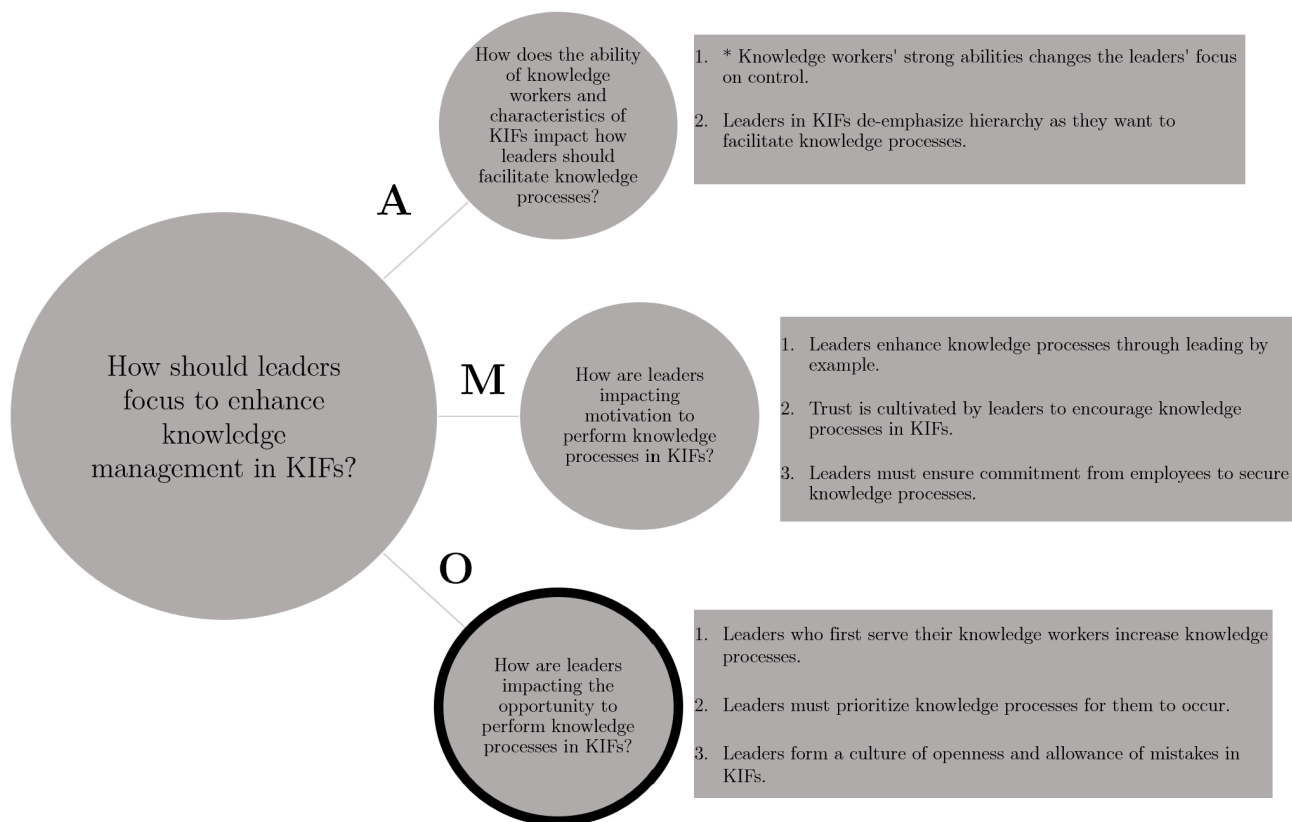


Figure 9: Revised Theoretical Framework

We choose to make changes to our theoretical framework in light of the analysis and discussion, as shown in Figure 9 Revised Theoretical Framework. We have found that the factor that is most susceptible to manipulation by leaders is the opportunity, due to motivation and ability being more people-centered and less directly controllable by leaders. Ability and motivation are connected to individual knowledge workers, and in a knowledge-intensive firm setting, our analysis shows that these start relatively high,

supporting high abilities and intrinsic motivation of such workers as presented by Frenkel et al. (1995) and Alvesson (2000). Thus, in this specific context, we argue that most effect is gained by focusing on opportunity from a leadership perspective. Combining leadership and management perspectives to have both short- and long term effects on opportunities should be further elaborated in leadership literature (e.g., Northouse (2004)), as these two terms, summarized in Table 4 Leadership and Management Summarized, are theoretically differentiated, but more intertwined in practice. This leads us to continue with the AMO-framework as a beneficial way to organize how leaders should focus to enhance knowledge management, but with a sharper focus on opportunity relative to ability and motivation.

8 Conclusion

The purpose of this thesis is to provide an answer to how leaders in the specific context of knowledge-intensive firms should focus in order to improve knowledge management. Answering the following research question:

Research Question: How should leaders focus to enhance knowledge management in KIFs?

As leadership (Northouse, 2004) and knowledge management (Hislop, 2013) is presented, both appear intangible, and the AMO-framework was as such adapted to contribute three factors for us to organize our propositions, and to look at leaderships' effect on knowledge worker's performance of knowledge processes through a causal link (Argote et al., 2003; Siemsen et al., 2008).

8.1 Answering the Research Question

In order to enhance knowledge management through leadership, one has to take all three aspects, ability, motivation, and opportunity, into consideration. The strong abilities and intrinsic motivation of knowledge workers (Alvesson, 2004; Frenkel et al., 1995; Newell et al., 2009) as shown in our discussion, indicate that opportunity is the field where leadership can make the most substantial impact and is thus an intuitive starting point for leaders in such a setting, emphasized in 7.4 Leadership and Knowledge Management within the AMO-Framework. Utilizing the AMO-framework in this way helps make leadership more tangible, and thus more practically applicable for leaders. From our discussion on the applicability of the AMO-framework, we find that it is more akin to a bottleneck framework in our case research, in accordance with Siemsen et al. (2008). This is an important aspect for leaders who are aiming to enhance knowledge processes within their firm, giving guidance on focus, supporting causality of the AMO framework (Argote et al., 2003; Siemsen et al., 2008).

We conclude that leaders should enhance knowledge processes by focusing on the opportunity for their knowledge workers. This is because combining the bottleneck view of the AMO-model with KIFs, the knowledge workers themselves contribute to the

ability and motivation for knowledge processes. This focus on opportunity is done through clear prioritization of knowledge processes, serving the workers' needs, and building a fitting culture with an allowance of mistakes.

8.2 Practical Implications

This section will provide general practical implications for leaders wishing to enhance knowledge processes in a knowledge-intensive firm. Following this, we will offer practical measures for the leaders in our case company to utilize in this endeavor, focusing on opportunity, per our overall answer.

Recommendations for leaders in KIFs

By dividing leadership into three distinct factors for affecting knowledge processes, ability, motivation, and opportunity, leadership is transformed from being complex and intangible to have a causal implication for knowledge management. This allows leaders who previously had difficulties identifying where to begin when considering enhancing knowledge processes, a starting point for evaluating their options. The combination with the AMO-framework offers intuitive reference points for leaders, evaluating ability, motivation, and opportunity, as these are commonly understood. Following this, our finding of opportunity being the most important makes for a solid starting point for the leaders in our company to focus upon when beginning to improve their leadership for knowledge management. An important takeaway that the bottleneck view of AMO implies for leaders is that the limiting factor needs to be focused on. This can save leaders a lot of time and effort, identifying the bottleneck and spending resources there, rather than trying to improve factors that are not restricting knowledge processes.

Recommendations for the case company

The first recommendation we propose is to reevaluate the Goal & Plan system regarding development goals, as presented in 5.6.3 Goal and Plan: A Tool For Involvement and Evaluation. Instead of two freely chosen goals, we suggest that one should be directed at acquiring knowledge while the other should be directed at sharing. Further, that these goals are communicated at the section and department meetings, increasing members' opportunities to reach out to other members with similar goals. Hopefully, also increasing the perceived importance of development goals, these goals tend to be downplayed due to

the high priority of billable hours, as employees throughout the organization are aware of each others' goals and thus able to help each other achieve them.

Groups of professionals were formed to become the center of knowledge for the organization's employees. However, we found in 5.5.2 Groups of Professionals, that without clear goals and mandate that the groups quickly were inefficient. In accordance with our findings, leaders have to be more controlling and supporting these groups, as well as strictly allocating time and resources to get it going, prioritizing this work. Empirically, the group that functions is beneficial to the company, and as such, providing the necessary opportunity for other groups of professionals to thrive as well should be a priority for leaders. Groups of professionals also represent many different knowledge processes, and as such, one would not only enhance one such process in the company.

Our last recommendation is increasing individual adaptations. Continuing education is presented as an opportunity for the employees, but has to be better facilitated. During continuing education, billable hours has to be reduced to allow employees to attend such courses. In addition, the financial support for continuing education should be made cumulative over several years, providing employees with incentives to pursue larger subjects. Another example of where individual adaptations should be taken is in the training of employees. Employees have different backgrounds and experiences which should be taken into account when providing them with training, thus fitting the opportunity to motivation and ability. Considering the company's size and amount of employees, such adaptations are assessed to be manageable for leaders to introduce.

8.3 Limitations

Initiating our research, we had difficulties further narrowing the scope of our research question. This led us to a broad and more general narrative literature review. Although allowing us to depict leadership's effect on knowledge processes comprehensively, it has resulted in more superficial research on more specific underlying causes. This also impacted our choice of factors that are found important for knowledge management. Including the AMO-model late, the choice of factors was not made congruent with the model from the beginning. Further limiting our research is conducting research within one single company, which could have underlying causes for why some of the factors were found to

be more important than others. Our data collection is based mostly on interview material, supplemented by written material made available to us by the case company. This leads to the risk of getting sunshine theories from leaders and employees of how things are in the company.

While performing our research, we did not distinguish between leadership and management but instead focused on what official leaders did and should do. In theory, there exists a distinction between leadership and management (Kotter, 1990), although what precisely it entails is contested. The lines can be said to be even more blurred in practice. We also focused on two specific theories within leadership that had been found compatible with knowledge management, this list could have been more exhaustive, but due to time considerations, we limited ourselves to transformational and servant leadership. There is also a discussion of a change in leadership theory focus, from leaders as individuals to the symbiosis with employees, leadership as a dynamic function of interaction (Uhl-Bien et al., 2007), that we did not look into. As pointed out, our focus is on the official leaders, neglecting leadership done by non-official leaders. Still, we do believe that our research provides useful insights and guidelines for how leaders should focus to enhance knowledge management in KIFs, at least from an official leader perspective.

8.4 Further Research

This section serves the purpose of highlighting interesting themes that deserve further attention but were outside our scope when performing this research.

We found opportunity to be the most prominent of the three factors of the AMO model for leaders looking to enhance knowledge processes in the context of knowledge-intensive firms, shown in Figure 9, Revised Theoretical Framework. Interesting further research will be to look at whether this holds for other case companies as well. Topics of interest are if the results are caused by national culture (Hofstede, 1991); looking at companies outside of Norway could be done to research this. Further, also looking at different KIFs within Norway to see if the opportunity is still the most prominent is of interest, e.g., varying size by looking at a large firm, as well as KIFs within different areas of expertise, such as the semiconductor industry with high focus on R&D. Researching whether the AMO-framework is applicable also outside the KIF setting, such as traditional production

firms, is useful in establishing the transferability of applying the AMO-model for knowledge management.

This research could be done through qualitative analysis of other consulting firms by more directly relating the research to the AMO-framework, or through making a grading scale and quantitatively research (Bryman, 2016) whether opportunity is the most important of the three. Elaborating the interaction between the factors of AMO and if AMO is best applied through a bottleneck view, is a logical extension of this research.

Further research should include several more factors for knowledge management, such as, power and ICT (e.g., Hislop (2013)), to get a more comprehensive view of how leaders can affect these and what effect those have on knowledge worker's ability, motivation, and opportunity to perform knowledge processes. Power is important in leadership, as how should one influence without it, and is also connected to the importance of knowledge (Hislop, 2013). ICT is found in our empirical data to be interesting as the case company expresses several times that they have tried mapping of knowledge and have too many communication channels, which have the opportunity for further elaboration. ICT is also a central focus, of the objectivist epistemology, within knowledge management Hislop (2013). There is also an argument for including several different leadership styles as we only included two prominent people-oriented styles with connection to knowledge management. By choosing others, there are the possibilities of a more comprehensive view of the field. We estimate that including several factors while keeping or excluding others can have an impact on the relative importance of the three factors of the AMO model for leaders looking to enhance the knowledge management practices of their companies.

Expanding on further research related to leadership, which paradigm of leadership is chosen offers interesting options. This could either be done by researching whether AMO is applicable as a framework or by answering how leaders should focus to enhance knowledge processes by having a view of leadership in accordance with, e.g., Uhl-Bien et al. (2007), where the dynamic interaction is leadership. This view is interesting in a knowledge management setting as it focuses on knowledge and complex adaptive systems. Whereas our work is about limiting complexity, this view is about expanding and matching the complexity of context and leadership. It is also more focused on every individual, and not limiting the view to be official leaders and thus diminishing the importance of the

interaction.

Our findings showed that control should be focused on by leaders for knowledge management; this is controversial with regards to existing theory on knowledge management (e.g., Newell et al. (2009)). This finding is divergent as hierarchy should be de-emphasized, and control emphasized. Control and hierarchy has a close connection, and hierarchy is often the measure to provide increased control within organizations (Kotterman, 2006). We find this controversy intriguing and worthy of further research. This research could be performed while performing our other suggested further research or stand on its own, being a significant part of knowledge management(e.g., Hislop (2013)).

8.5 Concluding Remarks

We hope our small contribution to leadership and knowledge management is fruitful for leaders in knowledge-intensive firms aiming to enhance knowledge processes. The special considerations needed when performing leadership in KIFs makes our findings of contemporary importance. Improving knowledge processes in KIFs with a margin can have substantial consequences, as it is a central part of the Norwegian economy.

We further emphasize the need for knowledge management literature to focus on practical models, such as AMO, going forward to offer more suited tools for leaders to employ in KIFs. Meanwhile, leadership literature should, in this context, focus on combining leadership and management for practical application, rather than the theoretical divide.

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Appendix

On the following pages attachments referred to throughout the thesis will be presented. These include the information letter & consent form, the interview guides, and the coding done using the Gioia methodology.

A1 Information Letter & Consent Form

Vil du delta i forskningsprosjektet

”Leadership’s effect on knowledge management in PBO KIFs”?

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke hvordan lederskap kan bidra til å forbedre kunnskapsledelse i prosjekt baserte kunnskapsbedrifter. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål

Formålet med denne masteroppgaven er å utvikle kunnskapsledelse innenfor organisasjonskonteksten, prosjekt baserte kunnskapsbedrifter for eksempel konsultentselskaper. Det overordnede forskningsspørsmålet for prosjektet er: How should leadership be done to enhance knowledge management in PBO KIFs? Dette vil bli gjort gjennom å kartlegge kunnskaps- og ledelses initiativer for så å sammenligne dette med relevant teori. Resultatene vil lede til teoriendringer for effektiv kunnskapsledelse som stemmer mer med virkeligheten.

Hvem er ansvarlig for forskningsprosjektet?

Institutt for industriell økonomi og teknologiledelse ved NTNU er ansvarlig for prosjektet.

Hvorfor får du spørsmål om å delta?

I samarbeid med kontaktperson i organisasjonen er du blant et titalls personer utvalgt til å delta i forskningsprosjektet da du gjerne har kunnskap innenfor feltet, kan belyse interessante problemstillinger og tilføye nye perspektiver.

Hva innebærer det for deg å delta?

Hvis du velger å delta i prosjektet, innebærer det at du deltar på et intervju. Dette vil ta ca 1 time. Spørsmål som vil bli stilt på intervjuet er innenfor temaene organisasjonen i seg selv, arbeidsmetodikk, ledelse, kunnskap og generelt prosjektarbeid. Intervjuene vil ved samtykke bli gjort midlertidig lydopptak av for å transkriberes. Det gjøres oppmerksom på at identifiserende opplysninger som stilling, alder, kjønn ol. Ikke vil bli inkludert i lydfilen.

Det er frivillig å delta

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Alle opplysninger om deg vil da bli anonymisert. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Intervjuer som blir gjennomført vil bli anonymisert ved hjelp av koder under transkribering. Disse kodene vil erstatte identifiserbare opplysninger som navn, alder etc. og bli oppbevart adskilt fra øvrige data. Kun de to gjennomførende masterstudentene og deres veileder vil få tilgang på datamaterialet.

Intervjuobjektene vil også være anonymisert i oppgaveteksten og dermed ikke gjenkjennbare.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?

Prosjektet skal etter planen avsluttes 11.06.20. Alle data og personopplysninger vil bli slettet ved prosjektslutt.

Dine rettigheter

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg,
- å få rettet personopplysninger om deg,
- få slettet personopplysninger om deg,
- få utlevert en kopi av dine personopplysninger (dataportabilitet), og
- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Institutt for industriell økonomi og teknologiledelse ved NTNU har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Institutt for industriell økonomi og teknologiledelse ved Ola Edvin Vie tlf: 73596340.
- Vårt personvernombud: Thomas Helgesen
- NSD – Norsk senter for forskningsdata AS, på epost (personverntjenester@nsd.no) eller telefon: 55 58 21 17.

Med vennlig hilsen


Prosjektansvarlig
(Forsker/veileder)


Student


Student

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet leaderships affect on knowledge management in PBO KIFs og har fått anledning til å stille spørsmål. Jeg samtykker til:

- å delta i et intervju.
- at det blir gjort lydopptak av intervju.

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. 11.06.20

(Signert av prosjektdeltaker, dato)

A2 Interviewguides

Intervjuguide ledere

1. Introduksjon

- a. Anonymitet
- b. Bakgrunn for vårt prosjekt
- c. Lydopptak
- d. Samtykkeskjema

2. Bakgrunnsinformasjon

- a. Hva er bakgrunnen din?
 - i. Utdanning
 - ii. Hva har du av andre jobberfaringer?
- b. Hva gjør du nå?
 - i. Stilling
 - ii. Avdeling
 - iii. Roller

3. Kontekst

- a. Hva arbeider du med nå?
 - i. Hvordan vil du si du arbeider? Beskriv en vanlig dag.
 - ii. Hva er dine oppgaver?
 - iii. Hvordan opplever du å bli fulgt opp på dine oppgaver?
- b. Hvordan gjennomføres prosjekter i 'Company'?
 - i. Hvordan er oppfølgingen av prosjektene?
 - ii. Hvilken metodikk brukes
 - iii. Hvem rapporteres det til underveis i prosjektgjennomføring?
 - iv. Hvor involvert er kunden i prosjektene?
- c. Sist du hadde et problem, hvordan løste du det?
 - i. Hva var problemet?
 - ii. Hva fikk deg til å løse det på denne måten?
 - iii. Ble løsningen spredd/delt/gjort tilgjengelig i organisasjonen
 - iv. Er det slik du pleier å løse de fleste problemer?

4. Generell ledelse

- a. Hva legger du i ordet ledelse?
- b. Hvordan ønsker du å fremstå som leder?
- c. Hvordan blir du oppfattet som leder tror du?
- d. Hvordan oppfatter du din leder?
- e. Hvilke konsekvenser har alle leveransene/prosjektene for hvordan ledelse gjøres?
 - i. Gjøres det noen konkrete tiltak?
- f. Kan du beskrive hvilke føringer konsulentene har for beslutningstaking?
 - i. Hvordan påvirker det deg som leder?
 - ii. Hvordan følger du de opp i hverdagen?

5. Kunnskapsutvikling

- a. Hva forbinder du med kunnskap/kompetanse?
- b. Hvordan lærer dere i 'Company'?
 - i. Spesielle tiltak?
- c. Hva tror du er viktigst for å utvikle ny kunnskap?
- d. Hvordan tror du ledelsen påvirker kunnskapsutvikling?
- e. Hva synes du om hvordan kunnskapsutviklingen blir håndtert i organisasjonen?
 - i. Hva kunne blitt gjort bedre?
 - ii. Er det satt av tilstrekkelig med tid?
 - iii. Hva skal til for at du vil dele kunnskap?
- f. Hvilke konsekvenser tenker du alt leveransefokuset har på utviklingen av kunnskap?
- g. Hvordan påvirker mål og plan møtene kompetanseutviklingen?
 - i. Hvordan er kunnskapsutviklingsmålene prioritert i forhold til de andre avklarte målene på Balance score card.

6. Diverse

- a. Hva er 'Company'-way?
- b. Har du noe å tilføye?

Intervjuguide ansatte

1. Introduksjon

- a. Anonymitet
- b. Bakgrunn for vårt prosjekt
- c. Lydopptak
- d. Samtykkeskjema

2. Bakgrunnsinformasjon

- a. Hva er bakgrunnen din?
 - i. Utdanning
 - ii. Hva har du av andre jobberfaringer?
- b. Hva gjør du nå?
 - i. Stilling
 - ii. Avdeling
 - iii. roller

3. Kontekst

- a. Hva arbeider du med nå?
 - i. Hvordan vil du si du arbeider? Beskriv en vanlig dag.
 - ii. Hva er dine oppgaver?
 - iii. Hvordan opplever du å bli fulgt opp på dine oppgaver?
- b. Hvordan gjennomføres prosjekter i 'Company'?
 - i. Hvordan er oppfølgingen av prosjektene?
 - ii. Hvem er med på prosjektene og hvem leder de?
 - iii. Hvem rapporteres det til underveis i prosjektgjennomføringen?
 - iv. Hvor involvert er kunden i prosjektene?
- c. Sist du hadde et problem, hvordan løste du det?
 - i. Hva var problemet?
 - ii. Hva fikk deg til å løse det på denne måten?
 - iii. Ble løsningen spredd/delt/gjort tilgjengelig i organisasjonen
 - iv. Er det slik du pleier å løse de fleste problemer?

4. Generell ledelse

- a. Hva legger du i ordet ledelse?
- b. Hva er de viktigste lederoppgavene?
 - i. Hvordan synes du de blir utført?
 - ii. Hva føler du kan forbedres?
- c. Hvordan oppfatter du din leder?
- d. Kan du beskrive hvilke føringer du har for beslutningstaking?
 - i. Hvordan påvirker det din arbeidsdag?
 - ii. Føler du at dine meninger påvirker beslutningsprosesser?

5. Kunnskapsutvikling

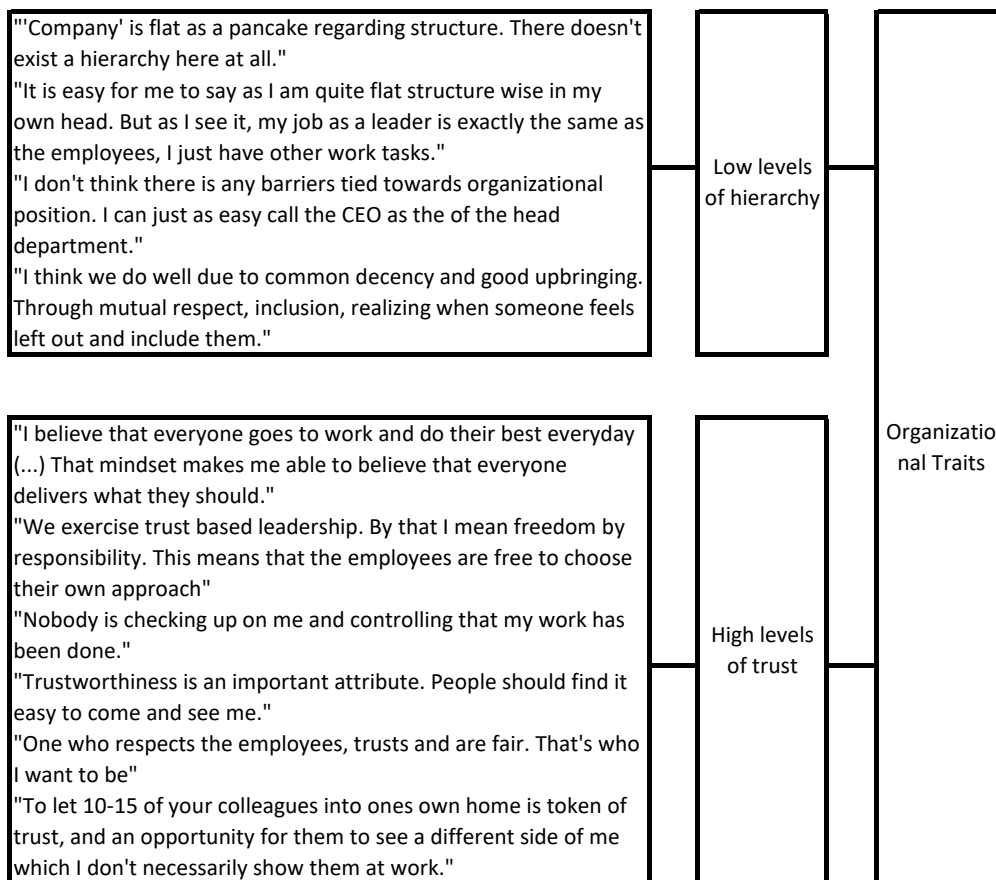
- a. Hva forbinder du med kunnskap/kompetanse?

- b. Hvordan gjøres kunnskapsutvikling i 'Company'?
 - i. Er det satt av tilstrekkelig med tid?
- c. Hva tror du er viktigst for å utvikle ny kunnskap?
 - i. Hvordan tror du ledelsen påvirker kunnskapsutvikling?
 - ii. Hvordan tror du kollegaer påvirker kunnskapsutvikling?
- d. Hvordan lærer dere i 'Company'?
- e. Hva skal til for at du vil dele kunnskap?
- f. Hvordan påvirker mål og plan møtene kompetanseutviklingen?
 - i. Hvordan er kunnskapsutviklingsmålene prioritert i forhold til de andre avklarte målene på Balance score card?
 - ii. Hva synes du selv er verst å ikke klare?
 - iii. Hvor stor påvirkning har du på egne mål?
- g. Hva synes du om hvordan kunnskapsutvikling blir håndtert i organisasjonen?
 - i. Hva kunne blitt gjort bedre?

6. Avsluttende spørsmål

- a. Hva er the 'Company'-way?
- b. Har du noe å tilføye?

A3 Coding Using the Gioia Methodology



"The most important responsibility one carry as a leader, independent of level, is to be supportive."
"I think the most important leadership task is to function as a support for the employees that you are leading"
"One aspect that I find exciting is that I spend more time on leadership, than what I initially thought I could get away with."
"My opinion is that a leaders is a person who you should be able to lean on when you need it, not when they are available"

Leaders as supporters

"If I was a footballer I would have expected the field to prepared. It should be cut and marked. My jersey and shoes should be at my place, all so that I could do what I do best. Play football."
"For me leadership is about making others perform, bring out the best in each individual. Facilitate so every individual is able to be as good as they can, be able to perform at their job and thrive doing it."
"I expect a leader to handle personnel and workflow. To facilitate that work can be done without high levels of friction and resistance."
"During a rough patch privately, I had my workday reduced. I experienced facilitation that helped me on many areas. It made me able to work partially instead of taking a full sick leave. I'm left with a really good feeling."
"I am not dependent of my office location to my job, I can work from customers, from the cabin, from home or from the office."

Leaders as facilitators

"I was ones asked to draw myself as a leader. What I chose to draw was a mountain, myself with a backpack and the people I led following behind me."
"I am the standing in the same line as my employees, hauling on the same rope. The leader star is only to guide the direction."
"It's like raising children. You have to behave the same way you want your employees to behave"
"I do not attempt to lead from the front on areas where I am no good. In those cases I rather support someone who should lead by example on that field."
"Sometimes I sell something that we have never delivered before. In those cases I can't just hand the task over to someone else, instead I help create that path of service. Not in detail, but stake out a rough path of the way forward."
"The image popping into mind is the leader who shows the way from the front."

Leaders as Pathfinders

"The most important task a leader has is to keep an overview on what one is doing. I am then referring to the leader knows his/her department."
"The most important task a leader has is to keep control on whats happening. What is the goal, how shall we reach it, who can contribute towards it and which financial and time frames do we have to keep within."
"One desire to be more strategic, plan and lay out lines for the organisation to follow. But then one just get swamped by administration, questions and those type of things."
"As a project manager one has to be more controlling. That being said one should still support each other."

Leaders as supervisors

Leadership perspectives

"A typical week it is a wall to wall carpet within my calendar. It is quite a lot of meeting activities. It can be work meetings, staff meetings or customer meetings."

"My experience is that the leaders has been unavailable. They are always busy with something. When I am in need of sparring with my leader on something they are never at their desk." – Irene

"My opinion is that a leader shall be easy to lean on. Not a person one has to seek out for a week to get in contact with. One shouldn't have to check their calendar to see if they are on vacation or not "

"The threshold to ask for help increases. Long waiting times before contact and the feeling of being a burden on the leaders make one hesitate and try to figure things out by ourselves."

"If someone are very busy for a period, then it can function as a natural barrier because one doesn't wish to bother or disturb them. "

Leaders' time schedule, presence and availability

"In 'Company' the founders are still within the organization and a founder's profile isn't necessarily very structured. Transforming from a start up towards a larger company present a need for routines and structures."

"It is just dreadful for the new employees. There is no guidelines, no procedures, there isn't anything. Just a bunch of people who has done things as good as they can for years."

"We employed a woman who had experience from banking and she thought it was horrific. She was used to follow procedures and here at 'Company' it is just mayhem."

Absence of central systems and procedures

"When it is this free it is also free for me to choose to solve my tasks my way. I can choose to do the tasks that I find fun first or serve the customer I like best. But, for the company it would be clever to have a better system. To make sure that their priorities are being followed up on and their most important customers served."

"Our strength is that we don't run everything according to strict rules. We adapt to every client."

Unstructured, we miss obvious things. Through missing guidelines easy things to fix often slip by us."

Absence of central systems and procedures

"It is the general approach. Jump straight into it and try to figure it out as we go. So there is a lack of structure there, definitely. But then again, as long as one have professional competence and a understanding of how things should look like at the end, well then one is able to solve it as one goes."

"Since 2016 the focus has been upon economy. Everything that touches upon internal and development goals have been neglected."

"The last five years my department haven't had stable leadership, we have changed leaders one a year (...)It has brought noise and uncertainty. The leader haven't had a clear philosophy, uncertain in their role, leaders without education."

Absence of central systems and procedures

Leadership Challenges

"We see that people want to know who is the competent person on a specific topic, there are a lot of questions about whom to talk to"

"This was attempted done formally with mapping, but was left without anyone in charge of the efforts. We are however exposed to competence mapping quarterly throughout goal and plan."

"One works so closely, leading to knowing each other and peoples main areas of expertise, which makes it easier in the informal areas to ask the right people."

"Given that I've worked here for so long, I know whom to ask for help."

Knowledge Mapping

"We have groups of professionals that shall be the expertise that provides the rest with support, best practises and templates for how things should be conducted."

"Not necessarily that we should be the experts, but we should know what's going on and be up to date on what happens within the subject at a larger scale, such that if anyone has a question, they can come to us"

"Best practice is developed in the group of professionals that we have."

"There is large variety in how the different groups of professionals perform. This is dependent upon who is contributing to them and how they are driven forward."

"What might be a successful approach is to have someone with experience, and someone new, that has some time to take that structural aspect (...) who needs to learn it anyways."

"We haven't been given instructions on what to deliver. It is such a wide field and little existing structure creates a need for a push in the right direction"

"Being up to date on my subject is okay, that's something one takes time for anyways"

"We have gone several rounds on how to utilize groups of professionals, but the discussion always stop during the discussion of billings and internal time (...) development and operations cannot be done at the same place, then development would lose 10/10 times"

Groups of professionals

"I am among those who strongly believe that 2 or 3 people together think better than 1. Having others to discuss with allows one to expand ones horizon."

"If there is someone who hasn't done one type of survey, and we know someone's about to perform one, we send that person out with them."

"Taking colleagues out on projects (...) is part of the increasing of competence that we have done."

"In projects one shares, but one can share success stories and methods in other arenas afterwards."

"I believe that it need to be anchored in the leadership. Unless the leaders have a relation to knowledge sharing I think it's hard to perform."

"Someone has to take initiative of their own accord and show that they want to know"

Everyone is willing to help (...) There is a large difference from my previous employer! Here everyone is replying, 'we'll fix that'.

Hindrances and initiatives for knowledge sharing

"I have full authority to choose my own goals, the only exception is the demand on billings."

"In "Company" we've perhaps not been steering development in such a way that it should've been, but let people do it on their own."

"I am now conducting training of the newly appointed employees. Doing so, one who is almost 50 and an experienced worker come by and tells me that he wants to learn that as well. That's a good sign within a knowledge firm in my opinion."

"The most important factor we have in every single employee is curiosity. It isn't rocket science, curiosity will make you come out on top in 98% of the times."

"The way it works is that if you attend a course you have to share some of the knowledge at the next scheduled department meeting."

"The last course in a series of three is twice as expensive as the two initial ones. The sum per person is thus not enough to cover it. So my application has been rejected. I have applied for three years straight, all rejected."

Development of personal competences

Knowledge processes

<p>"We mixed people together. Before, economic and technical were separated. (...) So then we mixed together the sections. (...) To get the daily knowledge sharing. And this we've gotten a lot of positive feedback on"</p> <p>"We've sat completely separated in different buildings, technical and economical, and then putting us together facilitates communication."</p> <p>"We are lucky that are sitting in an open landscape, I have someone next to me who is really competent. Someone behind me, who is just to ask."</p> <p>"I learn a lot by sitting in the open landscape"</p> <p>"When one sits in the landscape, one is open for approaching, which we are open about."</p>	<p>Open landscape</p>	<p>Strategies to increase knowledge processes</p>
<p>"We have section meetings where we perform a status update concerning what others need to know, distributing workload and such."</p> <p>"We have section meetings once per week (...) we try to have half an hour with work related, or tips and tricks. So if one has learnt something, share it with the rest."</p> <p>"There is contributions on learning in sectional and division meetings (...) but, I experience that there's much more learning day to day than from that."</p> <p>"We try in divisional meetings (...) in the divisional meetings there's at least some agenda for sharing now"</p> <p>"It can be that this is a subject I know a lot about, so I can have a presentation about it on the division meeting so others can learn as well"</p> <p>"Then it appears that when someone is to present there's a lot of preparation time, right"</p> <p>"We started with division meetings to collect the whole department and take collective information there. Thus, we sit in section meetings mainly focusing on technical subjects, production and things of interest to only the section. This I believe encourages knowledge sharing almost daily"</p>	<p>Section- and department meetings</p>	
<p>"After each quarter we evaluate the goals together, how did it go? Is it green, is it yellow or is it red? We are doing a kind of balanced scorecard process."</p> <p>"It triggers my competitive instinct. You get red, yellow or green flags on whether you achieved the goal or not. And I do not want any red flags on that freaking form"</p> <p>"The evaluation of goals aren't rigid. If I set out to get 300 billable hours and only got 290, then the goal is achieved. It is a question about motivation. I become more motivated when given the green flag as the deviation is so low. If I were given the yellow I would become demotivated."</p> <p>"We do the goal and plan meeting, think about it for a week and then forget all about them until next time."</p> <p>"I have collected all my goals to remind myself of what I am trying to accomplish"</p> <p>"The goal and plan conversations... They make you wake up. First of all they push you to get through your objectives and what to think through (...) They make both me and my leader aware of how the every day working life is."</p>	<p>Goal and plan</p>	
<p>"The goals count equally, but instead of equally amount of goals in each category we have chosen to have 2 on economy, 4 customer-, 2 internal- and 2 learning goals. The distribution also tell you a bit about what we emphasise."</p> <p>"The learning goals aren't very prioritized. Ones first priority is to deliver on the projects. Then one try to have the other goals in mind."</p> <p>"It is easiest to delay learning goals. You don't feel like you have the time to sit down and complete them. It is just easier to prioritize the economical and customer oriented goals instead."</p>	<p>Goal and plan</p>	
<p>"When we initiate the goal and plan meeting we explain the main company objective and an addendum priority list. Then we ask: What do you want to contribute with? In other words, there is a lot of involvement of the employees and flexibility to let them control their own day to day life."</p> <p>"We have discovered in our goal and plan, that there is wish to learn more about sustainability. Thus, I've said that all quarter, we will focus on having something about this at every department meeting."</p> <p>"When we present it in the department the data is made anonymous (...) It paints you a picture of the departments performance if you have red, green, green, yellow."</p>	<p>Goal and plan</p>	

