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Investigation of Enablers and Barriers for Enterprise Agility
A Study from Traditional Organizations in Sweden

Master's Thesis in the Master's Programme
Management and Economics of Innovation

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Abstract

As a consequence of the shift in the global economy, it has changed the way that companies do business. New customer demand and expectations has put pressure on companies to rejuvenate themselves in order to be able to meet said changes. Adaptability and flexibility can therefore be regarded as hygiene factors which are essential for companies to compete in such a dynamic business environment. Therefore, enterprise agility is becoming more prominent by the years, and can serve as a way to gain adaptability and flexibility.

The aim of this thesis is thus to examine which factors might serve as an enabler or barrier to the adoption of agile methodologies and ultimately becoming an agile enterprise. Literature revolving organizational structure, project management, and enterprise agility in combination with interviews with case companies, is used in order to answer the defined research questions.

The researchers can conclude that the context in which agility is applied plays a role in the companies' feasibility and decision to pursue agility. Furthermore, the authors present barriers and enablers, called agility elements in this study, and in which enterprise dimensions they can be found. In order to become an agile enterprise, there is a need to bear the enablers and barriers in mind, leverage and to overcome them respectively.

Keywords: agile, enterprise agility, agility barriers, agility enablers, organizational change, agility management

Table of Contents

List of Figures

List of Tables

1. Introduction

1.1 Background

The rapid change in the global economy has during the last decade changed the way that many companies conduct business, where parts can be attributed to the developments in technology and digital means of conducting business. Customer demand and expectations for shorter lead times are continuously increasing with the introduction of new innovative changes in the marketplace. Therefore, adaptability and flexibility is crucial for today's companies to react to a dynamic business environment (Bray, 2017; Tseng & Lin 2011) and a continuous revision of the organization's structures, strategies and policies to manage and react to the changes in a swift manner is needed (Mahapatra & Mangalaraj, 2005). One way of achieving a company's strategic goals is through the structured process of how the company manages its projects. As advocated by Pinto (2015), project management plays an integral part in achieving a competitive advantage in an increasingly globalized world. It allows for an otherwise complex task to be manageable and structured, where the end-result is shown to be significantly better than those projects who are not managed with a structured approach.

Many approaches to project management have been developed throughout the years, where Cooper (2016)'s stage-gate model has been used heavily within traditional development projects. While there are several ways to managing a project, there has been limited research which include agile methodologies as a project management technique in a large business context. Furthermore, while agile methodologies are prominent within the software industry, Boehm & Turner (2005) highlight that it is less common within traditional organizations. Moreover, Hobbs & Petit (2017) state that agile methodologies as a project management tool has historically been adopted due to the clear advantages that it provides, mainly: rapid adaptation to changes, enhancement of creativity and productivity in the working environment, and increased customer value as a result of short iterative development processes over long upfront planning processes.

The topic is therefore intriguing as to why the adoption rate of enterprise agility has been negligible in larger traditional organizations, even though the benefits of working agile have been proven successful within a project management context. However, with that said, many companies have

during the last decades recognized the competitive advantages which can be derived from agile methodologies according to Mathiassen & Pries-Heje (2006), and Hobbs & Petit (2017) mention in their study that several traditional organizations have started experimenting with scaled agile in a larger business context but have failed to scale up the from the implementation in small teams, to the organization as a whole. In other words, enterprise agility as a concept has been experimented upon, but has seen limited success in traditional organizations. As for organizations who have managed to scale agile, most of the stories come from self-reports and thus there is a need for academic considerations (Turetken et al., 2017). The concept of agility therefore remains rather ambiguous, not only amongst companies, but scholars as well. Various definitions for agility has been stated amongst scholars such as Doz & Kosonen (2008), Tseng & Lin (2011), van Oosterhout et al. (2005) and Lu & Ramamurthy (2011). However, the common objective remains the same where being able to sense and adapt to changes in the business environment in a quick and resource-efficient manner is regarded as crucial.

There has been limited research regarding why some traditional organizations have been more incentivized to experiment with agile methodologies, especially in a business context. Thus, factors which might hinder or enable enterprise agility will be studied in order to fill the gap in previous research regarding the enterprise agility domain.

1.2 Aim

Derived from the background section, the aim of this research is to examine which factors might be an enabler or barrier to the adoption of agile methodologies and ultimately becoming an agile enterprise. In this study, traditional organizations can be defined as organizations which are believed to use the aforementioned traditional approaches to project management. Thus, traditional organizations are those that emphasize up-front planning approaches i.e. stage-gate or waterfall processes for project management, or is believed to do so. With this in mind, it is however important to emphasize that this will be an exploratory research, aiming to explore 2-3 companies within the energy, industrial, forest, and real estate industry.

1.3 Limitations

Due to restrictions in resources, some limitations had to be made regarding the scope of the study. As a result, the researchers have chosen to select 2-3 companies each within the energy, industrial, forest and real estate industry. Moreover, for the same reason, naturally limitations had to be made regarding the selection of companies and industries. Thus, the researchers have chosen to narrow down the study to only include Swedish companies. Furthermore, for the same reason as stated above, limitations had to made regarding the size and turn-over of the clients. Thus, the researchers selected clients defined as middle and large size in terms of employees and turnover. The selected definitions were gathered from the EU:s directive for companies (European Commission, 2003).

2. Literature Review

The following section will present the main body of literature which will be used in this research. The discussed literature includes project management approaches where waterfall techniques such as the stage-gate model is presented as well as agile methodologies. Since this study focuses on the domain of project management and agile methodologies more specifically, it is essential to understand the advantages and disadvantages of each approach. Thereafter, the concept of enterprise agility and scaled agile is discussed, and ultimately, we touch upon change management, which is essential in order to understand the underlying complexity in adopting new ideas or approaches and what factors may be a hindrance in doing so.

2.1 Project Management

In order for projects to be successful, management of the project becomes a crucial task. Many scholars have during the years emphasized the importance of different approaches to managing projects depending on the context. There is Maylor (2010) who advocates stringent usage of time plans and up-front planning in order to reduce the risk for extraneous factors that might delay or in other ways hinder the project from moving forward. As a result, you also reduce the costs associated with obstacles during the project process. Thus, cost in regard to time and money is seen as a primary determinant when it comes to planning your project.

Needless to state, some companies have more developed project processes than others and according to Maylor (2010), the main reason for that is due to the organizational maturity. An organization's maturity can be divided into four different groups (see figure 1), and while characterizating an organization is difficult, Maylor (2010) based the four groups on their abilities to meet basic objectives in terms of time, cost and quality. The first group consists of *the flatliners* and prominent characteristics of organizations in this group are that they have good intentions on improving, but make little to no progress in their project performance, mainly as a consequence of repeating mistakes without learning from them. The general mindset here is that every project is novel and external ideas are rejected due to a "not invented here"-syndrome. The second group are called *the improvers* as they perform and improve slightly better than the flatliners. Minor processes and systems are in place which are used to facilitate and increase project performance.

However, they still lack the discipline to see through their improvement aspirations full out which is needed in order to conform to business objectives in an efficient manner. *The wannabes* come next as the third group, and are characterized by the fact they try and incorporate best practice techniques for project management in an attempt to keep up with the best and narrowing the discrepancy to the best organizations out there. Lastly, group 4 consists of *the world-class performers* which are the organizations which the wannabes are trying to catch up to. Group 4 are the small number of organizations that set best practices for project management and thus also those who improve and perform the best where learning is an integral part of the project process.
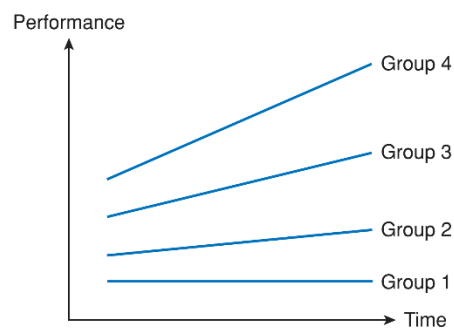
Figure 1: An illustration of the different groups' performance trajectories over time (Source: Maylor (2010) p. 389)

2.1.1 Stage-Gate Model

Several project management paradigms have been developed throughout the years where one of the most common traditional project management technique is the stage-gate model depicted in figure 2 (also known as a waterfall process), which Cooper (2016) explains is a planning process that is derived upon investments needed. More specifically, it follows a logic of different project stages, where the transition to the next phase can only be done if certain criteria has been met at the end of each stage where a screening process in shape of a gate is made. Based on if the predefined criteria have been met or not, the project will either move on to the next phase, or be terminated as a consequence of not fulfilling the requirements and therefore not deemed as a reasonable project to move forward with. Cooper (2016) highlights that the stage-gate model is used as a "macro-planning" process, where the whole project plan is extensively defined before the project launch, in order to determine the resources that needs to be allocated in each stage. Thus, while the advantage is that there is a structured project plan, where the project either moves forward or are terminated, based upon strategically defined criteria, there are also disadvantages. When

terminating the project as a consequence of the criteria not being met, all the resources that have been used in the previous stages are now gone, along with the previous expected outcome of the project, not to mention the time and effort put into planning and scoping up the project plan.
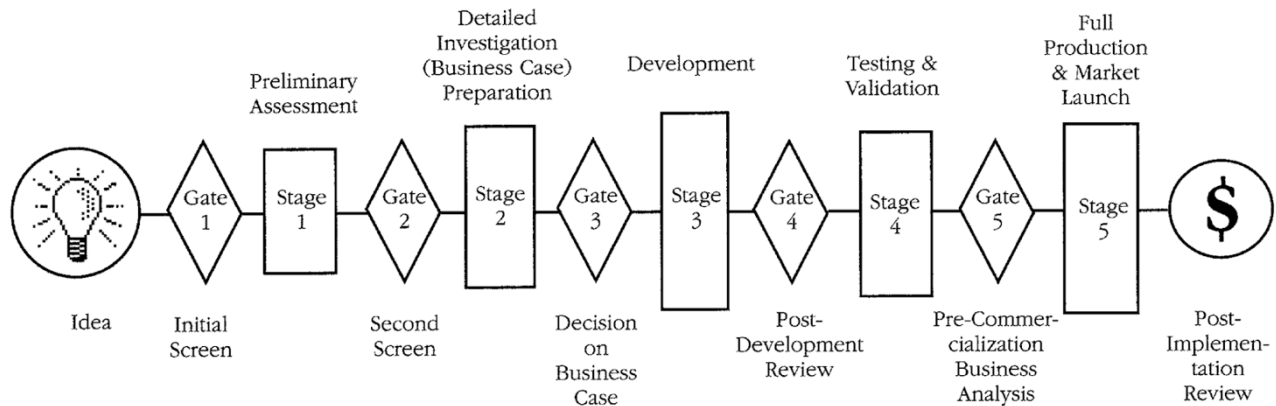
Figure 2: Illustration of the stage-gate model (Source: Cooper, 1990 p. 46)

2.1.2 Agile Methodologies

Another common project management method, mostly known within the IT industry, is agile methodologies (Mahapatra & Mangalaraj, 2005), which Cooper (2016) describes as a contrasting project management technique to the traditional waterfall process. Moreover, agile methodologies, according to Dingsøyr et al (2012), does not place emphasis on the initial planning process before project launch, but rather on delivering a working product to the clients and create value for them as soon as possible, while continuing to develop the product continuously. The most prominent technique for running a project within agile methodologies, and particularly in software development, is the concept of Scrum (Schwaber, 2004), where activities are generated similar to that of Maylor's (2010) description of a Work Breakdown Structure (WBS) and are put into an activity backlog. The Scrum team (or project team) thereafter work in short iterative cycles called sprints, in order to conduct the activities in a chronological order, with the highest prioritized activity being done first (Schwaber, 2004). These short development cycles allow for unforeseen problems to emerge and thus enabling a learning process (Schwaber, 2004), which would not be feasible in a waterfall process due to the long upfront planning and investments already made in the project (Cooper, 2016). Additionally, to learning from problems, Cooper (2016) advocate that the core advantages of working in short iterative cycles lie in the adaptability to changes in

6

requirements e.g. from the customer, which was not known beforehand and emerged during the project process.

The foundation of agile methodologies rests on a set of values, which agile practitioners adhere to. The values are documented in something called *The Agile Manifesto* and describes what it means to work agile as opposed to the traditional waterfall approaches which are prominent in traditional organizations (Fowler & Highsmith, 2001).

Table 1: The four values in the Agile Manifesto

	Agile	**Traditional**
1	Individuals and interactions	Processes and tools
2	Working software	Comprehensive documentation
3	Customer collaboration	Contract negotiation
4	Responding to change	Following a plan

Firstly, the Agile Manifesto advocates for individuals and interactions over processes and tools. The meaning of this statement is basically that managing a project with the use of rigid processes and tools will only be detrimental to the end-result. Rather than relying on the tools to guide you through the project, there is a need for continuous interactivity amongst the internal and external stakeholders. By having a continuous involvement facilitation, it is ensured that everyone is working together effectively to achieve a common goal. Secondly, working software over comprehensive documentation touches on the notion that a user of your product or service will prefer having something working right in front of them, rather than a document that describes the intended usage of it. Next up is the customer collaboration over contract negotiation value, which advocates for always listening and adhering to your customers' needs. Communication is regarded as a necessity in order for projects to be successful, which enables the discovery of customer needs. As a result, listening to changes in customer demand allows you to respond accordingly. Therefore, responding to change over following a plan is interdependent with the third value. Project plans are initiated at the beginning of a project, while customer behavior changes concurrently with the

project lifecycle. With that said, processes and tools, documentation, contract negotiation, and plans are continuously essential parts of project management. Thus, working agile does not necessarily mean to eradicate every element that historically has belonged to traditional ways of approaching project manage (Hazzan & Dubinsky, 2014).

2.2 The Concept of Agility

Due to the limited research done in agility, there is consequently a fragmented view amongst researchers on how to define agility which naturally leads to different definitions ofthe same objective (Laanti, 2014). Looking at table 2, scholars' three most common definitions of agility can be depicted. The agile aspects have been inspired and adopted by the researchers of this study, while the definitions have been reviewed independently from the reviews by Laanti (2014).

Table 2: Extension of Laanti's (2014) introduction of Agility (Source: Laanti, 2014, p. 11)

	Agility Concepts	Scholars' Agility Definitions
1	Strategic Agility	The ability to react to changes in the business environment through a balance in real-time strategic sensitivity (perception, awareness and attention), collective commitment (organizational objective) and resource fluidity (reconfiguration and redeployment of people and structures), which allows for a rapid and responsive strategy to meet changes (Doz & Kosonen, 2008).
2	Enterprise Agility	Agility refers to the organization's ability to be flexible, responsive and adaptive, in a constantly changing environment of uncertainty. There is thus a need for a culture of change in order to integrate and mobilize core competencies (Sherehiy et al., 2007). Moreover, there is a need to identify the agile drivers (changes in the business environment, which pressures companies towards an agile approach), agile capabilities (required attributes for an organization to become agile) and agility providers (the fundamental enablers for the agile capabilities) in order to initiate a design for the agile enterprise (Tseng & Lin, 2011).
3	Business Agility	Agility explains the ability for a company to cope with unforeseen changes while also being able to take action in a timely manner, and is prevalent on an enterprise and business network level (van Oosterhout et al., 2005).
4	Organizational Agility	An organization's ability to respond to change, as a consequence of increased environmental volatility and uncertainty (Tallon & Pinsonneault,

		2011). In other words, the ability to quickly respond and act on customers' needs through continuous monitoring (Lu & Ramamurthy, 2011).

Derived from the table, it can be seen that the four concepts of agility definitions are similar and in many parts overlapping. The primary determinants seem to lie in the ability to sense, adapt and react to changes in the business environment in a resource-efficient and timely manner. Therefore, for the remainder of this study, the concepts strategic agility, enterprise agility, business agility and organizational agility can be regarded as synonymous and used interchangeably. However, to mitigate the risk for confusion between the different concepts, enterprise agility will be used throughout the study from here on.

2.2.1 Enterprise Agility

Much alike how agility can be beneficial for smaller Scrum teams, it can also become a way of creating a competitive advantage for organizations and enterprises in an uncertain and ever-changing business environment (Tseng & Lin, 2011). Agility can be a fuzzy word and an unknown concept for most companies on a larger scale and consequently the benefits of being agile becomes lost in translation. Tseng & Lin (2011) therefore raise the question of adoption of agility amongst enterprise leaders which is dependent on the types of organizations that they are in accordance to Rogers' (2003) adoption categories and Maylor's (2010) organizational maturity groups. Regardless of the type of organization, Tseng & Lin (2011) advocates that it is critical to create an effective integrated procedure within the business which main function is to facilitate agility capabilities and drivers within the organization and ultimately achieving a competitive advantage. According to Tseng & Lin (2011), the main objective of an agile enterprise is to generate a larger value both externally to the customers, but also internally to the employees, where the main benefits are attributed towards rapidly responding to changes in the business environment. Thus, in this case, the business environment does not necessarily only constitute customers in the external environment, but also to the demanding changes of the internal employees. Therefore, regardless of which target groups an organization is trying to satisfy, the common denominator in this case is change.

While the different aspects of agility are different amongst organizations, there is a need for an agile vision perpetuating the whole organization in order to respond to the changes. Tseng & Lin (2011) describes five distinguishing types of changes in the business environment, here on defined as agility drivers: (1) market volatility as a direct consequence of growth in niche markets, which provides new products and services that ultimately affect customer demand and behavior; (2) changing markets which induces intense competition, where profit margins are pressured with shorter development times for new products and services; (3) changes in customer demand, who are seeing an increase in expectations about quality and delivery times; (4) technological changes as a result of new and efficient facilities and system integrations; and (5) changes in social factors, such as regulations and workplace expectations are becoming increasingly volatile, i.e. changes both in external and internal forces. In order for an organization to become agile, it is crucial that there is a perpetuating sense of responsiveness in all of its core assets and objectives, from strategies and technologies to personnel, business processes and facilities. This is essential in the sense that identifying the agility capabilities in the organization is difficult if there is no common objective of becoming agile within the whole enterprise. However, Tseng & Lin (2011) have seen four elements of agility capabilities that agile enterprises should have; (1) responsiveness, i.e. the ability to see changes in the business environment and also taking action in a swift manner in order to meet those changes; (2) competency in reaching its strategic objectives in an effective and efficient manner; (3) flexibility/adaptability which concerns the organization's ability to use different approaches in their current processes in order to achieve different objectives in (4) the quickest and shortest possible time.

Ultimately, Tseng & Lin (2011) raises the complex issue of aligning, integrating and leveraging the agility capabilities and agility providers in order to meet the different types of changes in the business environment, i.e. agility drivers - only then can the organization become truly agile. Due to the legacy systems in place in traditional organizations, there will always be need for transformation of the organization itself and therefore an alignment strategy for agile needs to be defined. The agile alignment strategy should identify the agile capabilities within the organization which can respond quickly to the changes in the environment by finding synergies and coordinating between the agility drivers and capabilities. In order to visualize an agile enterprise, Tseng & Lin

(2011) has developed a conceptual model for how an agile enterprise should look like, which can be depicted in figure 3.
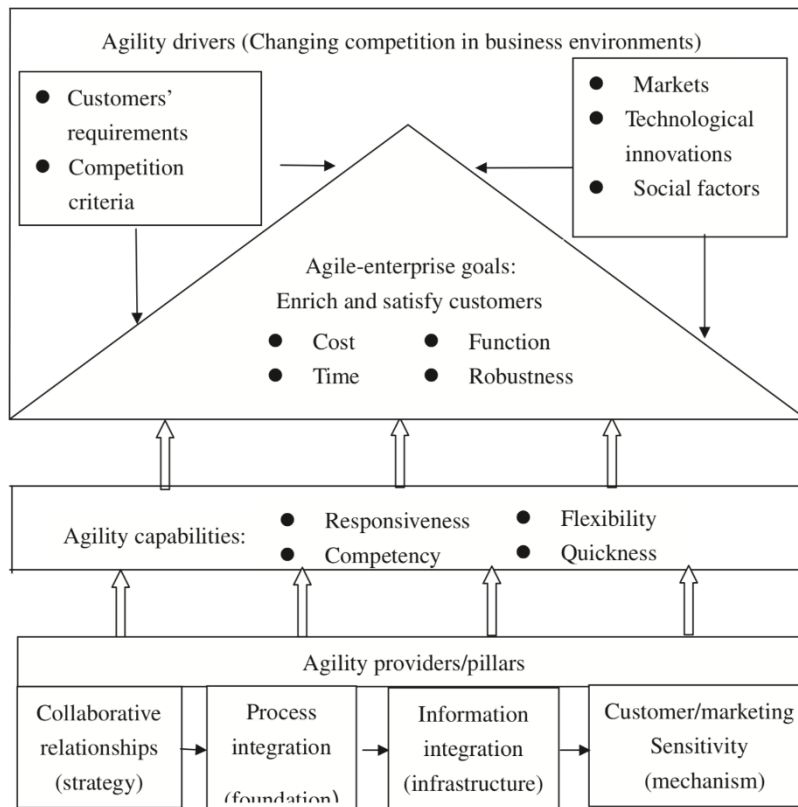
Figure 3: Conceptual model of an agile enterprise (Source: Tseng & Lin, 2011, p. 3698)

2.2.2 Scaled Agile

In order to guide organizations in the path to becoming an agile enterprise, roadmaps are needed as a basis for decision-making (Turetken et al., 2017). The first models for scaling agility however already exists, where reoccurring ones are Scaled Agile Framework (SAFe) by Laanti (2014) and Disciplined Agile Delivery (DAD) by Ambler & Lines (2012). To reiterate what has previously been said about agile methodologies in a project management context, there are specific benefits which can be attributed to the rapid response of a changing business environment. Laanti (2014) provide further indications of this, stating that early adopters of SAFe have experienced a significant increase in performance, productivity and quality, which are key attributes that are of interests for any organization. Laanti (2014) further argue that the reason for why organizations are

11

looking to agile approaches to increase these attributes is due to (1) increase in speed for time-to-market for new technologies and innovations. Consequently, there is a need for (2) constant innovations, as new innovations are introduced and diminishes the competitive advantages from previous innovations. Therefore, as (3) markets are becoming increasingly unpredictable, flexibility regarding investments and capacity are also needed in order to ensure quick innovation activities. These reasons can therefore also be categorized as Tseng & Lin (2011)'s definition of agility drivers.

In order to react and respond to the changes, organizations have turned to SAFe, which has been the framework with the highest adoption rate. SAFe provides a roadmap for enterprises to scale their agile methodologies from small project teams, to the enterprise as a whole. The SAFe framework is distinguished into four interdependent levels: team, program, large solution and portfolio levels. Starting with the team level, it incorporates well-known software development practices, such as sprint plannings, daily plannings etc. Most commonly, the agile teams consist of around seven team members and are most prominent within an IT function of an organization. The primary goal and benefits of a small team allows for continuous interaction and iterations where an exploratory mindset is heavily valued. The iterations are typically structured in sprints, where a common timeframe is two weeks. Within the sprints, the teams are supposed to be able to conduct prioritized tasks in their backlog and present incremental improvements to the final product. Reviews of the delivered increments are then made, which allows the teams to take in new information and feedback regarding deliverables, and thus be able to meet the eventual changes in customer demand in the subsequent sprints (Turutken et al. 2016).
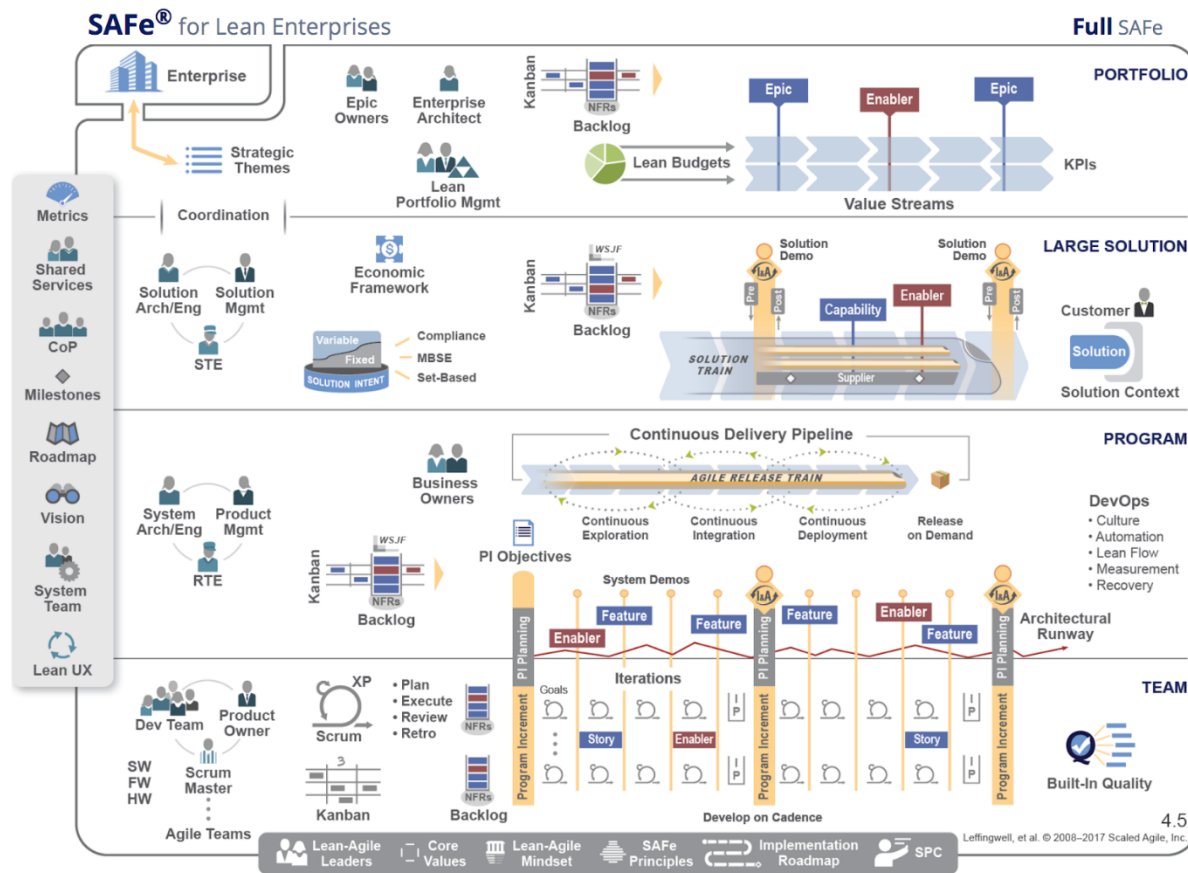
Figure 4: Scaled Agile Framework 4.5 (Source: Scaled Agile Inc., 2017)

Having the agile teams in place, the program level aims to organize the agile teams on a larger scale, in a manner where requirements are met in a way that optimizes the value derived from it. A program backlog is used on this level, which helps in defining and prioritizing business objectives in which the concurrent sprints are supposed to meet (Turutken et al., 2016). Then, Agile Release Trains (ART) are used in order to execute and deliver incremental improvements in order to reach the business objectives. An ART can be explained as a virtual organization, consisting of several agile teams that exist solely to create value for the end-user. As can be depicted from figure 4, a continuous delivery is advocated, where iteration between exploration, integration and deployment are crucial. Thereafter, after a certain time period, most oftenly 60-120 days, increments are to be released. The ART can thus be seen as a Kanban system which value stream depends on the end-user's demand, but with the continuous involvement of internal and external stakeholders along the way (Scaled Agile Framework, 2017; Turutken et al., 2017).

At the large solution level, the primary aim is to build large scale solutions which single ARTs are not able to do. As opposed to the program level where the solutions are on a smaller scale, there is a need for multiple ARTs in the large solution level due to the increased scale and complexity of the desired solutions. A solution train is therefore used, which primary purpose is to facilitate the multiple ARTs in accordance to the common solution vision, mission and backlog. With the use of a solution train, the benefits from being a small agile team are maintained, while also being able to scale it up as a result of having an organizational element in the solution train which can manage several agile teams at once. For clarification purposes, a solution train is needed and used to manage several smaller agile teams, since having a single large agile team is not feasible (Scaled Agile Framework, 2017).

Ultimately, at the top of the enterprise, there is the portfolio level. It contains necessary processes and people which are essential in order to meet the strategic objectives of the enterprise. On the enterprise level, a lean-agile mindset is approached, i.e. embracing lean thinking in terms of having a stout leadership who can drive the enterprise towards new heights by thinking in new innovative ways. Agile which has been the foundation for team-based processes can, with the use of lean-thinking, scale from a team-based process to the entire enterprise. However, can only be done by the enablement from competent lean-agile thinkers which commonly are executives or managers who can eliminate impediments and drive organizational changes while making sure to improve the whole organization rigorously. On the portfolio level, the organization uses value streams, which defines the allocation of resources needed in order to build solutions, in order to meet strategic objectives. This ensures that the organization deliver continuous value to their customers while adhering to the financial metrics specified in the budget (Scaled Agile Framework; Turutken et al., 2017).

2.2.3 The Role of IT in Enterprise Agility

As enterprise agility concerns the ability to identify changes in the business environment, Overby et. al. (2006) strongly suggest that IT has a crucial role to play when it comes to enabling a firm's capability to identify and respond to the changes. This can mainly be done through (1) directly and (2) indirectly creating digital options within a firm. Overby et. al., (2006) further elaborates that

(1) directly creating digital options concerns the firm's IT capability to identify and respond mainly to new technological changes. The main argument for this is that the changing business environment induces changes in information volumes which needs to be processed that goes beyond that of human capacity, and thus IT systems aids the firm to make sense of large volumes of information, which would otherwise overwhelm them.

While there is (1) direct relationship between IT and agility, Overby et al. (2006) states that there are also indirect externalities in which IT contributes to. Mainly, while IT aids the firm in (1) identifying and responding to changes, they also (2) provide value for business processes such as product development, manufacturing and supply chain. These kinds of processes are prominent on more traditional organizations and thus IT is seen to contribute to the firm performance by providing an infrastructure which other business processes depend on. There is thus a suggestion from Overby et. al. (2006) that IT (2) indirectly supports agility by providing digitized business processes.

2.3 Organizational Change

Melanie (2014) describes agile working as being able to work quickly and easy. Melanie (2014) further argues that the concept has been increasingly popular amongst companies, as they have realized that the traditional ways of hierarchy and time consuming decision-making processes, are not suitable in a world characterized by fast and continuous changes. Moreover, Melanie (2014) advocates that the change itself has become increasingly more complex due to the operating environment, where the connections between partners, systems, processes and subsidiaries have become more interconnected. Thus, defining these connections has become an increased challenge, and the isolation of one connection to exclude unpredicted affection between the rest of the connections is no longer possible.

Melanie (2014) further argues that realizing, that change cannot be planned and predicted into every detail is a key component to successfully achieving an agile approach. Where the company instead should focus on allowing the solution, and the driving factors to evolve and emerge as the company gains further knowledge regarding the situation they try to improve. Moreover, the author

describes change as a disruptive process, where the change might create fear and requires resources. Thus, change should only be implemented when it can deliver what the company needs, in the time its needed. Due to being a disruptive process, Melanie (2014) advocates the need of understanding how the affected people of the change views the intended approach, and understand their mindset regarding the change. Neglection of this can cause resistors which in turn can jeopardize the success of the change project. Tamilarasu (2012) argues in accordance with Melanie (2014) and further states that the resistance from change can be explained due to the basic human preferability of stability and predictability. Tamilarasu further argues that the success of the project is heavily influenced by the company's management of these resistors. Where resistance should neither be seen as good or bad, as resistance can serve as an indicator that the change can be improved further.

2.3.1 Barriers to Organizational Change

Change initiatives have a high rate of failure, managers often understand the importance of organizational change but lack the knowledge of how to implement it effectively. Rosenberg and Mosca (2011) have identified different reasons for organizational resistance as presented in table 3.

Table 3: Reasons for resistance to change (Rosenberg and Mosca, 2011, Breaking Down the Barriers to Organizational Change)

1	Employees attitudes/disposition towards change
2	Fear of the unknown (uncertainty)
3	Lack of understanding of the firm's intentions
4	Fear of failure
5	Disruption of routine
6	Increased workload
7	Lack of rewards for implementing change
8	Perceived loss of control, security or status
9	Poor leadership
10	Dysfunctional organizational culture

11	Organizational size and rigidity
12	Lack of management support for the change
13	Lack of trust between management and employees
14	Inability or unwillingness of management to deal with resistance
15	Lack of participation due to top-down steering
16	Organizational politics/conflict
17	Internal conflict for resources
18	Lack of consequences for inadequate or poor performance
19	The content of the change
20	Poor implementation planning

The authors further argue that every organization is unique, and in order to implement successfully every manager has to adopt their change strategies to the best suited for their specific company.

2.3.2 Organizational Knowledge Management

Changes are typically driven with a top-down approach, basically starting with a seed of thought stemming from the top management's knowledge. Furthermore, organizational knowledge could, if utilized correctly, create a fundament for competitive advantage according to Paradice & Courtney (1989), who therefore advocates that knowledge sharing within a company is crucial. Managing and sharing knowledge can reduce managerial training time and cost, while also leading better managerial decisions. Gold et. al., (2001) further argue that it is becoming more of a prerequisite to manage the organizational knowledge, rather than historically being a source of competitive advantage. There is thus a need to manage the social capital within the company, which can be done by combining and exchanging knowledge along three dimensions; (1) technology, (2) organizational structure, and (3) organizational culture.

When it comes to (1) technology, it concerns the dimension which constitute the structure in order to manage the existing social capital and generating new knowledge. Typically, technology regards a company's communication systems, which allows for consolidation and increased accessibility

of previous knowledge, which in turn allows for internalization and ultimately generation of new knowledge. Moreover, apart from communication systems, the technological dimension constitutes knowledge revolving business intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping and opportunity generation. (2) Organizational structure is needed in order to leverage the technology, where emphasis should be put on sharing knowledge between individual functions. It is therefore important to manage the internal organizational boundaries in order for the information to flow effectively from one business unit to the other without risking sub optimization for the whole firm. Thus, organizational structures should emphasize flexibility, as opposed to rigidity, which in turn allows for knowledge sharing and collaboration across internal organizational boundaries. The biggest challenge to effectively manage knowledge is probably due to the (3) organizational culture. Communication between the individuals creates the fundamentals for idea and knowledge sharing, which is why a culture which allows for frequent dialogues can be seen as an enabler for more efficient knowledge management. Other ways of allowing the culture to become a driver for knowledge management is to provide and communicate the vision and values to the organization, to which everyone should be committed (Gold et. al., 2001).

2.4 Theoretical Framework

From the knowledge gained from the literature review, a theoretical framework is designed, which purpose is to be used as a model for analysis. The framework will primarily be used to examine different agility elements, constituting of enablers and barriers, within certain enterprise dimensions; organization, project management, industry and digitalization. The ultimate purpose is thus to map the relevant agility elements which can be derived from data collection revolving the enterprise dimensions.
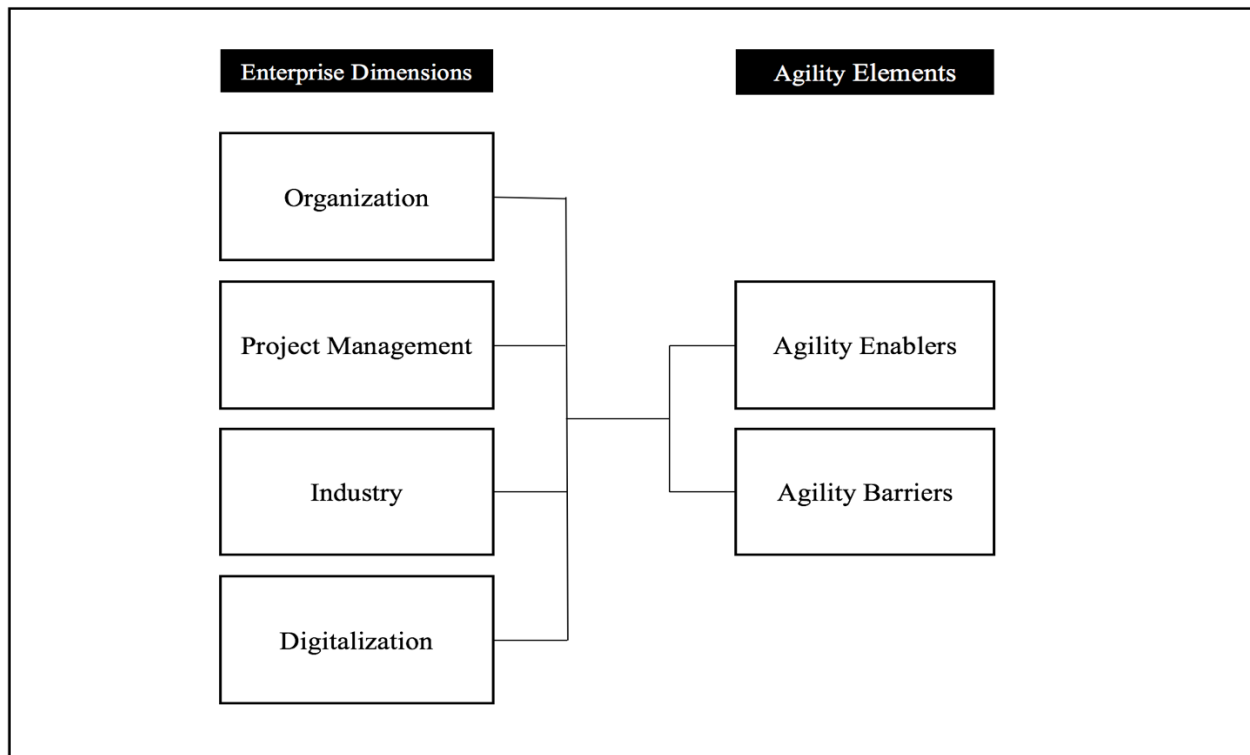
Figure 5: Conceptual model for identifying and analyzing relevant enablers and barriers to agility adoption.

The conceptual model will help the researchers move forward with the data collection process as well as the analysis of it. This will be discussed more specifically in the next chapter. However, in brief, questions will be asked to relevant companies about the enterprise dimensions depicted in figure 5, and the agility elements will then be mapped according to whether they are considered enablers or barriers to agility. To further illustrate this, table 4 describes examples of potential enabler and barrier elements for agility within the different enterprise dimensions.

Table 4: Examples of potential agility enablers and barriers within the enterprise dimensions.

	Agility Enablers Examples	Agility Barriers Examples
Organization	• Small size • Agile leadership • Adaptation and flexibility	• Rigid structure • Large size • Limited knowledge • Legacy systems
Project Management	• Cross-functional teams • Agile project leaders • Agile champions	• Defined project model • Waterfall approach • Approach been used over a long period of time • No possibility for iterations
Industry	• Dynamic market • Changing customer behavior • Rapid introduction of technology	• Low knowledge about market • Minor market activity • Low innovation activities
Digitalization	• High technological utilization	• Low technological utilization

The following research questions have ultimately been formulated in order clarify the research objectives, and their linkage to the theoretical framework:

RQ1: What are potential agility elements within companies active in the energy, industrial, forest, and real estate industry?

RQ2: In which domains of the enterprise dimensions can the agility elements be identified?

3. Methodology

Based on the research purpose outlined previously, the methodology that will be used in this study has been designed to answer the research questions. The primary approach to the study will be qualitative, the most common approach used in management and business research. The area of research for this study mainly falls within management, which is why the subsequent approach has been used.

3.1 Research Strategy

Bryman and Bell (2003) advocates that there exist two main approaches to research: qualitative and quantitative. Quantitative research can be generalized into being a strategy that aims towards quantification of the empirical findings, while qualitative research places more emphasis on the words in regard to the collection of the data and is according to Hoepfl (1997) and Strauss & Corbin (1990) suitable when the aim is to understand a situation where previous theory is regarded to be inconclusive. Moreover, the empirical findings will be collected through qualitative semi-structured interviews, which the authors describe as an interview having a series of predefined questions, but the interviewer has a certain degree of freedom to ask further questions if deemed necessary. Thus, the research has been primarily conducted in qualitative nature.

Moreover, Bryman and Bell (2003) states that the link between theory and research is important to consider while conducting research. The authors further argue that there exist two main clusters: deductive and inductive. Bryman and Bell (2003) distinguishes between the two theories where deductive research is described as an approach where existing theories guides the research conducted. While, generated theory as an outcome of research can be described as an inductive approach. This thesis mainly uses an inductive approach where theories have been generated based on the empirical findings. However, Bryman and Bell (2003) advocates that the link between theory and research can be seen as a complex matter and despite chosen approach, research often entails both approaches to a certain degree. Which, can be seen in this thesis as an inductive approach regarding the collection of data have been used, while a modicum of deductive research has been used to formulate the research questions.

In terms of research design, this thesis has been using a cross-sectional approach, where interviews have been conducted from multiple clients within four different industries. Bryman and Bell (2003) further advocates that cross-sectional studies can be defined as a method where the researchers gather data from more than one case at a single point in time in order to compare two or more variables in order to examine and detect patterns.

3.2 Research Process

As stated earlier this study has mainly a qualitative nature, as a result the research process model is influenced by the model proposed by Bryman & Bell (2003, figure 13). The model proposed by Bryman & Bell (2003) emphasizes on an iterative process where for instance the researcher can collect further data if deemed necessary. The research process applied in this case is represented in figure 6, where the two-way arrows connecting the initial process from initial literature review to analysis, and indicates an iterative process where the researchers can go back if deemed necessary.
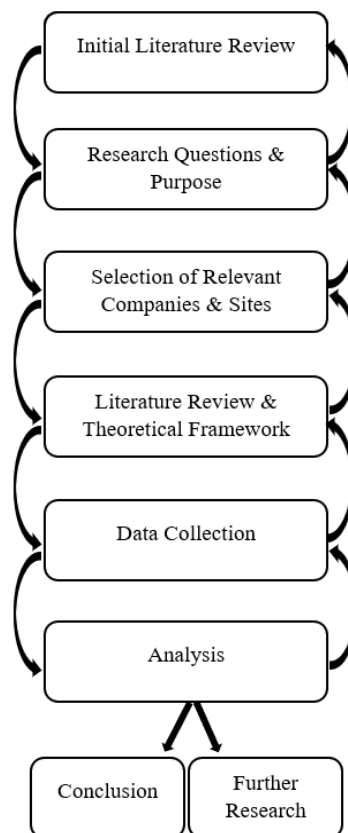

Figure 6: The Research Process

The initial phase was characterized by an initial literature review and a meeting with Crepido to define the research questions and the purpose of the study. The process was iterative and the researchers went back to the literature review until research questions and a purpose was defined. The research then proceeded on to a more extensive literature review, where a theoretical framework was derived from. Eventually contact was made with relevant companies and meetings were set up either over physical meetings or telephone- or Skype meetings in the cases which physical meetings were not feasible. The process was iterative and the researchers made continuous adjustments to their theoretical framework as a consequence of the empirical findings. When all of the data was collected and the theoretical framework was completed, the researchers moved on to the analysis phase where the empirical findings resulted in a qualitative discussion, enhanced from the theoretical framework and ultimately conclusions were made, while further research was stated.

3.3 Literature Review

Easterby-Smith et al. (2015) argues that a literature review is an important part of any study, where the review will provide the researchers with a basic understanding of the topic and how it has developed over time to identify gaps in the field of research. This study has adopted a traditional literature review which Easterby-Smith et al. (2015) describes as *"summarizing a body of literature and draws conclusion about the topic in question"*. As described earlier, the researchers of this study chose to conduct two literature reviews. The first one was an initial review with the aim to put the research in its context which according to Easterby-Smith et al. (2015) is necessary. For instance, the initial review helped the researchers understand the extent of *Enterprise Agility* and identify the area which the researchers wanted to undertake. Additionally, the researchers incorporated a theoretical lens in shape of project management approaches in order to investigate whether a company's project management approaches could be a factor to consider when it comes to a company's enterprise agility approaches. Moreover, as described earlier the research process had an iterative nature and as a result the literature reviewed continued throughout the whole research, which according to Easterby-Smith et al. (2015) is prevalent regarding most studies. As a result, both the research purpose and the research question were both gradually changed throughout the research process.

The later literature review and the theoretical framework was intended to provide the researchers with a basis to gather empirical data and the following analysis. The iterative process was chosen to ensure that a sufficient degree of relevant theory was achieved without applying a systematic literature approach which is described by Easterby-Smith et al. (2015) as a process where all available relevant theory on a topic are summarized. Moreover, Easterby-Smith et al. (2015) argues that a good literature review should include a broad variety of sources, and depending on the topic, the researchers might need to review academic literature that is not peer-reviewed. The topic *Enterprise Agility* is fairly new within the academic world, and as a result the researchers reviewed a broad area of literature, where insights from the literature review has been used as a foundation for the theoretical framework in order to gain enough contribution for the execution of the empirical study.

The extensive literature review enabled the researchers to identify gaps within current literature in regard to this study. Where the framework proposed in this study is based on existing literature and provides an extension of existing literature, as a result the literature review enables the researchers to justify the study being undertaken, which according to Easterby-Smith et al. (2015) is one of the purposes of the literature review.
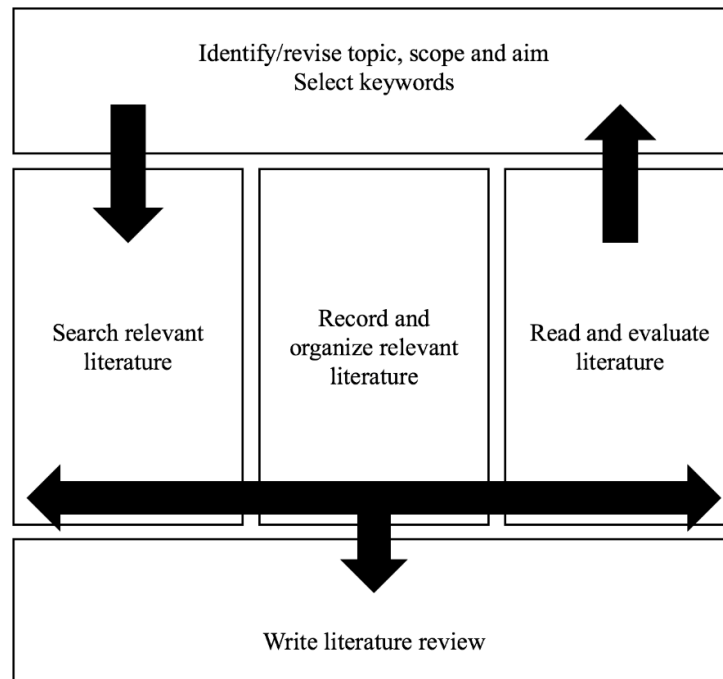
Figure 7: The review process (Easterby-Smith et al., 2015)

The researchers followed the review process proposed by Easterby-Smith et al. (2015). The process can be divided into three stages. In the first stage the literature review needs to be defined in terms of topic, breadth and aim. This is important as for instance keywords needs to be selected which can be applied in the second stage, which is that literature needs to be identified and evaluated. In this study, keywords were generated from the initial literature review in regard to scope and aim. These keywords were then used on mainly google and Chalmers online library to identify and evaluate existing research. Moreover, these keywords were also used to identify physical existing literature from mainly Chalmers library. The researchers also slightly adjusted the keywords as well as used synonyms in order to achieve a satisfactory breadth, which is further advocated by Easterby-Smith et al. (2015). In the last stage, the literature was organized and included in the review. The following themes were used: *Project Management, Enterprise Agility, Scaled Agile, and Organizational Change.* The broad literature review has thus enabled the researchers to achieve a satisfactory degree of background knowledge about the previously mentioned themes, whilst the theoretical framework has provided the researchers with the primary theoretical lens needed in order to conduct a rigorous and focused analysis.

Moreover, the researchers used a combination of the search strategies *trawling and fishing* (Easterby-Smith et al., 2015) where due to restricted previous knowledge of the topic resulted in an initial *trawling* with the aim of providing the researchers with a comprehensive oversight of the topic, followed by *fishing*, where the researchers conducted as more targeted search.

3.4 Data Collection

The empirical data has been gathered with the use of client interviews within the four chosen industries: energy, industrial, forest and real estate. The interviews have been conducted using different platforms such as google meet, Skype and over the phone, but also by physical meetings. Moreover, 10 interviews of approximately 40-60 minutes each have been conducted within companies of the target industries. Out of these companies only one company had previous affiliation with Crepido. All companies operate in Sweden and have an estimated size of between 100 - 1000 employees. The number of employees have been the only search criterion used where the reasoning behind this is that the researchers assumed that mid-sized companies are more

frequent in a transition state in comparison to large and small companies and would thus provide the researchers with more valuable insights to this study.

The chosen companies were found using either contact information provided from Crepido or with the use of the companies' websites and/or LinkedIn profiles. The chosen representatives from the client companies are rather homogenous where the main title was IT manager, but HR manager and Project Managers have also been prevalent, as presented in table 5. The similarity of titles goes in line with the reasoning applied by the researchers regarding the selection of companies. The IT managers have primarily been targeted due to their knowledge of agile methodologies, while project managers and HR managers have secondarily been targeted due to the possibility of knowledge spillover from the IT section within the companies. Furthermore, it is believed that IT and the rest of the organization have different business priorities which might be a colliding factor for an agile transition. The interviewees have been contacted primarily through emails, where the initial contact has been made either through the reception or directly to the targeted interviewee.

The interviews were conducted with the use of an interview template which is presented in Appendix A, questions were divided into four different areas: organization, project management, industry and digitalization. An initial question regarding the interviewees background was also applied. The questions regarding the organization were formulated to provide the researchers with an insight regarding how the company manages change, the culture and an overall insight into the company. The project management section had the primary aim to provide the researchers with insight regarding project models used by the company and the reasoning behind the chosen models. Further questions regarding agile methodologies were also asked to gain an understanding of the interviewees knowledge of agile but also the departments knowledge of agile overall. The section competition/industry specific was included with the aim to understand how the company interacts with competitors and their customers. The last section digitalization was included in order to gain an understanding of the company's own perception of the term digitalization and how the company utilizes digitalization within the department or company as a whole.

Moreover, the interviews were structured using a semi-structure, where the researchers had a predefined interview template, but could ask follow-up questions and change the order of the

questions depending on how the interview developed. Bryman and Bell (2003) argues that semi-structured and unstructured interviews are prevalent when conducting qualitative research, where the approach tends to be more unstructured as the researchers have a greater interest in the interviewees perspective, as structured interviews does not provide the researchers with the desired degree of flexibility to follow up potential leads that might arise during the interview. Thus, the structured approach is not suitable when conducting qualitative research.

Table 5: Interviewee roles

Company	Position
A	IT Manager
B	IT Manager
C	Project Manager
D	Marketing & Logistics Manager
E	IT Project Manager
F	Managing Director
G	HR Manager and IT Manager
H	Project Manager
I	Project Manager
J	IT Manager and Head of Strategy

3.5 Analysis of data

As stated earlier in this research, the nature of the research is rather qualitative, and as a result the empirical data is also of qualitative nature. As a result, the data analysis needs to be managed accordingly to these preconditions.

3.5.1 Qualitative Data Analysis

Easterby-Smith et al. (2015) argues that there exist numerous ways to analyze qualitative data, the most prevalent method being used however is the grounded theory. Corbet (2017) describes the process of grounded theory as:

"The methodological process utilizes actual data gathered through field work to identify, develop, and integrate concepts"
(Corbin 2017, p. 301)

Easterby-Smith et al. (2015) further argues that the comparative method is another common method to analyze data within qualitative research, which is described as a process where the researchers studies a certain event or process applied in different situations. The researchers however chose the grounded theory due to the methods process of deriving theory after the data collection and not prior (Corbet, 2017). Due to this study's research process as illustrated before in figure 5. As a result, the researchers concluded that the grounded theory would align well as a way to analyze the gathered qualitative data. In comparison, the comparative method was concluded to be less suitable as the method relies upon predefined theory and is considered as less iterative in comparison to the grounded theory (Easterby-Smith et al., 2015). Noble and Mitchell (2016) describes the process of analysis of data as a three-step process as illustrated in figure 8.
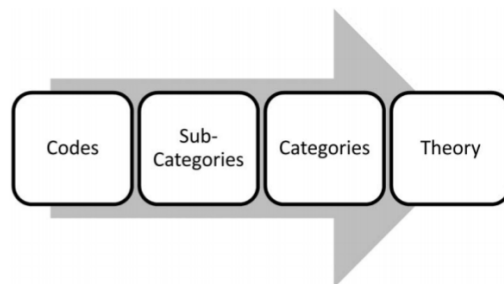

Figure 8: Grounded theory data analysis by Noble and Mitchell (2016)

The process starts with codes, where the aim is to perform an open coding where the researchers identifies and highlights phrases and move them into subcategories followed by categories. The categories are then grouped together, which enables the researchers to form theory. This process

provides the researchers with the opportunity to reflect and theorize over the gathered data, thus enabling the researchers to understand the gathered data. Moreover, data will be compared to identify similarities and anomalies (Noble and Mitchell, 2016).

Since the researchers have conducted the data analysis in accordance with the grounded analysis approach, figure 8 serves as a description of the steps taken by the researchers, where the researchers initially gathered all the data in one place. The researchers primarily used the online tool google drive to store all the data, which enabled the researcher with easy access and an overview of the data. The data in google drive also served as a backup in the event that something would happen to the original data. The coding process followed a continuous process and was done in parallel with the data collection over a 9-week period. Moreover, the coding process was iterative and the researchers went back to previous data as new data were collected to identify new relationships between the data or strengthen previous relationships as well as to identify anomalies.

After the initial overview and an initial coding the researchers identified one core category which served as the main phenomena around which other categories were built. The core category were *barriers* and *enablers*, as a result the following data collections and coding primarily targeted the keywords *barrier* and *enablers*, and keywords that might be related to these words in accordance to the theoretical framework. Over time, more categories were included which eventually led to theory being formed and discussed further in the analysis.

3.6 Research Quality

An essential part of any research is the quality of the research which needs to be assessed in regard to certain criterias (Easterby-Smith et al., 2015). The most prevalent criterias are reliability and validity. Where reliability is used to assess if the research can successfully generate the same result on every occasion it is tested, and if the result can be applied in different contexts (Easterby-Smith et al., 2015). While validity is used to assess the determination of alternative plausible explanations to the researchers results and the generalizability of the research (Easterby-Smith et al., 2015). However, these criterias are more suitable for quantitative research, and as qualitative and quantitative research are fundamentally diversified, other criterias should be applied in order to assess the quality of qualitative research in regard to reliability and validity, which is further

advocated by Bryman et al. (2011) and Stenbacka (2001). Moreover, Bryman et al. (2011) advocates that as a replacement qualitative research should be assessed in regard to four different criterias: *Credibility, Transferability, Dependability and Confirmability.*

In order to ensure that research will be useful, the quality of it needs to be assessed (Easterby-Smith et al., 2015). The quality of research refers to the assessment or evaluation of research that has been conducted and to do so, two commonly applied assessment criterias are validity and reliability; the criterias are concerned with ensuring integrity and reliability of the research respectively (Bryman & Bell, 2003). However, the relevance of these criteria for qualitative research have been questioned since, for instance, the definitions of the criteria are more concerned with aspects which are more related to quantitative research. This is of concern for this research, which is of qualitative nature, and therefore an alternative means to assess research quality is applied. This is based on different aspects of trustworthiness, which are: credibility, transferability, dependability and confirmability (Bryman et al. 2011). Moreover, Bryman et al (2011) argues that credibility and transferability corresponds to internal and external validity. While, dependability and confirmability corresponds to reliability and objectivity in quantitative research.

3.6.1 Credibility

Credibility corresponds to internal validity which ensures that the researchers have a correct understanding of the conducted observations (Bryman and Bell, 2003). As a result, this research has taken steps to ensure that the generated theoretical ideas which are built upon the gathered data matches the conducted observations. The conducted interviews which were allowed to be recorded enabled the researchers to review them multiple times and thus increase the credibility of this research. Moreover, the interviews were always conducted with both the researchers present where one took notes while the other asked the questions. This enabled the researchers to achieve a replacement for transcript for instances where recordings were not allowed. Furthermore, all notes from interviews were gathered and uploaded into google drive and were reviewed continuously throughout the research, thus also increasing the credibility of this research. On the negative side, most of the interviews were held in Swedish, which consequently had to be translated into English by the researchers which can negatively affect the credibility. The translated interviews were then sent to the interviewees, which allows for revision and correction of misinterpreted data. This

ensured an increased internal validity in terms of data gathered. Ultimately, as this research examined and identified trends and anomalies in regard to all the conducted interviews and existing literature, it can be argued that the researchers applied triangulation, which according to Bryman and Bell (2003) is a method which can be used to increase the credibility and validity of the research, which is further advocated by Jick (1979).

3.6.2 Transferability

Transferability corresponds to external validity (Bryman et al., 2011). Which refers to the degree of generalizability the research has. Easterby-Smith et al. (2015) advocates that qualitative research has been under negative criticism in regard to the research ability to be applied to other setting. This criticism can be applied to this specific research as well as this research has limits and specific settings. As the research have been geographically limited to companies operating primarily within Sweden and an employee size of between 100 - 1000 employees it is concluded that this research cannot be applied in other context, and as a result has a low degree of transferability. However, transferability can be achieved by further research that extends this research. For instance, similar research can be conducted within a setting that includes companies of all sizes that primarily operates within Sweden. Thus, by comparing similar research with this research, transferability can be achieved.

3.6.3 Dependability

Dependability corresponds to reliability, which refers to the degree of which random errors has been eliminated in the research (Bryman and Bell, 2003). In order to achieve a common understanding of the gathered data, the researcher had a discussion after each interview to ensure that the understanding of the interview was common. Moreover, the researchers also reviewed the notes taken during the interview in regard to the discussion to ensure that the notes reflected the common understanding. If there were any diversifying opinions, a review of the recording or the notes was done, depending on whether the researchers were allowed to be recorded or not. Moreover, steps taken to ensure that the research could be replicated were done by describing the chosen client cases in terms of operating industry and employee size. The anonymity of the client cases, may however lead to that the exact same client cases might not be selected. Moreover, the researchers also described the representatives interviewed which also enables further research to

conduct similar research. Ultimately, the researchers also specified the research process and the reasoning behind every step, it is therefore concluded that the researchers have taken several steps in order to increase the dependability of this research.

3.6.4 Confirmability

Confirmability corresponds to objectivity, which is described as the degree of which the research has been conducted in good faith (Bryman et al., 2011). It is argued that the researchers have not in any way tried to affect the result of this research. Moreover, Crepido had no previous relationship with the researchers and the researchers did not receive any compensation for the conducted research. Crepidos functions and expertise enabled the researchers to undertake the study, but the research was undertaken primarily for academic purposes, it is therefore argued that Crepidos involvement does not affect the result of the research. Moreover, although one client company had previous affiliation with Crepido, the researchers chose to present all data with anonymity which means that no data can be traced back. It is therefore argued by the researchers that the result of this research has not been or neglectable been affected in any direction.

3.7 Ethics

Research within social sciences almost always involve gathering data from people, and research ethics concerns the management of information provided to the researchers by people (Oliver, 2010). The purpose of research ethics is to guide the researchers to avoid conducting research that might harm another party (Resnik, 2011) where Shamoo and Resnik (2009) advocates the importance to recognize the conflict between research and business interest. This thesis has been conducted in partnership with Crepido, where the thesis was requested from the researchers. Therefore, it is argued that there has been no conflict of interest regarding potential business interest and the research. Moreover, this study did not harm any participants, as the researchers ensured that consent was given from the case companies as well as anonymity were provided. Therefore, it is argued that the researchers have taken the necessary steps in order to ensure that a satisfactory degree of research ethics were achieved.

4. Empirical Findings

In this section, the empirical findings will be presented in the shape of cases. The primary purpose is to consolidate and present findings gathered from interviews amongst traditional organizations with interviewees from top management who have insights about the organization as a whole. The interviews can also be found in appendix B, where the researchers have refrained from asserting their own interpretations.

4.1 Company Selection and Interview Focus

The companies selected for interviews have been screened in regard to company size and industry, as previously mentioned in 3.4. The industries chosen, have thus been the energy, industrial, forest and real estate industries, constituting what the researchers define as traditional organizations. The interviewees are in managing positions constituting the business side as well as the IT side of the organization. The main reason for doing this is due to the researchers' beliefs, derived from the background and literature review, that different parts of the organization have differing knowledge about enterprise agility. With that said, since the interviewees are in managing positions, they have the knowledge and ability to answer questions regarding the enterprise dimensions. Thus, this approach allows the researchers to gain insights from different sides of an organization in regard to potential enablers and barriers to enterprise agility.

Questions have been formulated specifically with the purpose to identify factors which might be an enabler or barrier to enterprise agility, within each of the enterprise dimensions which for clarifying purposes consists of organization, project management, industry, and digitalization. Adaptability within the industry dimension is defined according to: low = do not actively identify customer trends and take a longer time to adapt, intermediate = actively try to identify customer trends but have difficulties in adapting quickly, and high = actively try to identify new customer trends and can adapt quickly to changes.

4.2 Company A

Company A is large actor which is part of a larger conglomerate within the forest industry. The company is a commodity manufacturer, specializing mainly in the refinement of wood and timber. The interviewee is an IT project manager who has worked at the company for 7 years.

Table 6: Findings from interview with company A

Enterprise Dimensions	Findings from interviews
Organization	- Hierarchical structure - Continuous organizational changes - Changes were difficult due to a high average age - Has designated improvement teams for product development and digitalization
Project Management	- Use a defined project model called Wenell, basically a stage-gate model which is used widely used by many, but not all functions - Have experienced clashes in resource allocation where autonomy has been given to project teams - Have started looking at the Scaled Agile Framework in order to manage resource allocation issues - Largest issue with enterprise agility is the alignment between IT who has specialized knowledge in agile, and the rest of the organization's interests
Industry	- Increasing customer demands - Demographic shift occurring - Increased digital aptitude - Intermediate to high adaptability - strives to align strategies to meet customer demands and believes that adapting is easy and frictionless depending on the task
Digitalization	- Concerns securing data and information that are critical to business processes, in order to take action on the information at hand - Use centralized systems to become more efficient - Digitalization within the company has become more prominent in recent years, with self-service portals being implemented which reduces manual labor.

The interviewee brought a nuanced perspective to the adoption of enterprise agility. Mainly, it can be seen that the interviewee was overall positive to the agile methodologies, but can see the difficulties in getting the rest of the organization to understand the advantages of being an agile enterprise. However, it can be seen that enterprise agility could be an alternative to meeting the shifts in the industry dynamics, as the company is perceived to have an intermediate to high adaptability, meaning there is a desire to identify and adapt to new demands. An intriguing finding from the interview is that the company has actually looked into the SAFe framework as a means of trying to allocate their resources properly. It can thus be derived that it is not only changes or issues within the external business environment which drives the agility agenda, but also internal issues. The initial outlook for enterprise agility for company A seems somewhat challenging, seeing as the company's change culture seems as a huge threshold to overcome, as well as the hierarchical structure which might make change a complex task to undertake.

4.3 Company B

Company B's core business revolves around owning and administering forest and is evidently active within the forest industry. The company owns forest constituting of approximately 50B SEK and have around 120 employees. The interviewee is the IT manager for company B who has a background within system development and project management.

Table 7: Findings from interview with company B

Enterprise Dimensions	Findings from interviews
Organization	- Hierarchical, but described as non-existent on a daily basis - Joint venture between two larger forest companies and thus have found challenges in integrating two different cultures - Changes within the organization has been made where a centralized intranet was implemented with the purpose of consolidating communication channels - Resistance from employees was substantial, but was successfully managed through involving them in the process
Project Management	- Outsource most of their projects to consultants, who bring their own project models with them - Most common project management models are XLPM, Wenell and Scrum

	• Agile mindset only within IT, rest of the organization unfamiliar with the concept of agile • Biggest challenge is to bridge the gap between specialized knowledge of agile within IT, to the rest of the organization who are unfamiliar with the concept
Industry	• Competition well known amongst actors in the industry, thus everyone has insights in each other's working methodologies • Policy changes are of great importance and is something they monitor continuously • Intermediate adaptability - do not actively identify new customer trends, but are trying to do so moving forward although it is perceived as difficult to react swiftly to new information
Digitalization	• Iterative process of the combination of technology which drives new services and generate new customer expectations, which in turn generate new demands for new technology • New customer demands come from young people with high digital aptitude • Greater understanding of digital has come from the onboarding of younger employees

Similar to company A, company B also has a hierarchical structure. However, the hierarchical structure is described as "something on the organizational chart" by the interviewee, and highlights that it is rather non-existent on a daily basis. Word of caution here is that interviewees are normally biased and thus comments which might be detrimental to their reputation are usually brushed off as non-impactful. Therefore, the researchers have chosen to be cautious in the analysis of such answers in the subsequent chapter. Something that stands out for company B is that they have successfully managed resistance to the changes from their employees in regard to historical organizational changes, which bodes well for future changes as well. Here, it can also be seen that the agile mind-set is most prominent within the IT function, and the interviewee explicitly state that the rest of the organization have little to no knowledge about agile. The knowledge about agile is also not their own, seeing as they outsource most of their projects to other consultants. In the case that the consultants leave the company, the knowledge about agile disappears with them.

The interviewee also state that they are in a complex supplier-customer relationship, as their customers are also their suppliers. Therefore, they do not actively try to monitor new customer trends, but have been giving thoughts to how they can meet new demands from young people, seeing as there is a demographic and technological shift occurring to younger people who have a larger digital aptitude.

4.4 Company C

The company is active within personal hygiene and healthcare sector. The interviewee currently works as head of project management and has held the position for the previous 10 years.

Table 8: Findings from interview with company C

Enterprise Dimensions	Findings from interviews
Organization	- Flat structure, but moves towards a hierarchical structure - Have experienced a successful major organizational change - Young organization - No designated team for continuous improvement but works with HMEX, and has a culture characterized by constant improvement
Project Management	- Works according to a waterfall model, including project manager and project owner - Unsuccessful implementation of agile methodologies - Works according to portfolio management - Leadership and the nature of projects identified as main challenges regarding implementation of agile methodologies
Industry	- Well informed regarding approaches used by the 3 main competitors - Constantly tries to identify new customer trends, and has a designated department called "Category Executive" - Ability to adjust to emerging customer trends is assessed to be intermediate
Digitalization	- Defined as: everything one can exploit from the digital world to become more efficient - Have always worked with digitalization, but it has escalated in the last few year

The interviewee describes the organizational structure as flat, but are moving more towards a hierarchical, mainly due to the necessity to align and control the way that communication flows. This, in combination with being a rather large company, speaks against the prospects of becoming agile. Additionally, they do not have an exploratory unit which work with continuous improvements which is further detrimental to gaining new knowledge. The company works with waterfall models and is something that the whole organization does as a part of a centralized approach through their Project Management Office (PMO). While they have looked into agile methodologies as a project management approach, they have seen limited success doing so, further corroborating the issue companies have with becoming an agile enterprise.

4.5 Company D

Company D is a Swedish manufacturer of electronic applications and have approximately 130 employees and 400M SEK in revenues. The interviewee is the COO of the company and is also responsible for commercialization of their products. He has been at the company for 17 years and thus have a great knowledge about the companies as well as their working approaches.

Table 9: Findings from interview with company D

Enterprise Dimensions	Findings from interviews
Organization	• Historically a flat, but moving more towards a hierarchical organization as a consequence of being acquired by a private equity company • Organizational culture described as Swedish business mindset with short decision-making lead times, flat leadership and open doors • Organizational changes have been made successfully in the past to become more cross functional • Uneasiness amongst employees as a consequence of the change process was overcome with the emphasis from top management that they care about their employees and ensuring that their work will stay where it is • No designated teams for continuous improvements, but have explicit statements on strategic level where adapting to new competences, time-to-market and technology is crucial
Project Management	• No defined project model, but have been looking at Tietos PPS project management model • Project revolves around internal business development and product development • Product development customer-centric and starts with R&D specifications, then moves on to production and ultimately commercialization • Feel that there is a need for governance and cost control • Visiting customers have had opinions about their working approaches, thus there are internal and external needs to become more structured in their projects • Biggest challenge is the lack of knowledge about agile, but believes it is an effective approach to working, and is one of the reasons to having looked into different project models
Industry	• Belief that agile is a very uncommon concept in this kind of industry • Rapidly changing customer requirements, but no one works agile to capture and act on the requirements • The company has a high adaptability - constantly look into new customer demands and can meet them in a swift manner
Digitalization	• The company utilizes different kind of systems to become more efficient in their daily work, mainly by consolidating internal information • Rate of digitalization within the company has increased throughout the years as a consequence of new owners and managers coming in, which puts higher requirements on rapid and accurate reports

Company D is an example of an organization in which enterprise agility could have been feasible when being a small company. The organizational culture is described as a Swedish business mindset with short decision-making leadtimes, which is something that agile methodologies emphasize. However, since being acquired by a private equity company, new cultures and influences have penetrated the company, which is becoming more hierarchical in order to accommodate for the organization's reporting standards.

The company has no defined project model that they work with, which is something that customers have given their opinions on. Furthermore, there is no internal process for project management but rather an ad-hoc one. Therefore, it can be seen that while the company could adopt agile methodologies as a way of working in projects, they might need to find an appropriate way of conducting projects first, seeing as agile methodologies puts demand on the organization's flexibility, something that the company is not perceived to have. The interviewee however state that agile could be an effective way of working and is something that drives the company into looking at different project models. Thus, it can be seen that agility agenda can be grounded on internal or external influences.

It is however perceived difficult, seeing as agile is a very uncommon concept within the manufacturing industry, and especially in the electronical applications domain. The interviewee see that the customer demands is changing drastically, but cannot utilize agile methodologies to capture the changing requirements due to the lack of knowledge about agile and the scaling of it, which is something that is a detrimental factor to the adoption in the industry as a whole.

4.6 Company E

Company E is a manufacturer who has products ranging from power distribution, climate control and electrical equipment, mainly focused within two divisions: industry and IT. The interviewee at company E is the Business Development Manager within the company's IT segment. He has been at the company for almost a decade and has had operative as well as strategic roles.

Table 10: Findings from interview with company E

Enterprise Dimensions	Findings from interviews
Organization	• Argued to be a flat structure with clear line of reporting to divisional managers • Cultural deviations between the industry and IT divisions • Process level changes has included changes in methodology - basically trying to go from waterfall process to becoming agile • Belief that being 100% agile is not feasible due to the company's current infrastructure - some products require installations which cannot be reverted after a certain point has been reached. Being agile from start to finish may therefore not be feasible • Transitioning from waterfall to agile require changes in methodologies and thus also affect the employees, which therefore require continuous communication from top management about why changes are necessary
Project Management	• Use a defined stage-gate project model in order to plan and execute projects • Have recently tried adapting some of the stages to the agile principles, creating a compound model for working • Belief that agile is the way to go moving forward • There are similarities between waterfall and agile where project owners controls at the gates, and therefore exist a belief that an agile mindset can be implemented in order to change the way we think about project execution • The biggest challenges lie in creating milestones in order to control the process, while also knowing where you are going. This deviates from agile since iteration cannot be made when a certain point has been reached • Involvement of all parties is seen as a necessity to overcome challenges
Industry	• The industry standard is the usage of waterfall processes • Company E is one of few who has experimented with agile • High adaptability - have widespread knowledge from different functions while also being able to respond to changes quickly
Digitalization	• Development in the industry, moving from robotics and automation to Internet of Things (IoT) • Technology is driving changes, which puts requirements on internal processes to keep up to new standards to remain competitive and meet customer demands

The interview with company E does not differ much to the previous interviews in terms of organizational structure. However, something intriguing is the cultural deviations in the different departments of the organization, which could be seen as organizational subcultures. This makes it rather difficult to align the decision-making processes to the whole organization if different parts of the organization do not share the same culture.

The interviewee believed that the agile is good way of moving forward when it comes to identifying, capturing and acting on customer requirements. However, due to the nature of the

company's current infrastructure, the interviewee believed that being 100% agile is not feasible. This is mainly due to the fact that certain products cannot be reverted to a previous state after that state has been passed, which speaks against the iterative nature of agile. Therefore, it is believed that agile can be incorporated into the current waterfall processes, rather than being a standalone full agile solution. There are certain similarities in both approaches which might make a hybrid waterfall-agile approach feasible. As previously mentioned in the interview with company D, this could be a way of meeting customer requirements continuously, while having a structured approach to conducting projects, something that the industry lacks knowledge within.

4.7 Company F

Company F is a manufacturer of circuit boards based in Sweden, but has production facilities outside of Sweden. They have 250 employees, where 100 of them are based outside of Sweden at the production facilities. The interviewee is the CEO and thus has great knowledge about the organization, having been there for over 10 years.

Table 11: Findings from interview with company F

Enterprise Dimensions	Findings from interviews
Organization	• Flat structure on all levels • Value-driven culture with quality, strong relationships and full responsibility as keywords • Large reorganization 10 years ago where new owners entered • Uneasiness amongst employees was mitigated by having an open dialogue and communicating emphasizing the necessity of the changes • Has no designated function for continuous improvements, but allows autonomy within each function to improve their own processes
Project Management	• Conducts two types of projects; internal projects and customer projects • No defined project model for internal projects, but use defined project model as guideline for customer projects • The project model explains who should be involved, how information transfer should be conducted and how to help customers achieve value the quickest • Business side of the organization has little knowledge about agile, but has had agile influences from IT in their internal projects • Agile might not be a feasible approach since the ambition is to provide standard functionality to all of their 40 markets
Industry	• Little to no insight about each other's working methodologies

	• Strong assumption that waterfall processes are most commonly used • The company has high adaptability - conducts future strategy projects to proactively identify and act on new customer trends • Use non-anonymous customer surveys which allows for individual follow-up
Digitalization	• Digitalization regards simplifying and minimizing transport for physical documents • The company use centralized systems and processes for communication • Heavily dependent on co-workers working digitally and an end-goal is to utilize Electronic Data Interchange (EDI) to enable rapid communication

The interview findings are similar to that of company D, where new owners have entered a small company which has historically been flat. However, this time it also caused an uneasiness amongst employees, a reorganization in which resistance was overcome by having an open dialogue with the employees. This showcases that the company is capable of handling larger organizational changes, which a transformation to enterprise agility entails.

Agile approaches in company F would have probably been possible, seeing as there has historically been collaborations in projects involving both the IT function and the rest of the organization. However, it is still perceived as the business side having limited knowledge about agile, and is something the company would need to overcome. The feasibility for agile might be more difficult, seeing as the company strives to deliver standardized functionality to all of their 40 markets. There is thus no need for agility, seeing as they already know what they want to achieve, and how they would go about achieving it. Therefore, even if the company per se has good prospects to becoming more agile, the desire to become agile is very limited. There is thus a discrepancy between what the company can do, given their capabilities, and what they want to do given their business strategy.

4.8 Company G

Company G is an actor within the real-estate industry, which core business revolves around administering real estate for commercial use. The interviewees are the IT Manager and the HR Manager, who have been there for one and half year and two and a half years respectively.

Table 12: Findings from interview with company G

Enterprise Dimensions	Findings from interviews
Organization	- Flat organizational structure - Organizational culture described as positive, creative and helpful - Has re-organized from working with offices and retail, to solely providing commercial real-estate - Reorganization required co-workers to find new methodologies of working - from working isolated within each business area to working cross functionally - Heavy inclusion of co-workers in the change processes made sure that the implementation process went smoothly - Does not have a designated team for continuous improvements
Project Management	- Conducts two types of projects; larger construction projects and administrative projects - Have defined project model for construction projects which is adapted from the parent company, typically following a stage-gate manner - Use the company's own project model for administrative projects, typically starting with a feasibility study which then is delivered to a steering group who has the responsibility for execution - Agile is the primary way of working within IT, a contrast to the waterfall processes that are prominent within their construction and administrative projects - Challenges seen are firstly that it is hard to budget projects that are agile, and secondly that agile on larger projects that are dependent on other projects incur a huge risk
Industry	- Continuously changing and improving industry - Requires some type of project model in order to have a structured approach - Company has a high adaptability - constantly try to find new customer needs and believes that they can adapt and meet new requirements rapidly - Heavy emphasis on customer involvement in new solutions
Digitalization	- Digitalization is about utilizing new technology that has previously been manual and analog - It is also about disrupting themselves - The company use IT systems and applications and always strive to learn more about new systems which could make them more efficient - Digitalization has historically been neglected, until the IT Project Manager came and changed the way that they make use of IT strategies

Company G, although being in the real-estate industry, conduct projects no different than other organizations. While the nature of the projects is different, company G mainly use waterfall approaches to executing construction projects. This is something that should be of no surprise, seeing as an agile approach would mean that that the construction projects would be iterative, something that is not feasible. For instance, building a facility means that there are certain stages of the projects that cannot be reverted back to – if the facility has been built, you cannot simply

tear it down and rebuild it as per an iterative approach in agile. Another challenge that the interviewee expressed is the budgeting of agile projects, seeing as agile projects are iterative and thus resources are more difficult to control, especially when it comes to large projects such as building a facility. In the case that a large project is dependent on other projects, agile would be very confusing in the sense that the other projects do not necessarily know what they are to expect. Thus, the interviewee believed that the nature of the project plays a huge role in agile feasibility, and believe that applying agile in construction projects is a very difficult and complex task.

4.9 Company H

The company operates within the real estate industry, the interviewee currently works as head of project development.

Table 13: Findings from interview with company H

Enterprise Dimensions	Findings from interviews
Organization	- Flat organization - Have not experienced any major organizational changes, and has a culture characterized by customer focus - Middle aged organization - Designated person who ensures that the desired quality and employee satisfaction is achieved, they are also ISO certified
Project Management	- Does not work according to any explicit model, instead they choose model after need - Same procedure for selection of teams - Positive perception of agile methodologies, but not suitable for every occasion. But suitable for smaller projects with an unspecified end goal - The main challenge to implement agile methodologies would be the lack of value in projects with processes that are repetitive - Outsourced IT department
Industry	- Good insight regarding approaches used by competitors within the procurement area. - Tries to understand the customer by constantly trying to talk to the customer and identify new trends - Ability to adjust to emerging customer trends is assessed to be high
Digitalization	- Perceives digitalization as the relationship between the TV and the remote, where digitalization enables us with plenty of opportunities. - They do not use digitalization to become even more efficient

The interview with company H further emphasize the nature of the project as something that is a determinant in the feasibility of agile adoption. In the case that the projects are of smaller nature with an unspecified end-goal, agile might be more suitable, as opposed to larger projects as described in the interview with company G. One of the main challenges according to the interviewee from company H is to adopt agile in projects which are already standardized with repetitive sequences, as it would provide no value in being agile, exploring and being iterative in the development cycle. Instead, one should strive towards improving the efficiency for such projects, something that provide larger value than trying to find new ways of doing the same thing which agile is mainly utilized for.

Company H also has an outsourced IT-department. While the interviewee in this case has a positive perception of agile, it is argued that the knowledge of agile is rather limited for the interviewee as well as the rest of the organization. In this case, an outsourced IT-department face the same challenges as those of company B, where the knowledge of agile mainly exist within the organization. The spillover of agile knowledge, which can be a way for the rest of the organization to learn more about the advantages of working agile and possibly start the transition to becoming an agile enterprise, is as a consequence not possible.

4.10 Company I

The company is active within the energy sector and is a regional actor. The interviewee currently works as a project leader in a team of 12 people.

Table 14: Findings from interview with company I

Enterprise Dimensions	Findings from interviews
Organization	- Matrix organization - Have experienced a major organizational change which involved a transition in scope and a decentralization initiative, which was well received by the employees mainly due to the top management's communication - Uses yearly surveys to assess the degree of employee satisfaction and benchmarks it against the industry

Project Management	• Projects within real estate follows a waterfall model, while projects within organizational development varies depending on setting • Has good insight regarding agile methodologies, where the pros are that its suitable for projects that has close collaboration with IT. While the methodology lacks in projects with clear defined goals • Has recently implemented lean as a way to become more efficient • There has been some spillover from IT to the project management department • Strong culture for waterfall models • Identifies business structure and leadership as main challenges regarding implementation of agile methodologies
Industry	• Has knowledge regarding approaches used by competitors as the industry is experiencing a transition. • Constantly tries to identify new customer trends • The ability to adjust to emerging customer demands is assessed to be high
Digitalization	• Defines digitalization as external and internal opportunities • Has always worked with digitalization but it has accelerated in the last few years, mainly due to a move towards portfolio management and external advancements in technology

The interviewee state that different project management approaches are chosen depending on the different types of projects that are conducted, further corroborating the previous interviewees' insinuation that the nature project plays a large role in whether agile is feasible or not. Company I, while having good insights about agile partly due to some knowledge spillover from the IT department, still has a strong culture for project management. A reason for this is the way that the industry in itself has operated throughout the years, in combination with the nature of the project.

The main challenges expressed by the interviewee is the business structure and model, in combination with leadership. Transitioning from their old ways of working naturally puts a large demand on managers to provide the guidelines for how such a transition should be executed. Therefore, it also puts demand on the knowledge of the managers, where an agile transition cannot be carried out in isolation, but rather should be an integral part of the organization in order to meet the business strategy. The management in company I however seems as if they are aware of what they are doing, seeing previous organizational changes have been carried out in a successful manner, mainly due to the communication from top management to the rest of the organization. This is something that managers need in all types of organization, and especially companies that are active within industries that are experiencing paradigm shifts something company I is well aware of.

4.11 Company J

The company is active within the energy sector, and is a regional actor. The interviewee currently works as a manager within the company's strategy and development department.

Table 15: Findings from interview with company J

Enterprise Dimensions	Findings from interviews
Organization	- Hierarchical, but progressing towards being flatter as they have identified a need of becoming more customer driven - Culture characterized by openness mainly due to support and emphasize from top management - Have a designated team for continuous improvements, it is however customer driven
Project Management	- The company uses a model with similarities to a waterfall model for its developing projects. Whereas for their building projects they use a wide variety of models depending on the setting - Developing projects always have a project manager while building projects varies between project owners and project managers - Since they started working cross-functional, there has been a certain degree of spillover regarding agile methodologies from IT - Overall positive perception of agile methodologies, suitable for team based projects since they are business driven in nature - Main concerns regarding implementation of agile methodologies would be the lack of value it would contribute in projects that are standardized, and the lack of knowledge amongst top management
Industry	- States that due to the size of the industry, there is a high probability that competitors work with different approaches - Has collaborations with other firms, some partnerships are repetitive while others are new - Has become more aware of customer trends in the recent years - The ability to adjust to emerging customer trends is assessed to be intermediate
Digitalization	- Defines digitalization as the extension of automatization that has occured in the society in the last decade - Have become more digitized in the last years due to technological advancements in society and availability of more advanced technology

Company J, being hierarchical, is striving to become flatter as a means of becoming more customer driven. This is something that speaks well for enterprise agility, as the main reason for becoming agile is to sense, identify and act upon new customer requirements. Thus, company J has initiated a step in the right direction. However, it can be seen that usage of waterfall processes are still the dominant approach to their projects, something that has been common praxis throughout the years.

They do, however, work cross-functionally to a certain degree and spillover regarding agile methodologies from IT has been something that they have identified. Therefore, the perception of agile methodologies is that it is suitable for team-based projects.

The main issue is still the fact, as with most other traditional organizations, that there is a lack of knowledge amongst top management. There is thus a difficulty in convincing top management that agile is a legitimate approach to managing projects, something that is needed as an initial step in the scaling of agile into the wider organizational context. Another concern is the value it would add to the projects that are more standardized and repetitive in nature, something which can be seen in the interview with company H as well.

4.12 Concluding Remarks

The presented cases provide an insight regarding the different organizations, how projects are managed, the perception of agile methodologies, the overall industry and the interviewees perception of the degree of digitalization within the firm. Key insights indicate that the culture and previous organizational changes have a rather large impact within the organizational context, while the nature of projects and being customer driven are important in the project management context. Ultimately, the business environment and digital maturity is dominant within the industry and digitalization context.

5. Analysis

In this chapter, an analysis of the empirical findings is conducted. The findings from the interviews are analyzed and compared mainly with the use of the theoretical framework and its associated literature review. The researchers present the agility barriers and enablers found within the companies interviewed and how these are affected by the enterprise dimensions.

5.1 Focus of Analysis

The focus of the analysis will mainly be revolved around answering the previously defined research questions. For clarifying purposes, the two research questions follow as:

RQ1: What are potential agility elements within companies, active in the energy, industrial, forest, and real estate industry?

RQ2: In which domains of the enterprise dimensions can the agility elements be identified?

The interview findings in the previous chapter provides the basis for the analysis, which combined with the literature review and theoretical framework, will aim to answer the two research questions. RQ1 will mainly be about finding the agility elements i.e. the barriers and enablers to enterprise agility, while RQ2 aims to map where the agility elements can be found within an organization.

5.2 Agility Barriers

5.2.1 Organization

Maylor (2010) states that organization maturity can be divided into 4 different groups: *The flatliners, the improvers, the wannabes* and *the world-class performers*. Where, the flatliners are characterized by making little to no progress regarding improved performance due to inability to learn from mistakes. While the improvers are characterized by having a certain degree of processes and systems in place but fail to fully utilize them to become efficient. Tseng and Lin (2011) advocates that responsiveness, competency, flexibility and quickness are regarded as agility capabilities as illustrated in figure 4. Thus, it is argued that due to the nature of the flatliners and the improvers it is considered a potential agility barrier due to the inability to adopt mainly due to the lack of quickness as the organization fails to learn from previous mistakes, and inability to

achieve a flexibility as the processes and systems are not fully utilized. However, drawing from the empirical findings, it is revealed that the connection between having a designated team that works with continuous improvements and the assessed ability to adjust to changes in customer demands varies, where for example company F does not have any designated team for continuous improvement but has an assessed high adaptability. Whereas company K has a designated team for continuous improvements, but has an assessed ability to adjust of intermediate. Therefore, it is argued that being classified within a certain group does not necessarily affect the organization's ability to become agile, and is thus not a direct agility barrier.

Moreover, the culture has been identified as a potential barrier to implementing agile methodologies. Fowler and Highsmith (2001) argues that in the agile manifesto, individuals and interactions are valued higher than processes and tools. Therefore, it is argued that the culture is a potential barrier as it can affect the ability to successfully transition into using agile methodologies. This is further emphasized in the empirical findings where for example the representative of company D states that the major challenge in implementing agile methodologies would be the lack of knowledge regarding the subject amongst management. This is further emphasized by Rosenberg and Mosca (2011) who advocates that lack of management support is a contributing factor as to why change initiatives fail. Melanie (2014) advocates that a change can be considered as a disruptive process, where a transition to agile methodologies can be argued to be a rather disruptive change which can cause resistance amongst employees, which further places emphasize on the management's involvement in the change. Thus, it is argued that lack of experience from implementing a large organizational change can be identified as a potential barrier, as the management lacks knowledge regarding how to successfully deal with resistance that arises due to a change. Additionally, the age of the organization might be a potential barrier.

Fowler and Highsmith (2001) advocates in the agile manifesto that in order to being agile organizations have to be able to respond to change in a swiftly manner rather than following a plan. Thus, the actual structure of the organization is a potential barrier, where hierarchical organizations have a longer decision time in comparison to flat firms. This negatively affects the ability to respond to customer demands in a swiftly manner. However, the empirical findings indicate that hierarchical firms range from an assessed ability of adjusting to changes in customer demand of

intermediate to high. However, it is argued that this is a rather subjective manner as the representativeness might have a different perception of what is considered a fast and slow time to adjustment. Therefore, it is argued that the organizational structure can be considered as a potential barrier. Moreover, it is argued that depending on the size of the company, the structure is likely to have less of an impact, as despite having a hierarchical structure, the ability to make decisions might be swift due to the size of the firm. Thus, it is argued that a large organization in terms of employees in combination with a hierarchical structure is a potential barrier to implementing agile methodologies.

5.2.2 Project Management

The typical approach to conducting projects within traditional organizations fall within Cooper's (2016) definition of a stage-gate model. By looking at the interview findings, it can be seen that eight out of ten companies use project models that can either be fully seen as waterfall approaches or have strong similarities to them, further strengthening Cooper's (2016) statement. With this in mind, it is essential to distinguish between the types of projects the company conducts, and within which business functions they are executed. For instance, a manager on the business side, as can be seen from many of the interview findings, will be strongly influenced by waterfall approaches since it is the standard praxis within most traditional organizations and allows for rigorous planning which is needed in order to manage costs, a main determinant to determine feasibility. Cooper (2016) advocates that working in short iterative cycles has the benefit of having a high adaptability to changes in customer requirements. Thus, in order to successfully being able to transition to agile methodologies, the organization has to be customer driven. This is further emphasized in the empirical findings where company H is customer driven, and has implemented an agile alike way of working with great success. Moreover, the nature of agile methodologies is according to Dingsøyr et al (2012) to create value as soon as possible and continuously develop the product rather that place emphasize on the initial launching process. This is further raised as a concern in the empirical findings where the representative of company H advocates that working according to agile methodologies would not add any value in projects where a certain degree of repetitive sequences is prevalent. Thus, it is argued that projects with repetitive sequences will benefit more from being standardized, rather than working according to agile methodologies where the front edge competence will add no value. Therefore, it is argued that the nature of the project is a

considerable barrier as it might not be compatible with agile methodologies. This is further emphasized in the empirical findings where for example certain real estate projects are not deemed as suitable as they involve a high degree of standardized sequences.

Moreover, Turutken et al (2016) argues that an exploratory mindset is encouraged when adopting the SAFe framework. Thus, agile methodologies are especially suitable for when the end-goal is not clear. However, certain real estate projects heavily rely upon predefined goals with suppliers. Therefore, it is argued that projects that requires predefined end-goals are a barrier towards adopting agile methodologies due to the nature of the project. As a result, it can be argued that agile methodologies are not suitable for these kinds of projects.

Paradice and Courtney (1989) argues that if organizational knowledge is utilized correctly, the organization can create a fundament for competitive advantage. Overby et al (2006) argues in accordance with Paradice and Courtney (1989) and further states that IT has a crucial role to play when it comes to enabling a firm's capability to identify and respond to the changes. Therefore, it is argued as agile methodologies places emphasize on being customer driven a potential barrier is lack of knowledge sharing amongst departments within the organization. This is further emphasized in the empirical findings where the representative from company J states that there has been a spillover of knowledge regarding agile methodologies since the project management department got project managers from the IT department and has since started using agile methodologies for occasional organizational development projects, thus highlighting the importance of knowledge sharing in regard to successfully implementing agile methodologies.

5.2.3 Industry

Fowler and Highsmith (2001) argues that in the agile manifesto, which advocates for always listening and adhering to the needs of the customers. Thus, in order to become agile, the organization has to be customer driven. In certain industries, it can be argued that the customers have been adjusted to a certain degree of needs, and if the whole industry does not develop, then these needs will not change. Drawing from Company J, the representative states that the energy sector is recently undergoing a transformation, something that has not occurred in the industry in the past 100 years. Thus, it is argued that the actual industry itself can be a barrier towards adopting

agile methodologies, as agile in its nature is customer driven, and if there is no innovation and progress in the industry, it is argued that the customer needs won't change.

Moreover, a potential barrier is the degree of which the organization has collaborations with other firms, as one representative stated that leaders do not learn agile methodologies in school as it is originated in the IT atmosphere, thus it is argued that if an organization does not have any collaborations with other firms, it might be a potential barrier as the organization is isolated from new approaches that can be used. However, it is also argued that since agile methodologies is originated from the IT sector, and a vast majority of the organizations in the empirical findings had an IT department that worked according to agile methodologies. Thus, the actual knowledge sharing within the company is considered a more prevalent barrier in regard to knowledge of agile methodologies.

5.2.4 Digitalization

As mentioned earlier, according to Fowler and Highsmith (2001) being customer driven is an important factor regarding agile methodologies. Moreover, Overby et al (2006) advocates that a firm's IT capability is important as changing business environment induces changes in information volumes which needs to be processed. Therefore, IT is important when it comes to make sense of large volumes of information which often is the case when it comes to changing business environment. Thus, it is argued that the IT needs to be successfully integrated in the organization in order to effectively be able to implement agile methodologies and respond in a swift manner to changes in customer demands. Therefore, a barrier is the degree of digitization within the firm, as the gap between the IT and the rest of the organization can be troublesome to achieve if the organization overall is lagging behind. However, drawing from the empirical findings, the result is mixed. Where companies who have always worked with digitalization have an assessed ability to adjust to emerging customer trends ranging from intermediate to high. Whereas companies who have recently became more digitized is also ranging from intermediate to high. Thus, it can be argued, that although the digitized difference between IT and the rest of the organization can be a potential barrier, it does not necessarily have to be.

5.3 Agility Enablers

5.3.1 Organization

While the first two of Maylor's (2010) organizational maturity groups can be regarded as barriers to agility, it is argued that the latter two, *the wannabes* and *the world-class performers,* have tendencies which speak for an enabling mindset. Thus, organizations which fall into these groupings are arguably the ones who will be looking to seek out new ways of running their business. Such a mindset is needed in order to enable agility and drive a transformation process, as traditional organizations generally are locked in to the legacy systems which have been in place for a longer time. From the empirical findings, we can see that a majority of the companies declare themselves to be able to identify and respond to changes in the business environment quickly. While this is what Laanti (2014) and Tseng & Lin (2011) amongst other scholars would argue to be the very definition of being an agile enterprise, it is of the essence to highlight that this is from the perspective of the interviewee, which opinion is with the highest probability biased. Furthermore, when probed to give an example of how they have identified and responded to changes in a quick way, many gave ambiguous examples of such actions.

It can be argued, based on the empirical findings, that traditional organizations believe that their adaptability (identifying and responding to changes) is high, and by extrapolating that belief, many of the companies strive to look for new ways of rejuvenating themselves. Further indication of this can be seen in that all of the interviewed companies have in one way or the other made changes throughout the years, both on an organizational level but also on lower levels. A company's adaptability would therefore be classified within Tseng & Lin's (2011) definition of agility capabilities, which in turn is an enabler for an agile enterprise. While the organizational change process is not conducted in an agile manner as per Melanie (2014), it is still an essential part in the transformation towards an agile enterprise. In this sense, companies that have conducted successful organizational changes arguably have a higher chance of transitioning to agile methodologies. Thus, historically having implemented successful organizational changes can be seen as as an enabler for enterprise agility. With this in mind, many of the companies have explicitly stated that they emphasize communication and involvement when it comes to change processes, and are underlying reasons to why the changes have been regarded as successful.

When it comes to the organizational culture, it has been previously stated that it can be a barrier to agile adoption. However, since organizational culture is dynamic, it can therefore also be seen as an enabler. Looking at the empirical findings, it can be seen that numerous interviewees emphasize an open, positive and supportive culture, which could be argued to be an enabling mindset for agility. Heavily linked to the organizational part is also an organization's average age. A high average age within an organization can be seen as a risk to change as can be derived from Rosenberg and Mosca's (2011) barriers to organizational change, and would therefore imply that the lower the age of the organization, the higher the chance for changes to be successful. This is mainly due to the belief that a high average working force age would mean that organizational change would disrupt the routines that the older working force are locked in to, and thus incur resistance to new changes. From the interview findings, while many of the organizations classify their average age as pretty high, some would classify them as average to low. However, there seems to be no difference in the successful organizational changes between the case companies when looking at the average age of the organization, with the exception from company A which explicitly state that difficulties in changes has been due to a higher average age within the company. Thus, it is argued that while the average age might play a part in organizational changes, it is probably not too big of a determinant if managed properly.

5.3.2 Project Management

Extrapolated from the interview findings, it can be seen that several of the companies interviewed has thought of, or started to explore with agile methodologies within a project management context. More specifically, all of the interviewed companies naturally work with agile within their IT function. However, only company A and E has truly set out to try and experiment with agile. Company A has tried to look into the SAFe framework in order to get a holistic view of working agile as a consequence of resource allocation problems when multiple instances are involved in larger project. In this case, resource allocation problems could be seen as Tseng & Lin's (2011) definition of an agility driver, basically implying that it is due to resource allocation problems within the company that has driven the company towards looking into ways of becoming agile. Thus, in this sense, it can be argued that internal issues, such as resource allocation, could be something that drives companies towards looking for new ways of operating, as opposed to Tseng

& Lin's (2011) conceptual model which only describes agility drivers as external variables. Therefore, if agility drivers can be considered enablers for agility, and internal issues can be seen as agility drivers, then internal issues can ultimately be regarded as potential enablers of agility.

When it comes to the interviewed companies' project models, there is a fragmented approach to conducting projects, where some companies use a defined project model and some do not, regardless of which industry they are active within. There however exists an indication that companies who do not utilize a defined project model will be more prone to exploring new approaches in order to gain a structured way of planning and executing projects. With that said, not using a defined project model can be seen as an agile way of working. Basically, not using a structured way of achieving your end-goal is aligned to Dingsøyr's et al. (2012) view on the agile manifesto which propose that the process to achieving the end-goal is of less importance and should thus have a reduced structuring process. Therefore, it can be argued that companies who do not use a defined project model will be the ones who will be looking for new approaches to project management, and thus have an easier time adopting an agile model such as Laanti's (2014) description of SAFe. An indication of this is company D, who do not use a defined project model, but still believes that there is a need for guidelines to align their operations, and sees agile as an effective approach to doing that due to the dynamicity that agile provides. While SAFe is a structured model, it does not necessarily structure the projects per se, but rather provide the guidelines for how resources need to be allocated on different levels of the enterprise. Ultimately, a lack of project models could also be seen as an internal agility driver in alignment with Tseng & Lin's (2011) perception of agility drivers, and thus also be a potential enabler for agility.

5.3.3 Industry

Changes in the business environment is what every enterprise agility scholars such as Bray (2017), Tseng & Lin (2011) and Mahapatra & Mangalaraj (2005) determine to be the biggest driver for companies to become more adaptable and responsive i.e. agile. Thus, it is only natural to look into how the interview companies perceive their business environment dynamics and how they believe their organizational capabilities are suited for responding to the changes. From the interview findings, it can be seen that a vast majority perceive their surroundings to change, even though they are active in what Kim and Mauborgne (2005) would define as red oceans, saturated markets, and

is typically the case with traditional organizations. Therefore, aligned with what agility enterprise scholars advocate, it can be seen that most of the companies interviewed feel the need to change due to a change in the business environment and can thus be considered an agility driver as per Tseng & Lin (2011) and is therefore a potential enabler for agility. More specifically, examples of such drivers mentioned by the interviewees are increasing customer demands, demographic shifts and increased technological aptitude, all previously mentioned in various shapes by Tseng & Lin (2011). While those drivers are more concerned with the market structure, company B raises another driver that whilst associated with the market, is more concerned with the regulatory aspects, policy changes. In an industry such as the forest industry, where the companies administer soil as their core business, changes in regulations regarding environmental aspects can be determining factor in how the business can be run. Whilst not explicitly stated by companies in other industries, it is believed that similar concerns can be found more or less within other industries and could therefore be seen as a potential enabler for agility.

Another enabling factor could be the companies' exploratory desire to learn more about their environment. Much similar to how companies try to find new ways of working in projects, as previously mentioned, companies that try to learn more about their customers and competition will always be subject to new influences and thus have more information respond to. As Doz & Kosonen (2008), Tseng & Lin (2011), van Oosterhout et al. (2005) and Lu & Ramamurthy (2011) all advocate as agility scholars, enterprise agility basically concerns the organization's desire and capability to explore and respond to changes in the business environment. Thus, if companies constantly try to identify new customer demands within their specific industry, as well as changes in technology and policies, they can be seen as companies who will be more prone to adopting agility, as previously mentioned in the organization part as agility capabilities. Adding to that however, knowledge of their competition could be seen as an agility driver. Companies that have no knowledge about their competitions will have a harder time improving themselves that those that do. Basically, if you do not know that there is a better way of operating, or perhaps that you believe that the approaches to operating today is sufficient, you have little to no incentive to prioritize improving yourself. Drawing from Maylor's (2010) organizational maturity once again, the companies that fall within the wannabes or the world-class performers are those who will be the ones who will have the easiest time adopting agility, due to aforementioned reasons. Derived

from the interview findings, it can be seen that approximately half of the interviewed companies have some or good insight into how their competitors are working, and will therefore have an easier time adopting agility due to their desire to exploring and responding to new insights as a result of their high adaptability.

5.3.4 Digitalization

Digitalization has become more prominent the recent years, something that the interviewees strongly state as well. A vast majority has seen a rapid increase in the digital aptitude amongst customers, partners, and competitors, which in turn has driven them to find new ways of operating. When looking at the companies' IT systems, many use some kind of system in order to make their everyday operations more efficient, a determinant which Overby et. al. (2006) state plays a large role in an organization's capability to identify and respond to new changes in the business environment. Thus, the main argument proposed by Overby et. al. (2006) is that the stronger a company's IT infrastructure is, the easier is it for them to adopt agility, which also aligns with what Tseng & Lin (2011) proposes. Thus, as it can be seen that many of the organizations does indeed use IT-systems in some ways, they will have an easier time becoming agile.

However, seeing as using IT-systems such as Enterprise Resource Planning or Customer Relationship Management systems nowadays seem very perpetuated within every company, solely using them might not be a strong indicator for agility. It is rather argued that companies who has a digital agenda, i.e the desire to become digital in every part of the company in order to align their IT-systems with their existing market knowledge and ultimately meet new customer requirements in a swift manner, will be the ones who will be truly agile. Consequently, this is what Overby et. al. (2006) advocates, that IT-systems should be used in order to identify new customer trends and responding to them, while also using them to become more efficient in everyday operations. From this perspective, it can be seen that the IT-infrastructure plays a huge role in becoming agile as advocated by Overby et. al. (2006) and Tseng & Lin (2011), and therefore a company's digital maturity can be seen as an enabler.

5.4 Concluding Remarks

From analyzing the previous empirical findings and aligning the data with the literature and theoretical framework, table 16 is served as a summary of the analysis, highlighting the key potential agility enablers and barriers and in which enterprise dimensions they can be found as per RQ1 and RQ2.

Table 16: Agility enablers and barriers within the enterprise dimensions based on company interviews

	Identified Potential Agility Enablers	Identified Potential Agility Barriers
Organization (Internal)	• Successful organizational changes in the past • Is or striving to become highly adaptable	• Organizational structure • Culture • Lack of experience from large organizational change • Size of the company
Project Management (Internal)	• Internal agility drivers • Resource allocation problems	• Not being customer driven • Projects consisting of standardized repetitive sequences • Projects requiring clear end-goals • Lack of knowledge sharing
Industry (External)	• Need to adapt to changing business environment • New customer demands • Demographic shifts • Technological advancements • Policy changes • Knowledge of competition	• Customer needs • Isolation
Digitalization (Internal + External)	• High degree of digital maturity	• IT and digitization not seen as a determining factor being a barrier

Depicted from the table, several agility elements can be found within each enterprise dimensions. It can be seen that the findings from the interviews and the literature corroborate each other. Mainly, it can be seen that within the organization and project management dimensions which are regarded as internal dimensions, the organizational mind-set plays a large role. Companies who

have conducted successful organizational changes, and are striving to become adaptable to changes are more prone to adopting agility than those who do not. Furthermore, the organizational structure has been seen as a potential factor in agility adoption, where a more rigid structure might inhibit the potential of agility. In the project management dimension, it can be seen that internal agility drivers, not only opportunities, but issues such as resource allocation problems in larger projects might be a way to trigger management's need and understanding for agility. However, it can also be seen that projects consisting of standardized repetitive sequences are not in need for agility, as every iteration of the same process would be exactly the same. Thus, it can be seen that the feasibility for agility is project specific in the project management dimension.

Within the industry dimension, it can be seen that the findings in combination with the literature strongly corroborate each other. Potential agility enablers in this case points towards a need to change to an adapting business environment, explicitly and implicitly stated by interviewees and is the primary focus of enterprise agility. The enablers in this case points towards triggers for agility in the companies' industries such as demographic shifts, technological advancements, policy changes, and knowledge of competition. Most of these are mentioned from scholars in the literature review. However, something that needs to be adhered to is that the industry in itself can be regarded as a barrier, as an industry is dependent on the customers. Should the customer needs not change then there are no real incentives for the companies to change either.

Finally, looking at the digitalization dimension, regarded as being prevalent both internally in the organization and externally in the industry, it can be seen that a high degree of digital maturity can be seen as an enabler for agility. Additionally, IT and digitization is not seen as a determining factor for being a barrier in these cases, and thus low IT- and digitization maturity should not be seen as a large barrier, although it most probably has an effect on agility adoption.

6. Conclusion

The purpose of this thesis is to explore and analyze the barriers and enablers that exist within traditional organizations for becoming an agile enterprise. By looking into interview findings and analyzing them with a theoretical framework, we highlight the main factors influencing a traditional organization's ability to become agile.

The purpose of the thesis has been fulfilled with the use of two parts. The empirical findings in chapter four has satisfied the first part where interview findings from companies' active in the energy, industrial, forest, and real estate industry have shared their insights regarding the enterprise dimensions. The analysis found in chapter five has served the second part, where the interviewees insights has been analyzed with the use of relevant theories, in order to understand which factors can be seen as enablers and barriers to agility, and is depicted in table 16.

We find that the context in which agility is applied plays a role in the companies' feasibility and decision to pursue agility. The internal organization's mindset, structure and leadership is company-specific and there is no real blueprint for how an organization should or should not be run in order to become an agile enterprise. The main indicators found in this study however points towards the company's desire to change where size, structure, culture and capabilities to adapt play a larger role and can be seen either as an enabler or barrier depending on the circumstances. Furthermore, when it comes to project management, it can be seen that the nature of the project is a determinant when it comes to agile feasibility. In projects that require standardized iterations, agility has a lesser role to play as the requirements stay the same and thus is more about making the process as efficient as possible, as opposed to reacting to dynamic changes.

For companies that drive different types of projects, and more specifically IT projects that are isolated from projects that serves the core business, there exist a big challenge for becoming an agile enterprise. The IT functions within the companies typically possess know-how about agile methodologies, while the rest of the organization has limited knowledge about the matter. There therefore exist a challenge in aligning the agile competence within IT with the rest of the organization mainly focused on business initiatives. The SAFe framework advocated by Turetken

(2016) can therefore be seen as a way to align the whole enterprise towards becoming agile. However, in order to drive through the changes needed, it is argued that epic champions are needed with know-how of both the business side of things as well as agile competence.

In conclusion, understanding these barriers and enablers to adoption can result in managing a company's agile transition, where some already are in the early stages of becoming an agile enterprise, while some have yet to start looking into it.

6.1 Future Research

This study has only scratched the surface of a topic which are becoming more prominent by the years and further studies will be needed to assess different approaches to becoming an agile enterprise. Although it is argued that this study covers the fundament of enabling and hindering factors for enterprise agility, it is worth mentioning that merely two to three companies from each industry was interviewed, summing up to ten companies in total. Therefore, caution should be advised to draw general conclusions about the agility elements for a whole industry, where a larger sample size could give a better indication whether the results are industry specific or company specific. In regard to this study, the researchers mainly conclude that enterprise agility in this context is company specific. In addition, as this research has mainly been of explorative nature consisting of interviews of 40-60 minutes each, it could be argued that the researchers have merely seen a fraction of the agility enabler and barriers. Thus, a deeper single case study could be conducted in order to gain a more extensive understanding of the underlying agility enablers or barriers. Therefore, depending on the research objective, future researchers can (1) interview more companies in order to gain a broader understanding, or (2) conduct a single case study in order to gain a deeper understanding. However, regardless of such limitations, it is argued that this study provides an initial step into what the researchers believe will become the next big thing for traditional organizations.

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Appendix A – Interview Questions

Organization (Firm Specific)
- Is your structure flat or hierarchical?
  - Have you always had a hierarchical/flat structure?
- Could you describe the company culture?
  - Have the culture always been the same?
- Have you implemented any major organizational change?
  - What was the result?
  - How did the co-workers react to the change?
  - What approach did you use?
- Average age?
  - Management positions
  - Lower
- Do you have a designated team that work with continuous improvements? (employee satisfaction)
  - If yes, for how long have you been doing this, and why did you implement this?

Project Management (Firm Specific)
- How do you work with project management today?
- Is there always a project manager leading the project?
- Why do you work with that method?
  - Did you work with any other method in the past?
- How long have you been working with that method?
- Have you explored any other method?
  - Why/why not?
- What do you know about agile project management?
- How is your perception of agile methodologies?
- Does your IT-department work with agile methodologies?
- Have there been spillovers of an agile mindset to other departments?
- What would be the biggest challenges regarding implementation of agile project management?

Industry (Industry Specific)
- How well informed are you regarding the industry's project management approaches?
  - Competitors approaches?
  - do you have any collaborations with other firms?
- Do you constantly try to identify new customer trends?

Digitalization (Firm Specific + Industry Specific)
- How do you define digitalization?
- How do you utilize your tools and systems to become more efficient?
Have you started to become more digitalized in recent years?

Appendix B – Company Interviews

Interview Company A

Background

Company A is large actor which is part of a larger conglomerate within the forest industry. The company is a commodity manufacturer, specializing mainly in the refinement of wood and timber. The interviewee is an IT project manager who has worked at the company for 7 years and thus has substantial knowledge revolving the project management and digitalization approaches within the IT department of the organization. Additionally, the interviewee also has general knowledge about the organization at large and the industry as well.

Organization

Company A's organizational structure is described as a very hierarchical one, mainly due to the fact that they are a subsidiary of a larger conglomerate and there is thus a larger need to have structured communication channels. The interviewee explicitly stated that the company is undergoing organizational changes continuously, mainly within IT functions, where a new CIO has recently been instated. Another example is the outsourcing of service centers which required a larger reorganization resulting in a more centralized approach to utilization of systems and processes. Consequently, this had a bearing on the co-workers who had previously worked with the older systems, who now needed to adapt their way of working to the newer systems. This was considered especially difficult as the average age of the co-workers were deemed as quite high, and as a consequence are more reluctant to change and adapt.

As for internal business development and improvements, the company has designated teams who work with these in two different areas: product development level and digitalization level. Evidently, the former is more focused on improving product offerings, while the latter concerns the digital agenda which the company strives to align themselves with moving forward. Ultimately, each function within the company has a responsibility to always find ways of incrementally improving themselves.

Project Management

Company A works with a defined project model which is called Wenell and is something that they have done for as long as they can remember. The main characteristics of the model is that there are gates which capture ideas before they are allowed to move forward in the development/execution process, which is considered a traditional way of approaching projects within the company. Since this is a widely used model within the company, project management workshops revolving the

model has been conducted in order for the whole company to get familiar with the model. With that said, certain parts of the organization do not follow the model full on out. There have been situation where autonomous project teams have started new projects and handled the administrative and formal procedures at a later stage. This works well until resource allocation clashes and is one of the reasons to why the company has looked into the SAFe framework on a portfolio level, to manage the resource allocation and also have a better overview.

The largest issue with scaled agile that the interviewee could see, is the alignment between IT and the rest of the organization. IT has specialized knowledge and experience from working agile, while the rest of the organization barely knows anything about the subject. Furthermore, the business functions within the company feels the need to have a defined project plan which should be followed throughout the project, due to resource allocation concerns, whilst an agile approach is almost synonymous with iterative changes throughout the project process. Therefore, there is a discrepancy between resource allocation concerns and agile approaches.

Industry

The interviewee had little to no knowledge about how competitors conduct their projects. However, when looking at company A's customers, they clearly see that expectations from individual customers (forest owners) are increasing. There is currently a demographic shift occurring as well as an increasing digital aptitude in society. Therefore, the company strives to align their strategies in order to meet customer demands. It is believed that adapting to new customer demands is an easy and frictionless, obviously depending on the complexity of the task.

Digitalization

Digitalization according to the interviewee is about securing data and information that are critical to business processes. Furthermore, it is also about storing that information in order to take action on it further along in the value chain. The company typically use centralized systems in order to become more efficient in their daily work. Digitalization within IT and HR has become prominent during recent years, where automation of processes has been on the top of the digitalization agenda. For instance, they have implemented a self-service portal which reduces manual labor.

Interview Company B

Background

Company B's core business revolves around owning and administering forest and is evidently active within the forest industry. The company owns forest constituting of approximately 50B SEK and have around 120 employees. The interviewee is the IT manager for company B who has a background within system development and project management.

Organization

The organizational structure is described as rather hierarchical on paper, with a defined structure constituting of 'regular' employees at the bottom, middle management in the middle and the CEO at the top of the hierarchy. However, the interviewee described that the hierarchy is negligible on a day-to-day basis. When it comes to communication, each individual's opinion is heard and accounted for, it is rather when it comes to decision making processes that the hierarchy is noticeable. It is also a rather newly formed company, and was a result of a joint venture between two larger forest companies. Thus, there have been challenges with integrating two different cultures and creating a holistic culture, something the company has managed to do successfully.

The company has undergone larger changes throughout the year. For instance, they have tried integrating information storage from fragmented storage units to a centralized intranet. The ambitions were skyhigh at the beginning of the change process, where the company saw a need to change their way of working. However, with such a substantial change that would affect every employee of the company, there was a need to include everyone in the change process. Obviously, the change met heavy resistance from different individuals who were reluctant to changing the approach they have always been using to conduct their work. One way of getting everyone on-board is to ask said individuals how to get everyone on-board the new changes. If they can answer that, then they are already on their way of adapting their ways.

As for continuous improvements, the company are certified along ISO-14000 and ISO-27000, basically meaning that they follow guidelines for continuous improvements. It is believed from the interviewees perspective that this is due to demands from revisors or the owners.

Project Management

Within IT at company B, it is common to purchase IT-services as there are limited resources within the department. As such, the consultants bring their own expertise and project models. There is thus no predefined project model within the company, and the consultants are commonly using project management models such as XLPM, Wenell and Scrum. Company B sees no issues with the consultants using their own project models, as it is believed that they are the ones with specialized expertise. As such, everything IT-related is isolated to the IT department. Consequently, the rest of the organization is oblivious to the concept of agile. This can therefore be considered a challenge to becoming an agile organization, where knowledge spillover from the IT organization could help the organization become more knowledgeable about the matter. Associated with this, certain people within the organization are more knowledgeable about agile

than others, and more often than not, this person is a part of the IT department. It is therefore dependent on that person (or persons) to be able to communicate knowledge that could be regarded as tacit.

Industry

The actors within this segment of the industry are, according to the interviewee, very familiar with each other. As a result, everyone knows how the others are conducting their work. As for the customer side, the company does not actively work with trying to identify new customer trends. Basically, it is due to the fact that their customers are also those that deliver services to the company. However, looking from a political perspective, the company sees the challenges with policy changes that are continuously changing. They therefore feel the need to monitor information about political aspects in an early stage in order to act on the information. This is however regarded as a difficult task.

Digitalization

Digitalization according to the interviewee is the iterative process of the combination of technology which drives new services, which in turn generate new customer expectations, which in turn generate new demands for new technology. It is believed that the new customer demands come from young people, which is something the company always bear in mind. They keep themselves updated with digital trends and monitor the external environment. This is something that have become more prominent during recent years and the main driver for this was the onboarding of new and young employees who had an understanding of these bits.

Interview Company C

Background

The company is a major player within the personal hygiene and healthcare industry. The company has 45 000 employees and 80% of the total revenue comes from Europe. The interviewee has worked for the company for 35 years: 15 years within production, 10 years within technology, and 10 years as head of project management, where the interviewee has been part of the production set up in Russia, Slovakia and Estonia.

Company

The interviewee describes the company as rather flat, the organization has however moved towards being more hierarchical. The interviewee further states that the need to become more hierarchical has rose due to global factors, where a global presence requires a rather hierarchical structure. Moreover, the company culture is characterized by openness, where individual initiatives are welcomed and encouraged, the company also strives towards being a learning organization. The company implemented a large initiative in 2012 where the whole organizations was restructured which practically meant that every employee had to apply for their job. The organizations moved towards being more of a matrix-organization, where each division had their own business area. The employees had a positive approach to this change, but perceived the change as rather slow, since the focus was internally and not externally towards customers. The top management however, informed and communicated that this change was needed to remain competitive, which further calmed the employees. Moreover, the organization is described as rather young in terms of average age. The interviewee further states that the company does not have a designated team that works with continuous improvements, as it is deemed unnecessary since the culture is to constantly improve and reflect. Moreover, they work with ensuring quality by implementing HMEX (manufacturing excellence) which is a way to ensure that the company achieves the satisfied degree of quality.

Project Management

The company has a project model called prime, which is described as a waterfall method, which the company has used since 1995. Moreover, the company also has a designated project manager and project owner for every project. The company has however tried to implement agile project management models, but they were deemed as ineffective with the reasoning that they were not suitable for projects of larger nature, which the company's projects often are. Moreover, the nature of the projects is sequential, which is further explained as a reason to why agile methodologies does not work very well. The interviewee further states, that this is the bulk of projects, but it does however exist smaller projects. Moreover, the company works according to portfolio management, where every project with a budget of over 1 million euro gets collected into one portfolio. In addition, each department has their own portfolio. Moreover, the interviewee states that since the organization has transitioned into more of a matrix-organization, there has been a certain issue, since the IT department works according to agile methodologies while the rest of the company

works according to the waterfall model. The interviewee states that the top management does not understand the benefits of agile methodologies due to lack of knowledge. Furthermore, the interviewee differentiates between agile project management and an agile organization, where project management is more structured whereas organization is more of a culture.

Industry

The interviewee identifies 3 main competitors, where the interviewee is well informed of the approaches used by the competitors. The company constantly tries to identify new customer trends, and has a department called "Category Executive" where the involved members have a position on VP level from different categories such as marketing, technology, supply and so on. This team meets face-to-face once every third month and meets online every month. However, the interviewee further states that making an actual change to meet a radical change in demand would take a longer time.

Digitalization

The interviewee defines digitalization as everything one can exploit from the digital world to become more efficient. Moreover, the company has always worked with digitalization, but in the last 3 years it has become more important from a strategic point of view. Moreover, the company has divided digitalization into 3 different categories: 1: communication, e-commerce and marketing. 2: product development. 3: production and manufacturing.

Interview Company D

Background

Company D is a Swedish manufacturer of electronic applications and have approximately 130 employees and 400M SEK in revenues. The interviewee is the COO of the company and is also responsible for commercialization of their products. He has been at the company for 17 years and thus have a great knowledge about the companies as well as their working approaches.

Organization

The company has historically been a privately-owned company, but got acquired by a private equity company 4 years ago. The structure before the acquisition was considered relatively flat, but has been moving more towards a hierarchical structure as a consequence of new managers entering the company. The organizational culture has however remained the same post-acquisition, where a 'Swedish business mindset' is prominent with short decision-making lead times, flat leadership and open doors.

The company has tried to execute a larger organizational change with the purpose of becoming a more cross-functional organization. There existed a sense of uneasiness amongst the employees, mainly due to the uncertainty of what the result of the change would be. Something that should be mentioned is also that many have been working here a long time and when a private equity company acquires 'your' company, then there is always the risk of divestment of company headquarters. However, the private equity company made sure to becalm the employees and emphasize that they care about the them, ensuring that they would still be working with what they are doing today.

They have no designated team for continuous improvements, but work with internal business development on a strategic level and according to ISO 9000 on an operational level. On a more strategic level, it has been explicitly stated that they need to adapt in order to meet the demands of the market regarding competences, time-to-market and new technology in their projects. Furthermore, their customers are large global companies who have high expectations on the development of products.

Project Management

Company D does not execute their projects according to defined project model. Their projects revolve around two areas: internal business development and product development. The former is more about incrementally do things more efficiently, while the latter is more customer-focused. Product development projects usually start with some kind of R&D specification, then move on to production and finally commercialization, while continuously monitoring of product and project. The company has seen that it is a problem not having a structured project process to follow, and have been looking at Tieto's PPS project management model. There is a need for governance and cost control. The company's customers, who frequently visit their production site, have had opinions about their ways of working. Thus they feel that there are forces externally that drive this change, in combination with internal desire to become more structured in their projects.

The interviewee has a good grasp about agile methodologies, even though he has not worked with IT related tasks before. The primary explanation given was that he had looked into different project models, since the industry that they are active in require them to meet different kinds of demands. Thus it is believed that an agile approach to working could be a very effective approach to working. However, the company has very little knowledge about agile overall, which is a challenge in itself.

Industry

It is believed that agility is a very uncommon concept in this kind of industry. The interviewee could with high certainty say that next to no one works agile, even though there are different kinds of requirements changing rapidly at all times. The company has more specifically always tried to identify new customer trends and requirements within their areas of interest, as well as new technological developments. While they are not concerned with failing to meet customer demand, they are always on the lookout for new domains where they can be successful in, which an area of responsibility for the company's portfolio managers.

Digitalization

The company utilizes their systems mainly in their operations. Common systems are CAD-systems, component archives and Enterprise Resource Planning (ERP) system. The main purpose is to consolidate the internal information that they have. The rate of their digitalization has increased the recent years, as a result of organizational change and a new way of looking at supporting systems. It has gone from being a hygiene factor to something that can provide efficiency on a day-to-day base. Furthermore, new owners and managers coming in has required the organization to give rapid and accurate reports on a global scale.

Interview Company E

Background

Company E is a manufacturer who has products ranging from power distribution, climate control and electrical equipment, mainly focused within two divisions: industry and IT. The interviewee at company E is the Business Development Manager within the company's IT segment. He has been at the company for almost a decade and has had operative as well as strategic roles.

Organization

The companies structure is described as flat, where project managers are reporting to the directors between the two divisions. While there is a clear line of reporting, this is mainly for administrative purposes, and thus the interviewee argue for a flat organization. As for the organizational culture, there are cultural deviations between the industry and IT divisions which is something that has always been the case.

The company has done some organizational changes in the past, where an example of that is where the interviewee has transitioned from being the IT Project Manager to working with business development. On a process-level, their methodologies has also changed, where they have historically worked with waterfall processes, but are now aiming to find more agile ways of working. However, with the company's current infrastructure, the interviewee believes that they cannot be 100% agile. As some of the products they offer require installations, they cannot be changed after a certain point has been reached. Therefore, since an agile process focuses on the end-goal and not on the process of getting there, it may not be feasible to use agile the from start to finish.

Obviously, such a transition requires the employees to change their methodologies as well. This is seen as an ongoing work and therefore it is emphasized that continuously communicating what you are doing and why you are doing it is essential. The changes was necessary to be made.

Project Management

The companies methodology revolve around waterfall processes, and their ways of conducting their projects are not an exception. More specifically, they use a stage-gate model in order to plan and execute their projects. However, they have recently tried adapting some of the stages within the model to the agile principles, creating a compound model for working. So far, it has been successful. The interviewee believes that the only way to move in the future is to have an agile adoption in your projects. This is mainly due to the way that agile works. Within Scrum for instance, there are different goals and you have a Scrum master who is leading the team. There are thus similarities in the waterfall and agile since project owners controls at the gates. Management also has an influence in the process before it is initiated and executed. With that said, it is not 100% similar to Scrum, but due to the similarities between the two, it can be implemented in a way that we think and conduct projects.

The biggest challenge to agile implementation would be to create milestones in order to control the process, while also knowing the way you are going. Since it is not possible to back to a certain point, this deviates from agile since we cannot iterate when an infrastructure has been built. In facility management, you talk about power and cooling; IT thinks about servers and data; management looks at total costs. It is therefore essential to involve all parties in the process.

Industry

The industry standard is without a doubt working with waterfall processes. Company E is one of the few that has started experimenting with agile. The company also believes that they have a widespread knowledge about what is happening and where which allows them to adapt really fast. One primary determinant for the quick adaptation comes down to the involvement of people in different job functions who are looking at the market from different perspectives.

Digitalization

There is development in the industry where it is moving from robotics and automation, to Internet of Things (IoT). Basically, technology is driving the changes. The company is thus continuously looking at their daily routines in order to see how they can utilize technology. The digitalization has accelerated in recent years and can be attributed to the increased digitization happening in the global market. The company therefore senses the need to keep up with new technology in order to stay competitive and look at what customers expect.

Interview Company F

Background

Company F is a manufacturer of circuit boards based in Sweden, but has production facilities outside of Sweden. They have 250 employees, where 100 of them are based outside of Sweden at the production facilities. The interviewee is the CEO and thus has great knowledge about the organization, having been there for over 10 years.

Organization

The organizational structure is regarded as flat, both within management and on an operational level. The culture is value-driven, with quality, strong relationships and full responsibility as keywords which constitute the foundation of the culture. Approximately 10 years ago, an organizational change occurred where restructuring occurred with new owners entering the organization. Furthermore, a restructuring of their sales teams' responsibilities have shifted - every salesperson now works with the same customers as opposed to earlier. The change has been regarded as a success, where communication about why the restructuring was needed has been heavily emphasized. In the case that any employee has needed to talk about the change, top management's door has always been open for dialogues, further showcasing a flat structure within the organization. The company has also provided autonomy for continuous improvements within the different functions, allowing every function to manage their own improvement processes.

Project Management

Company F conducts projects in two ways; internal projects and customer projects. When it comes to internal projects, there is a lack of a defined project model. The main approach is to assign the project to a project owner, who assembles a project group. Usually, there is a known project group, and experts as well as external resources can also be involved. As for the customer projects, there is a structure which is being followed. Basically, it is a internal project model which provides guidelines for how to approach the project, who should be involved, how information transfer should be conducted and how to help the customer achieve value the quickest. There is always a project manager leading the projects and it has always been that way.

The interviewee has little knowledge about agile methodologies since before, but has had influences from employees within IT who possesses such knowledge. For instance, IT members have been involved in the internal projects and thus also contributed with an agile mindset, even though the internal projects have not been primarily revolved around IT functions.

Since the company is an actor on 40 different markets, the customer needs are different within each of the markets. With a local presence, the company can make use of their close relations in those markets and thus be agile. However, when it comes to other markets, where they have little presence outside of having minor sales functions, it is somewhat difficult. The ambition is to be able to deliver the same functionality to the every market, and thus agile might not be feasible as a standard solution.

Industry

Company F has little to no insight about other companies' project management approaches or if they are agile or not. However, an assumption is that this industry is very heavy on the waterfall processes. When it comes to identifying new customer trends, the company strive to always meet these as quickly as possible. For instance, they are conducting future strategy projects, where they try to answer questions such as how to be a strong partner. Also, they make use of customer surveys which are not anonymous, in order to enable follow-up questions to the customers. It is about an approach to communication and depends on customer needs and other actors' actions.

Digitalization

Digitalization according to the interviewee is the ability to simplify and minimize the needs for physical documents that needs to be transported. Increased traceability, quality, communication and dependability. In other words, it is about increased efficiency. The company have centralized systems and processes for communication. They are dependable on that everyone works digitally, especially when new customer inquiries are received. The end-goal is to work with Electronic Data Interchange (EDI), but remains difficult as product information is constantly changing.

Being digitalized, especially when it comes to communication is very important for the company, as they are reliant on being able to communicate to their offshore facilities in a swift manner.

Interview Company G

Background

Company G is an actor within the real-estate industry, which core business revolves around administering real estate for commercial use. The interviewees are the IT Manager and the HR Manager, who have been there for one and half year and two and a half year respectively.

Organization

The organizational structure is regarded as flat. As the company only has approximately 100 employees, there are not many hierarchies to build. The organizational culture is described as positive, creative and helpful amongst each other and has always been the same during the period that the company has existed. The company work with commercial real-estate, but this has not always been the case. Previously, it was divided into offices and retail, but has now been restructured so that it is divided into different business areas organizationally. This required the co-workers to find new ways and methodologies for working. Whereas they had previously worked in groupings of either offices or retail, they would now have to find ways to work cross-functionally. In order for the change process to be successful, it was heavily emphasized that everyone should be included in the change processes, where everyone was given the ability to talk about concerns regarding the implementation.

The company does not have a designated team for continuous improvements per se, but has a business development unit which works with larger changes towards customers. This is mainly to identify and manage new business cases.

Project Management

The projects that company G conducts falls within two categories; larger construction projects and administrative projects. When it comes to the construction projects, there are defined project models and templates for how to plan and execute the projects. The model is adapted from their parent company. As for administrative projects, the company has their own project model. It usually follows the process of a feasibility study which is delivered to a steering group with an associated project manager, who then has the utmost responsibility for executing and delivering results.

Agile project management is the primary way of working within their IT function. The IT Manager describes that they work in sprints and are continuously delivering results within their IT projects, which is a major difference from the waterfall processes found within the construction and administration projects. It is also the interviewees' perception that it is very hard to budget projects that are agile. Basically, the challenges an agile approach on a wider context is that the risks are correlated to the other projects that fall within the project's scope. Thus, it is more like a program than a projects.

Industry

The interviewees perception of the industry is that they are always working with the nature of the industry. This means that they are continuously changing and improving, which requires some type of project model in order to have a structured approach. In the case that subcontractors have their project models for construction projects, it is not seen as a necessity to use those. The company is constantly trying to find new customer needs, and believes that they can adapt and meet the new requirements and take action in a swift manner.

Digitalization

Digitalization according to the interviewees is about utilizing new technology that has previously been manual and analog processes. In other words, it is about disrupting themselves and always trying to find new ways of becoming more effective and efficient. They use IT systems and applications that are relevant for their work and if there is new technology which could aid them, they always strive to know more about it. It is believed that IT in real-estate is pretty new, and was something that was neglected before the IT Manager joined the company. Now, they are trying to find new customer needs with the use of IT strategies. Heavy emphasis is put on constantly trying out new things with customers in order to achieve the best results.

Interview Company H

Background
The company is active within the real estate industry and both administrates and builds real estates for commercial and private use. The interviewee currently has the position of head of project development, the department is a new division within the company as the company has previously only administered real estates but has now expanded to also building the real estates. The interviewee has prior to the current job a degree within civil engineering and has previously worked as an entrepreneur.

Organization
The company is family owned and the interviewee describes the company as rather flat where top management is easily accessible for every employee. The culture is characterized by generating value and as a result, the company is focused around the customer. As the company has only existed for 3,5 years, they have not experienced any major changes, and the culture has since day 1 always been centered around the customer. Although, the interviewee states that the company recently changed its strategic agenda from being a technical administrator an administrator which also includes building the real estates, thus they changed their strategic focus. Moreover, the interviewee describes the company as middle age, where there is no difference on the medium age depending on top management or lower positions. Furthermore, the interviewee states that the company is ISO certified and has one individual who is responsible for ensuring that the desired quality and employee satisfaction are achieved.

Project Management

The company currently has projects within the procurement of land and negotiation for building permit from the county, where the interviewee acts as a project manager. The interviewee states that they do not have any explicit project model that they are applying, instead they assess every project individually, and select the model deemed to be most suitable. Moreover, the company also assembles the project team using the same procedure, where the whole division is described as rather iterative and customer focused built upon front-end competence. The interviewee has extensive knowledge of agile methodologies, as she has encountered the concept several times, her perception of the concept is rather positive, where she considers the concept as successful, but not always suitable for every project. The interviewee raises a concern, where projects involving processes with a certain degree of recurrence, in such instances, the interviewee states that from a cost perspective, one would benefit more from using a standardized approach rather than an agile approach. However, the interviewee further states that for smaller projects where the end-result is not specified, an agile approach can be very successful.

Moreover, the interviewee states that the company does not use any agile project management model, but the approach suits them very well. Therefore, they have their own approach which has inspiration and a certain similarity with the mindset of agile methodologies. The interviewee further states that their current approach suits them very well as they are dependent on county and landowners. Therefore, the interviewee states that the company has to be iterative and flexible in

order to provide them with to ability to act on different opportunities. Moreover, the company does not have any IT department, instead they have outsourced this part, and keeps an close partnership with an external provider.

Industry

The interviewee has a rather good insight in the approaches used by competitors, where competition regarding procurement of land works in a similar manner as themselves. As for the competitors regarding administrations of real estates, the interviewee has no extensive knowledge of the approaches used. Moreover, the company places emphasize on understanding the customer, as a result they often engage in discussions with customers and previous inhabitant of the potential land to be procured, to gain an understanding of different customer needs. As a result, the company also identifies different customer behaviors, and can according to the interviewee transition rather fast to meet a change in demand.

Digitalization

The interviewee defines digitalization as the relationship between the remote and the TV, where she further states that digitalization enables us with many opportunities, but we can not really grasp all of the opportunities. The interviewee further states, that although they use systems to be more efficient, they do not work with continuous digitalization to be even more effective.

Interview Company I

Background

The company is a regional actor within the energy sector. The interviewee has previously worked as a consultant and entrepreneur. Currently the interviewee works as a project manager in a team of 12 people.

Company

The company is described as a matrix-organization with defined levels and has 3 different business areas: real estate, organizational development and innovation. The company has experienced a transition in scope and included organizational development and innovation due to an industry change in technology, and in order to remain competitive, the organization had to change. The company uses yearly surveys to assess the degree of employee satisfaction and benchmarks it against competitors. The interviewee further states the company implemented a business area target towards innovation with the purpose to look forward and identify new customer trends, the department also tries different areas and tries to identify which competency is needed in order to exploit that specific area. Moreover, the company also choose to decentralize the maintenance department, which was perceived negatively by the employees, due to a preconceived opinion that the company sold off the department. The top management however, communicated clearly why a decentralization was needed and what possibilities such a move would bring, which calmed the employees substantially.

Project Management

The company works differently depending on area, where projects within real estate follows a waterfall model, whereas projects within organizational development follows a stage-gate with predefined phases. The interviewee further states that they try to work more accordingly to agile methodologies in these phases. Moreover, the interviewee states that agile methodologies has its pros and cons, where agile methodologies are suitable for projects with influences from IT, and less suitable for projects with predefined goals. Moreover, the interviewee states that the company has adopted lean, and shaped it to suit their own business. Within innovation, the interviewee states that IT has brought knowledge of agile methodologies since some project managers who got recruited into the innovation department comes from IT. Apart from IT, the interviewee states that the organizations has a strong culture for waterfall models. Moreover, the interviewee identifies the industry as the main obstacle in a potential transition to a more agile project management. Where, the industry has a tradition of "this is how we work" and this tradition is deeply rooted, the leadership is also a problem where the leaders have often been engineers with a high problem-solving ability. However, in order to become more agile, there has to be a shift in leadership where the ability to solve problems is given to the employees instead of the leader assuming the full responsibility. The interviewee also states and provides examples of Vattenfall who initiated numerous innovative ideas but failed to realize them due to not being agile enough for such initiatives. Whereas EoN, has been very successful in its innovative initiatives, which according to

the interviewee can be described as attributed to the decision to decentralize the business into a less agile and more agile unit.

Industry

The interviewee is as previously mentioned aware that there is an ongoing shift in the industry, and he has a certain degree of knowledge regarding the approaches used by competitors. Moreover, the interviewee states that due to their size, they can adjust to changes in customer demands rather quickly.

Digitalization

The interviewee states that digitalization is the external opportunities. However, these opportunities brought by digitalization can also be used internally to streamline the organization. Moreover, the company has always worked with digitalization, but it has accelerated in the last few years as the company have realized the opportunities that digitalization brings. The interviewee also states that the company has started to digitalize the projects and is now also moving towards a portfolio management to become even more effective.

Interview Company J

Background

The company is active within the energy sector, and the interviewee has the position of a manager within strategy and development. The interviewee has extensive knowledge from different roles prior to his current job. Where, the interviewee has previously worked as a developer, project manager, technician and consultant within the IT sector since he graduated in 1995.

Organization

The organization is rather hierarchical at the moment as the company has been structured around responsibility, which the interviewee highlights is rather common amongst hierarchical companies. But the company is progressing towards being flatter. The reasoning behind this is that the company has identified a need of being more customer driven in order to remain competitive, as a result the hierarchical structured was assessed to not be fast enough in regards to response time and was deemed to not be suitable as the company wanted to achieve cross-functional collaboration. Moreover, the interviewee describes the culture as being open to change, mainly due to the support and emphasizes from the top management. The culture has not always been the same however, the culture has changed to being more open to changes due to the identified need of being more customer driven. Furthermore, the interviewee states that the company has a team that works with continuous improvements, this team however, have the customers as a main focus and the firm comes in second hand.

Project Management

The interviewee states that the company has two different projects: developing projects and building projects. For the developing projects, the company uses a special model which was bought back in 2001. The interviewee describes it as a simpler version of a waterfall model, but slightly adjusted in the sense that it is more generally applicable but still has the original requirements, the adjustments were made as the original model were intended for industrial firms, and thus not suitable for developing projects. As for the building projects, the interviewee states that they do not have any explicit model that they are using, instead they are using a wide variety of models based on the assessed need. Moreover, the interviewee states that developing projects always have a project manager, while the building projects uses a variety of project owner and project manager based on the assessed need.

The interviewee states that the IT department works extensively with agile methodologies, where a degree of spillover regarding knowledge of agile methodologies has been achieved since the firms has progressed towards working more cross-functional, which has resulted in that individuals participating in cross-functional projects brings back knowledge of agile methodologies to their own line organizations. Moreover, the interviewee himself is well informed regarding agile methodologies, and he states that his perception is that they are useful in the sense that they are business oriented and are suitable for team-based projects. The interviewee however, states two main concerns regarding a company wide implementation of agile methodologies. Where the first

one is an expressed concern regarding the potential value an agile project management model would add, as certain projects are more standardized, in those instances an agile approach would not add any value. The interviewee instead states that each projects should be assessed individually, and the project model that is assessed to be the most suitable should be selected. The second concern is regarding the leadership, where the interviewee raises a concern regarding the leadership at firms. The interviewee states that management courses do normally not teach students how to manage from an agile perspective, as a result few leaders implement agile methodologies. Thus, the relationship between management and lower positions needs to be changed in order to successfully implement agile methodologies.

Industry

The interviewee states that due to the size of the industry they operate in, it is likely that competitors work with different models. The company also has collaborations with other companies, where some are repetitive partnerships, while others are new. Moreover, the interviewee also states that as the company has become more customer driven, they have as a result become more apparent of customer trends and potential changes in customer behaviors.

Digitalization

The interviewee defines digitalization as a trail of which one can follow, where digitalization is an extension of the automatization that has occurred within the society in the last decade. The interviewee thus states that digitalization can shortly be described as continuous automatization of processes. Moreover, the interviewee states that the company tries to become even more digitized, which is a result of the increased availability of more advanced technology.