



Managing a Lean-Agile Leadership Transformation in a Traditional Organization

Master Thesis in Supply Chain Management and Management and Economics of Innovation

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Cover:

[The picture describes the 12 principles in the agile manifesto (Murman, 2014)]

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Abstract

For a long time, many of the mainstream leadership principles have originated from scientific management, created by Frederick Winslow Taylor during the industrial revolution. These management principles rely on a high level of command and control from managers, and little, or no, thinking from employees in the organization. However, in the early 90's, businesses started to move faster, which made organizations experience new requirements of shorter time to market and constant demand for new innovations. In addition, the organizational context also changed. Today, organizations must adapt to a situation of more educated workers, disruptive technology and a complex market situation. One way of meeting the new requirements set on organizations is called lean-agile, which derives from the lean and agile principles. Lean-agile aims to address the issues of shorter product development lead times and encourage constant innovation, with respect to people and focus on flow. With these new requirements at hand and a new organizational context, organizations can not be managed in the traditional tayloristic way anymore.

This thesis investigates the area of lean-agile leadership from two different perspectives. To start with, the thesis investigates what barriers that exists, and what change that is required, in an organization when transforming a traditional leadership style to a lean-agile leadership style. Secondly, it examines how the leader role change, in terms of strategic and operational activities, when transforming the leadership. To conduct the data, an inductive approach was used to be able to combine observations with theory to get an in-depth understanding of lean-agile leadership. It also contributed to an exploratory approach, where the findings guided the continued direction of the study. The research consisted of 11 interviews at GTT, 4 benchmark interviews, and 2 expert interviews.

The results of the investigation showed that there exists *five* main barriers to lean-agile leadership at GTT. These are the *combination of project and lean-agile structures, HR policies, decision-making process, organizational culture, and leadership mindset*. The required change are related to these barriers and further explained in the report. The investigation also showed that due to the change of the function of the manager, the strategic and operational activities will be changed. There exist *nine* activities that are considered to be the most important activities of a lean-agile manager. These concerns *motivation of teams, empowerment, aligning constraints, creating ways of sharing competence, creation of a suitable structure, creation of flow, encouraging innovation, managing the backlog, and having direct communication with employees*

Keywords: Agile, Lean, Tayloristic organizations, Traditional leadership, Agile leadership, Lean leadership, Change theories, Culture, Disruptive market, Motivation.

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The master thesis work at Volvo Group Trucks Technology is our last step before graduating. It has been a really interesting and fun journey this spring, and we are so grateful for all the inspiring people that we have met. The area of research, lean-agile leadership, was new to us before the investigation. The master thesis work has really sparked our interest for both leadership, and lean-agile methodologies. We believe that lean-agile will be increasingly relevant in the future, and that many organizations will benefit from this type of leadership and methodology.

First of all, we would like to thank Volvo Group Trucks Technology, and our supervisor Fredrik Westin for letting us conduct this thesis. We really appreciate the opportunity and all the support that we have got during this spring. Thank you!

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1. Introduction

Volvo Group Trucks Technology (henceforth GTT) is the second largest heavy-truck brand in the world. The vision of GTT is “*To be the most desired and successful transport solution provider in the world*” with the mission of driving prosperity through transport solutions (Volvo Group, 2017). In line with this vision and mission, this chapter will introduce the concept of lean-agile leadership, its relevance to GTT and how this master thesis aims to investigate this further.

1.1 Background

Most of the mainstream management theories of today is based on what Frederick Winslow Taylor called *Scientific Management*, which emerged during the industrial revolution (Grönroos, 1994). The focus of scientific management was to produce high-volume, relatively inexpensive and standardized products to achieve economies of scale (Spender & Kijne, 1996). This also corresponded to the definition of efficiency at the time, which was to produce as much goods as possible at the lowest cost (Peaucelle, 2000). The manager's responsibility in scientific management was first of all to be responsible for planning the work and how it should be executed to achieve maximal efficiency (scientific management, 2016). When industries and markets evolved, it was no longer sufficient to have as much goods as possible produced at the lowest cost, as an efficiency measure. In today's market context, just-in-time, quality, diversity and flexibility must be incorporated in the evaluation of how efficient an organization is (Peaucelle, 2000). The new efficiency measures created new demands on how organizations were managed and how their resources were utilized. Therefore, many organizations tried to reduce the polarization between elite and routine workers to achieve higher involvement and respect between workers (Pruijt, 2000).

In today's organizations, many of the Tayloristic behaviors are still present (Peaucelle, 2000). One example of this is that many organizations are organized in different forms of project structures, with a project manager who is planning all the work to be executed (Maylor, 2010). This was also the case in the software industry, where most of the development was executed in different kinds of projects according to the waterfall model (Hughey, 2009). The waterfall model is a sequential model that describes the process of software development, divided into different phases in the project. However, the model is not a single-pass sequential model, but instead iterative where each phase in the model is passed at least twice as described in figure 1.1 (Royce, 1970).

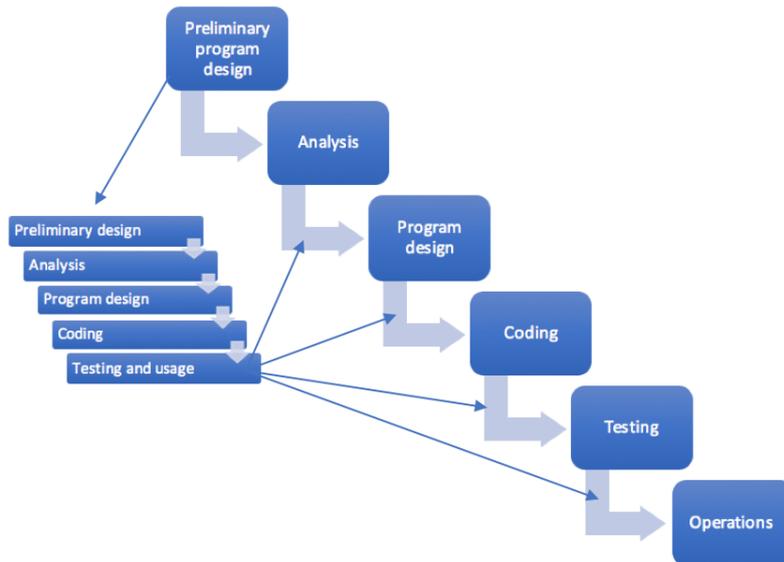


Figure 1.1: The Waterfall Model (Royce, 1970)

Many project managers have misinterpreted the model to be a single-pass sequential model, where work is not iterated with the customer. This has caused some problems in the product development phase, since all customer requirements must be known from the start for the project not to change scope. However, this is seldom the case which is also why the model has received critique for being inflexible and having long delivery times when customer requirements change (Hughey, 2009).

In the 1990s, businesses started to move faster, and leaders were becoming frustrated because of the long lead times and lack of flexibility in software development. Decisions made early in a project were difficult, or even impossible, to change (Varhol, 2017). In the mid 90's, Bower and Christensen (1996) introduced the concept *disruptive technologies*, which describes technologies that presents a package of different performance attributes. These technologies damaged many established companies and their strong position in the market. Established companies suddenly became threatened by new entrants, that were able to gain market share by quickly embracing new technologies, and deliver them to the market (Bower and Christensen, 1996). In addition, the amount of technology increased in the 20th century, while the number of industrial workers decreased (Drucker, 1994). The industrial era that were characterized by predictability and best-practice solutions, were replaced by a knowledge society, characterized by technology, and complexity in the marketplace (Appelo, 2011). Furthermore, the educational level in societies across the globe increased, and in 1994 the term *knowledge workers* were coined. The term *knowledge workers* describe educated workers whose main capital and asset is knowledge (Drucker, 1994). The rise of the knowledge workers brought new challenges to organizations, since the productivity of these workers were not easy to measure. Moreover, there were no perfect way to define and describe the knowledge worker's duty and summarize them in a set of repetitive and standardized tasks to perform. Instead, knowledge workers had the requirements of being creative and innovative when solving problems, which required a space were skills and talent

were utilized in the best possible way (Medinilla, 2012).

With a new organizational context of both more educated workers, disruptive technology and a complex market situation, organizations can not be managed the same way anymore (Snowden & Boone, 2007; Vesterby, 2008; Dekker, 2011; Cilliers, 1998). From a management point of view, this means that the Tayloristic view of constantly investigating cause-and-effect relationships in the market place and thereafter developing best-practice solutions as countermeasures, must be challenged (Kurtz & Snowden, 2003). In this context, it is considered almost impossible to predict future events and outcomes due to the large number of elements that are interacting with each other. As a manager, it can therefore be devastating to set business goals and outcome in advance, due to the low accuracy of the plans made. Managers must therefore be patient and apply a flexible mindset for the path forward to reveal itself by trials and experiments, which is the opposite of the Tayloristic management style of command-and-control with heavy front load planning (Kurtz & Snowden, 2003).

In early 2000s, the agile principles emerged as a response to the dysfunctional project models with inflexible working conditions and long delivery times. Instead of focusing on project related matters such as heavy front load planning, phase gates, resource allocation and budgeting, agile development focuses on shorter planning horizons to be able to respond to quick market changes and changed customer requirements (Abbas et al., 2008). From an employee perspective, it was realized by the IT-industry that IT-projects that succeeded were performed by self-organized small teams, that produced working software in short iterations. This way of working allowed frequent feedback from the customer, which made it possible to adapt and extend requirements during the development. This situation allowed for both speed and quality to be improved, which made this type of software development process extremely popular (Medinilla, 2012). When agile first came, it was developed for small companies with smaller development teams (Heusser, 2015b). However, complex market situations and the need for responsive development did not only apply to small software companies, but larger organizations in other industries as well. Therefore, the industry expressed a need for ways to scale agile development to larger enterprises. Today, some of the most widely used frameworks for large scaled agile development are SAFe (Scaled Agile Framework) and LeSS (Large Scaled Scrum). These frameworks are engineered to keep the benefits of the agile principles with increased innovation and speed, without sacrificing synchronized alignment, collaboration and delivery of product development initiatives (Heusser, 2015b; Scaled Agile Framework, 2016).

The case company

GTT is currently organized in a so called matrix structure, where projects are combined with line management. The project's main responsibility is to make sure that the customer demands are met but also to estimate resource consumption. The lines responsibility in this context, is to provide projects with the capabilities and competence necessary to accomplish the work. One such competence is the electrical competence provided by the line

organization Electrical & Electronics Engineering department (henceforth E&EE). In 2014, an initiative called EvolvE was taken by E&EE to achieve the goals of reducing product development cost and lead time at the E&EE department, but also increase flexibility and innovation in the company. In 2016, it was proposed that a lean-agile transformation, according to the framework SAFe, should be implemented. The E&EE department at GTT, was in the initial phase of implementing SAFe when the master thesis was written. During the spring of 2017 they started to operate according to the principles of the agile manifesto and SAFe. The implementation was executed from a bottom-up perspective, which meant that the team and program levels of SAFe started the implementation, as described in Figure 1.2. However, GTT had not yet decided the extent of the transformation horizontally or vertically in the existing organizational structure.

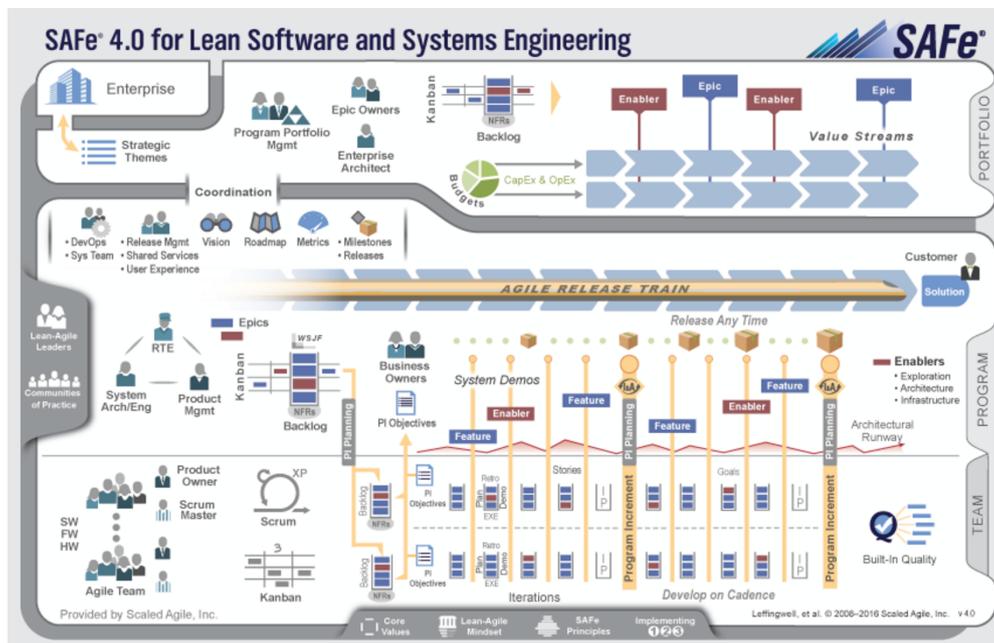


Figure 1.2: Scaled Agile Framework (Scaled agile, 2017)

GTT was currently using a traditional model for their product development initiatives (Volvo Group, 2017). In this context, the traditional model was a combination between *phase-gate* and *V-model* techniques. The phase-gate model is comparable to the waterfall model where the steps in the development process is divided into stages and gates, where the criteria for passing through a gate is decided in advance. When applying gates between the different phases, project progress can be reviewed and decided upon whether the project is allowed to continue forward or not (Maylor, 2010) The V-model can be seen as an extension of the sequential waterfall model where a development phase and the corresponding testing phase of the product is planned in parallel, therefore it is called the V-model (Powell-Morse, 2016).

This means that the traditional organizational structure was operated in some parts of the company, while the lean-agile structure was operated in other parts. One of the reasons why the lean-agile methods were not implemented to a greater extent, was that there existed a high uncertainty of how to translate SAFe and the lean-agile methods into the traditional

organizational structure and vice versa. Additionally, there was an uncertainty among both knowledge workers and managers about how their daily work were going to be affected due to the introduction of SAFe and the lean-agile methods, and what consequences lean-agile will bring to the daily work. Therefore, it is important to educate the employees in both how the agile methods work and how this will affect their daily routines (Moravec, 1999). This especially applies to the managers in the company, since lean-agile leadership constitutes the foundation in the framework SAFe (Scaled Agile, 2015). At the same time, management is stated to be the biggest obstacle to a lean-agile transition (Appello, 2011). Therefore, the barriers towards lean-agile leadership must be investigated to make the transition as smooth as possible to provide the right conditions for E&EE managers and their expected new activities and function.

1.2 Purpose

The purpose of this master thesis is to investigate how the leader role change in a company that goes from working in a traditional organization to working lean-agile, and what change that is required in order to create lean-agile leadership.

The investigation will analyze the existing leadership structure and current roles of the leaders, which will be compared to the requirements of lean-agile methods and how other companies have shaped the leader role. This will include how the leader role will change, in terms of both strategic and operational activities, but also the required mindset. The goal of the investigation is to provide GTT with a picture of the future lean-agile leadership, and present the characteristics of the activities performed by lean-agile leaders. In addition, the master thesis will also provide GTT with a recommendation of what change that is required, in order to achieve this future state.

1.3 Problem Analysis and Research Questions

A management style used for many years in traditional organizations is command -and-control management, which is based on a strict hierarchy of authority. This management style works well in non-innovative projects that do not require much creative thinking (Appello, 2011). Medinilla (2012) states that a different skillset and mindset is required when leading in a competitive and highly innovative environment. When adapting a new leadership style, it is interesting to examine how the surrounding environment and organizational structures affect the new type of leadership. If conflicts between the new leadership style and the surrounding environment exists, these conflicts needs to be addressed to successfully change the leadership style. Therefore, it is interesting to investigate what barriers and structural changes GTT must consider in the change process when transforming to lean-agile leadership, which leads to the first research question:

What are the barriers and the required change when transforming traditional leadership to lean-agile leadership?

Agile methods have become an appealing alternative for many companies, but the philosophy was originally designed for small teams in smaller companies, which should self-organize around a problem (Dikert., et al 2016). A self-organized team can be described as a self-regulated group of people who manage and plan their daily activities under no, or reduced, supervision from management. However, in many cases organizations find it difficult to transform from a hierarchical structure to an environment where smaller teams have responsibility for their own decisions. This structural change is often met by resistance and misunderstandings (Parker et al., 2015). Resistance can first of all emerge from a new way of working, but also new attitudes and behavior that has to be applied to make the self-organized team succeed. The misunderstandings are often rooted in the fact that management no longer know what they should and should not do when teams self-organize. In order to overcome the resistance and misunderstandings, it is important that managers participate in the transformation to raise the understanding of lean-agile methods, so that resistance can be broken (Moravec ,1999). Through this, managers will get a better picture of what the lean-agile concept means in their own context. Hence, it is interesting to investigate what function managers should have when teams self-organize in lean-agile environments, which leads to the second research question:

How will the leader roles change, in terms of strategic and operational activities, when a traditional organization transforms into a lean-agile organization?

1.4 Delimitations

The study will be limited to group manager (GM), group technology manager (GTM) and vice president (VP) levels at GTT. The study does not suggest any specific leadership activities and changes for each level, but should be considered general for GTT in the lean-agile environment. Furthermore, the thesis main focus of the thesis will be on the required change, not the specific change process itself. However, suggestions of how to proceed with the change are proposed in the recommendation. The recommendations provided will only concern GTT and none of the benchmark companies. Finally, no changes in the organizational structure will be proposed in this study.

2. Theoretical Framework

This chapter summarizes the theory that were found during the literature study. The theory that is presented describes traditional organizations, the changed industry, lean and agile theories, culture theories, and finally, change theories.

2.1 Traditional Organizations

In this section, the context of traditional organizations will be described, but also why the leadership styles of today is shaped as it is and what roles traditionally managers have in the context of our case company.

2.1.1 Traditional leadership

Most of the mainstream management theories of today is based on what Frederick Winslow Taylor called scientific management, which emerged during the industrial revolution (Grönroos, 1994). Therefore, will this chapter start with a presentation of the Tayloristic view of management and follow the development of leadership through times.

Taylorism and scientific management

The twentieth century has been known as the mass production century, due to its focus on producing high-volume, relatively inexpensive and standardized products, with the aim of achieving economies of scale. When scientific management was implemented in full, it consisted of five corner stones: time studies by stop-watch, a central room for tools, one department specialized in planning, a differential piece rate system, and a functional foreman as a supervisor (Spender & Kijne, 1996). From a managerial point of view this means that the managers should have all responsibility for planning the work, using scientific methods to describe exactly how the work should be executed to achieve maximal efficiency. The workers should be monitored and controlled in terms of following the specification of best practice (Scientific management, 2016). The planning department, could from these best practices anticipate the number of parts produced per time unit and calculate return on invested capital, which aimed at providing management with a sense of control of how the business was running (Spender & Kijne, 1996).

Post Taylorism

The main objective in Taylorism was to produce more goods at the lowest possible cost, which at the time was also the definition of efficiency. However, since markets evolved these efficiency measures have grown old. Nowadays, measures such as quality, diversity, flexibility and just-in-time must be incorporated into the old efficiency measure as well (Peaucelle, 2000). The fact that the old definition of efficiency was insufficient, made the managers rethink how to use their resources and especially the human resources connected to the organization. A higher respect and involvement of workers was needed, which was also why a decreased polarization between the elite and routine workers had to be implemented in

many companies (Pruijt, 2000). However, even though the efficiency measures of today have changed and more companies realize that they need to use their human capital better, there are still plenty of Tayloristic behaviors in many organizations (Peaucelle, 2000; Pruijt, 2000). This can be explained by two main attractive views which the Tayloristic management philosophy promises. The first promise provided by Taylor, is that the best possible method will be used, which consequently asks the question, does one best possible method to work exist in our company? The second promise made by Taylor was named “Systematic soldiering”, which today connects to standardized work sheets and processes. Taylor meant that when workers are given autonomy, they do not put in maximal effort when they are operating in a mass production context, which will reduce productivity and efficiency (Pruijt, 2000). One of the major drawbacks of Taylorism, which also hindered Taylor in his efficiency measures, is that this management philosophy involves the creation of a high number of jobs for non-value adding supervisors. This since as much thinking as possible should be done by supervisors and bosses (Peaucelle, 2000). This is also something that exists in many companies even after the Taylorism, where organizations have a high number of bosses and supervisors, which are responsible for different matters in the organization (Pruijt, 2000).

2.1.2 Traditional Organizational Structure

When examining the existing organizational structures, there are three structures which stand out as the most used of today: functional structure, project structure and matrix structure. The fundamental idea of having organizational structures is that it help the organization with the authority and reporting relationship within the organization (Maylor, 2010). In highly technical organizations it is common for organizations to apply a matrix organizational structure. The matrix organization is defined by the fact that most workers in the enterprise have two bosses, one project manager and one line manager. The project manager's responsibility is first of all to have contact with the customer and make sure that customer demands are met. But also to manage and organize work so that these demands are met. The line manager's main responsibility is to provide the projects with the capabilities to accomplish the work, i.e. to make sure that the right competencies are in the right projects etc (Baroff, 2006) But also to be responsible for production related matters such as operations and manufacturing (Siugzdiniene, 2008).

2.1.3 Project management

The role of the project manager is often described by being responsible of the process of initiating, planning, executing, monitoring/controlling, and closing the project (Lewis, 2006). Since numerous articles and books have been written about the project manager's role, one have been chosen to create coherence in the description of project management. The description described below is provided by Maylor, (2010) with the definition of the project process as Define it, Design it, Do it and Develop it which is described below.

Define it

Maylor (2010) explains that this phase normally starts with collecting and agreeing on the project's objectives with all stakeholders involved. This means setting up requirements of the project and expected outcome. Furthermore, measures to be able to determine whether the project have been successful or not, must be set in advance. The next step of a project is to create an initial plan of what is supposed to be executed, but also what process that are supposed to be used during the project (Maylor, 2010).

Design it

The design phase starts with breaking down the initial plan into a more detailed plan. This means that all the component of a project is broken down into smaller pieces that are time-estimated. This is also called a work break-down structure (WBS). Furthermore, scenario planning must be conducted to determine what is most likely to happen in different phases of the project. The WBS is often translated to a Gantt-chart, which aims to explain what and when different activities should take place. In this phase, the constraints of the projects must be determined to have a better understanding of what parts that might take longer time, increase costs or reduce quality and performance of the projects. But also, the desired level of quality in the projects different parts must be planned and communicated with the stakeholder (Maylor, 2010).

Do it

When the project faces the execution part, the project manager's role as a manager is vital to the project success, where numerous leadership styles exists and is thoroughly discussed in academia (Maylor, 2010). This includes, both motivating project team members, managing organizational structures and culture, and having the right skillset and education. Moreover, Maylor (2010) states that smaller projects with low complexity might be possible to run without any control mechanism, but for medium and high complexity projects it is paramount that the PM keeps and maintains control of the project. In addition, the PMs need to take a significant portion of strategical and operational decisions during the execution phase, but also solve problems and hindrance that are in the way for the project team (Maylor, 2010).

Develop it

When the project is executed and delivered it is of significant importance that the organizations is learning from what was successful and less successful in the project. This often means a comparison between the procedural conformance and the actual project performance. This naturally means documentation of the project process and all the steps included.

2.1.4 Line management

For line managers, not as many articles and books have been written on how to execute the work in a matrix organization, which is why multiple authors will be used. However, the literature review concluded a few over-all responsibilities within line management: Managing

people, resource management, performance management, developing people and managing reward, which are all described below.

Managing people

It is often the line manager's responsibility to handle the people management issues, which are all matters related to the work environment, both physical and psychiatric issues, and also to motivate the subordinates and improve the environment (Gilbert et al., 2011). Furthermore, it is also the line manager's responsibility to delegate authority to subordinates in the organization to execute the work. It is often considered a key challenge in many organizations to determine how much authority that can be delegated to be able to maintain and keep control (Nagar, 2002). In connection to delegation, it is also the line manager's role to determine what and how much information the subordinates should have regarding their work and the organization as a whole. This implies that effective communication channels and skills are required by the line manager (Maddox, 1990). Moreover, the line manager has the responsibility to organize the work in terms of who does what, but also to synchronize the workflow between the different elements (Armstrong, 1998).

Resource management

Even though it is often HR that sets recruitment and selection frameworks for hiring new employees, it is often the line manager who makes the final decision about recruitment or not for the available position. This naturally involves analyzing and producing role descriptions with HR, investigating and analyzing the need of competence etc. But also, to conduct and hold interviews with candidates (Whittaker & Marchington, 2003).

Performance management

As stated earlier it is the line manager's responsibility to enable a high level of motivation among the manager's subordinates. It is also shown that with a higher level of motivation the individual performance will increase, which is why this area cannot be stressed enough (Alfes et al., 2013). When examining the performance of both teams and individuals below the line manager, it is the line manager's responsibility to make sure that they have the best possible environment to succeed within their roles. This means setting up processes and structures to enable continuous performance management. Furthermore, it is the manager's responsibility to have performance reviews and goal setting with employees to make sure there is continuous improvement of performance in place (Armstrong, 1998).

Developing people

When developing people from a line manager's perspective there are two main areas which stands out as having significant impact on how subordinates learn, excluding courses and different training programs, which are coaching and team-working (Hutchinson & Purcell, 2007). First of all team-working is seen as a good way to learn on the job, since the team can learn each other shortcuts in how to perform the tasks, the line manager is here vital since they both create the team but also make sure that the team functions effectively. Secondly, there are a strong correlation between coaching and employee commitment, satisfaction,

motivation and learning if coaching is provided by the line manager. This is preferably executed on a one-to-one basis (Hutchinson & Purcell, 2007).

Managing reward

Since almost all profit driven organizations develop strategic plans that call for new product introductions, organizational structures and introduction of new technology etc. These plans must naturally become operational in order to succeed. Setting goals and strategies are often necessary means but must be followed up with performance review, explained earlier. The performance must be measured and followed up to be able to identify ‘what counts’ in the organization. This is also the line manager's opportunity to make what the organization values explicit and reward such behaviors (Schneier, 1989). Furthermore, it is also the line manager's responsibility to manage the pay system in terms of salary for the individuals. This often means connecting back to the personal development plan, and the performance review of the individual to set a fair salary (Armstrong, 1998).

2.2 Why Leadership Change is Needed?

The sections in this chapter, “*Why leadership change is needed?*”, deals with complexity theory, the concept of knowledge workers, motivational theories, and changed market conditions. When performing the literature review, these areas were all pointed out by different authors as reasons why a leadership change is needed in more complex organizational environments. The relevant theory is further explained below.

2.2.1 Complex systems theory

Complex systems and its corresponding theory have been used at several occasions and studies throughout history with various definitions and interpretations (Saurin et al., 2013). However, a few general characteristics can be found that have been used to describe complex systems:

A large number of dynamically interacting elements

Dynamically interacting elements means that the system is changing over time with nonlinear interactions between elements. Such a system is exemplified by a small change in cause but a significant change in the outcome of the system. In many cases the interactions between the elements are tightly coupled, which means that there are interdependencies between i.e. teams, production sequences, and different tasks. This allows for fast reproduction of errors, and the isolation of the root cause of the problems becomes difficult (Snowden & Boone, 2007; Vesterby, 2008).

Wide diversity of elements

The relationship among the elements display a variety in terms of information exchange, cooperation degree and level of shared objectives between elements in the system. Furthermore, the elements are separated in terms of inputs and outputs, hierarchical levels,

specialization and division of tasks (Dekker, 2011; Vesterby, 2008)

Unanticipated variability

The system experience a high level of uncertainty originating from the high number of interactions between elements, the uncertainty is further extended through the receiving of indirect information sources. These complex systems often interact with their environment, which means that they are constantly changing to adapt to their environment, which naturally cause for variability. Finally, these systems often experience emergence phenomenon from the previously mentioned interactions between elements, which is a well-known cause of variability (Snowden & Boone, 2007; Kurtz & Snowden, 2003; Cilliers, 1998)

Resilience/elasticity

Resilience or elasticity refers to a system's ability to change its function in advance, during or according to changes and disturbances in its environment with the underlying aim of sustaining its operation when both unexpected and expected new conditions occur. This means that the system must adjust its performance when there are gaps in the existing procedures i.e. too little specifications for an expected situation or too much for an unexpected situation. These performance adjustments are in many cases guided by feedback from organizational history and current or recent events, which means that complex systems theory assumes that the organizational history is co-responsible for its current behavior. To enable the resilience and elasticity, complex systems often self-organize to spontaneously or adaptively change internal structures when needed, or the existing environment requires it. (Dekker, 2011; Cilliers, 1998)

2.2.2 The Cynefin Framework

The Cynefin Framework was derived from several years of research from the use of complex systems theory, organizational knowledge sharing, decision-making, strategy and policy making. The framework can be described as a way to consider the dynamics of a situation in order to reach consensus for decision-making. In other words, the framework help executives to sense what situation they are currently in, so they can make better decisions of how to manage their teams and avoid problems related to the context specific situation (Snowden, 2007). As can be seen in the Cynefin Framework (Figure 2.1) there are five different areas, where four of them are named as Simple, Complicated, Complex and Chaotic. The areas to the right are classified as those of order and the areas to the left, classified as un-order. In the middle is the area of disorder (Kurtz & Snowden, 2003).

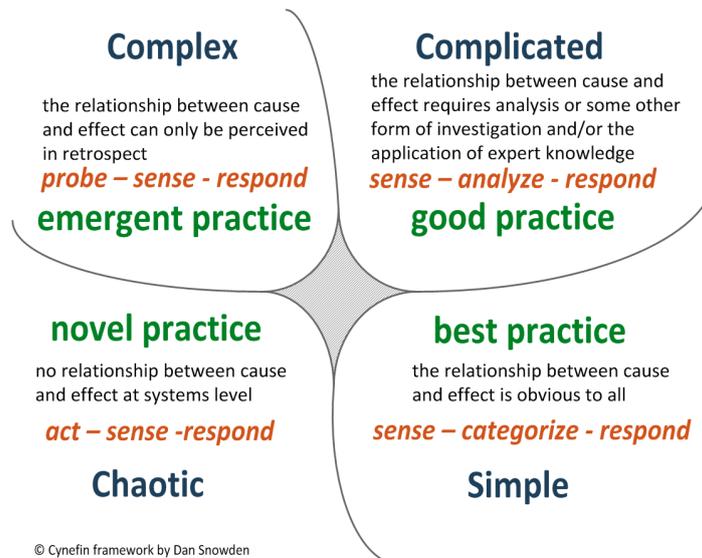


Figure 2.1, The Cynefin Framework (Kumar, 2015)

Managing Simple

The simple environment is characterized by clear cause-and-effect relationships with high levels of stability. The cause-and-effect relationships are easily recognizable by everyone and the right answer is often obvious in its nature. Therefore, decisions made in a simple context are often undisputed since all parties involved share an understanding of the problem and decision. A typical example of simple a context is order loan payment processing. This context often experience little or no change in problem formulations, which means that problems of same nature often occur (Snowden, 2007b). The management of simple contexts is relatively straightforward. The manager assesses facts of the situation, categorize them and respond to the situation on established best practices. Since managers often have the same amount of information as the employees in simple contexts, command-and-control leadership style works best to set the rules of how the situation should be handled. The directives given to the employee are straightforward, and the possible decisions can easily be delegated (Snowden, 2007a).

Managing Complicated

In the complicated context, a stable cause-and-effect relationship exist. However, this relationship may not be fully known to everyone. In this context, several right answers may occur, which requires a sense-analyze-respond approach. This is considered as a more difficult process compared to simple contexts and often requires expert’s involvement (Snowden, 2007 a). The management of a complicated context often contains several options, which all can be considered excellent solutions. A typical complicated situation is the search for oil. This situation often requires a group of experts, where several locations may be subject for drilling with several variables affecting the best place to drill. This situation often requires extensive analysis to gain understanding and evaluate consequences of the drilling (Snowden, 2007 a).

Managing Complex

In the complex domain, the relationship between elements are described by the complex systems theory and the interactions of numerous agents (Kurtz & Snowden, 2003). When comparing the complicated context to the complex, the first difference is that the complicated have at least one right answer whereas in the complex, the right answer cannot be sought out. An exemplification is to compare a Tesla with a rainforest. A Tesla car is a complicated product, but an expert in the field of mechanics can take the Tesla apart and assemble it again without changing its function. The Tesla is described as static and the function of the car is the sum of its ingoing parts. The rainforest on the other hand, is constantly changing. Weather conditions change, species die and water streams reroute to new places. But the function of the rainforest is far more than its ingoing parts. From a management point of view, it is important to not set the course of action for their business, and instead be patient for the path to reveal itself from experiments. A good example of a complex situation solved in this way was the Apollo 13, where the astronauts experienced a problem. The team on the ground was introduced to a problem, set with the resources available and a leader who explained the context to them. None of the group members in the expert team knew how to solve the problem in advance, instead they had to probe-sense-respond and let the path reveal itself (Snowden, 2007 a).

Managing Chaotic

In the previous mentioned domains, there has been some or clear relationships between cause and effect. In the chaotic domain, no such correlation exists. The system itself is turbulent and there is no time to investigate different changes that may occur. A leader must first of all stop the chaos and start to establish order, which means that the situation is preferably handled in an act-sense-respond way. (Snowden, 2007 a) From a management point of view it is important that the manager's first response is an action towards establishing order due to the time constraint, which often occur in these types of situations. In this context, a direct top-down leadership approach is preferable since there is evidently no time for input or further analysis of the situation. Unfortunately, most of the descriptions of a successful leader comes from the chaotic domain where good crisis management has been applied. Most business try to avoid the chaotic domain at all cost. However, the chaotic domain is considered to nearly always be the best domain to increase innovation. An excellent technique to master crisis is to manage the crisis in parallel with innovation, since people in general will be more open to new ideas to resolve the issue (Snowden, 2007 a).

2.2.4 Knowledge Workers

The term *knowledge workers* were coined by Peter Drucker and can be described as workers whose main capital is knowledge and their main job is to work with information (Appelo, 2011). Examples of knowledge workers are software engineers, architects, analysts, lawyers and accountants. The number of knowledge workers has increased a lot the past half-century, due to a greater presence of information and increased number of computers (Davenport, 2013). In contrast to the industrial worker, who was a socially dominating class during the

19th century, the knowledge worker acquires specialized skills by education (Drucker, 1994), and a common attribute of this type of workers is that they appreciate autonomy (Davenport, 2013). In order to, convert the skills of a knowledge worker into performance, an organization must provide the knowledge worker with the right conditions (Drucker, 1994). Knowledge workers are paid for their education and expertise and they do not like to be micromanaged. Instead, a manager should tell the worker what needs to be done and when it needs to be finished and the knowledge worker will figure out how to do it (Davenport, 2013). A different kind of management style is required, which focuses on understanding team dynamics since productive knowledge workers require teamwork (Drucker, 1994). In a knowledge-intensive organization, which is an organization with many knowledge workers, the manager become more of a facilitator and a coach to the employees (Appelo, 2011).

2.2.5 Motivational Theories

Motivation is the activation of goal-oriented behavior, and motivation is needed in order to make people do all the activities that is needed to achieve a certain goal (Appelo, 2011). According to “*Medinilla’s Principle of Motivation*” (Medinilla, 2012), every great product that has been developed, and made huge difference in the market, has been created by a highly-motivated individual, or a team. Therefore, motivation is essential for knowledge workers (Medinilla, 2012). Studies have shown that motivated employees have great impact on company results, culture and performance. Therefore, motivation and motivational strategies should be an issue for management (Medinilla, 2012). Different motivational theories and views are presented below.

Extrinsic Motivation

Extrinsic motivation can be referred to the behavior when an activity or task is performed in order to attain some external outcome. External outcomes can both be financial benefits such as bonuses or a pay raise, or nonmonetary rewards such as praise or fame (Ryan and Deci, 2000). While external rewards can motivate individuals in some cases, it also comes with unwanted side effects. In an organizational setting, these side effects can be sub-optimization, destroyed intrinsic motivation, reduced performance in problem solving and unintended competition between colleagues. (Appelo, 2011)

Intrinsic Motivation

Intrinsic motivation can be referred to as the doing of an activity for its inherent satisfaction, rather than for achieving an external reward. In contrast to extrinsic motivation, where the external reward is the driving force, intrinsic motivation is personally rewarding. (Ryan and Deci, 2000) Creativity is an example of a process that is based on intrinsic motivation, which can even be inhibited by external rewards. In the case of intrinsic motivation, the things we do are themselves the reward. Unlike extrinsic motivation, intrinsic motivation does not suffer from unwanted side effects (Appelo, 2011).

Theory X and Theory Y

In 1960, Douglas McGregor presented groundbreaking ideas about human motivation and management styles. *Theory X and Theory Y* describe two contrasting views of motivation in the workplace and how these different views affect the manager's actions and behaviors. According to McGregor (1960), the past conception of the nature of humans were in many ways incorrect and he believed that there was much left to learn about social science in order to make organizations truly effective. Furthermore, McGregor (1960) states that management's perception of human behavior in industrial organizations has a strong effect on the actual behavior of employees in the workplace, which makes McGregor question the idea of the conventional approach of management, that McGregor choose to call theory X.

Theory X assumes that individuals are passive, lack ambition, dislike responsibility and prefer to be led. Individuals are also self-centered, resistant to change and not very bright. This perception of employees in the workplace causes the managers to exert an authoritarian style of leadership, since it is believed that employees must be controlled and directed, otherwise, no work would be done. (McGregor, 1960) Theory X says that a certain amount of extrinsic motivation is needed to make individuals perform (Appelo, 2011).

In contrast to theory X, theory Y assumes that individuals are internally motivated and find their work enjoyable. They also have the ability to take personal responsibility and are capable of exercising self-control and self-direction. The best way for individuals to achieve the organizational objectives is to let them direct their own efforts. The main tasks of a manager are to arrange organizational conditions for the employees. A manager's focus should be on providing guidance rather than controlling the employees. (McGregor, 1960) Theory Y is all about internal motivation and individual's inner desire to do well, and is therefore strongly connected to intrinsic motivation (Appelo, 2011).

2.2.6 Changed market conditions

Disruptive technologies were a concept introduced by Bower & Christensen (1996) in the mid 90's. It was discovered that many leading companies failed to stay at the top of the industry when the market changed and new technologies emerged. The technology changes that damages established companies the most has two important characteristics. They present a package of performance attributes that are not valued by existing customers at the outset, and secondly, the performance attributes that the existing customers value improve so quickly that established markets becomes threatened by the new technology (Bower & Christensen, 1996).

The truck industry is listed as a potential disruptive technology (Manyika et al., 2013). This due to the developing technologies related to autonomous driving and the many benefits that exists related to this innovation. Technologies that make autonomous trucks possible are machine vision, artificial intelligence, sensors, and actuators, and these technologies are rapidly improving. Benefits that comes with autonomous trucks are increased safety, reduced

emissions, and increased productivity in the truck industry (Manyika et al., 2013; Hsu, 2017). Drivers account for 33 % of trucking operating cost, and it is believed that driverless trucking can halve the industry cost eventually (Hsu, 2017).

2.2.7 Summary - Why Leadership Change is Needed?

In table 2.1 below are the most important aspects why a leadership change is needed summarized.

Context/View of Organization	The context of which the organization operates in must be challenged and analyzed, where the assumption is that not all situations can be classified as simple.
Level of education	The level of education and knowledge has increased the last decade, and workers have become knowledge workers and are therefore more capable of understanding and making more decisions.
Motivation	The underlying view of what motivates workers must be challenged and analyzed, where the assumption is that intrinsic motivation is both stronger and more preferable from a company perspective.
Changed market conditions	The truck industry is listed as a potential disruptive market due to developing technologies related to autonomous driving.

Table 2.1, Summary why leadership change is needed.

2.3 Agile

The *agile manifesto* emerged in 2001 and consists of four values and twelve principles that constitutes the core of agile methodologies. The four core values are:

“Individuals and interactions over processes and tools”
“Working software over comprehensive documentation”
“Customer collaboration over contract negotiation”
“Responding to change over following a plan”
 (Agile Alliance, 2015a)

In high-performing teams, *individuals and interactions* are essential. Studies have shown that teams can perform up to 50 times better than the industry average if no communication problems exist. In agile methodologies, interactions are facilitated through increased frequency of feedback and communication, transparency of data, respect for people, honesty, trust, and commitment. The first value also states that processes and tools are important, but

only as long as the teams engage in positive conflict. The second value highlights the importance of **working software**, which is one of the big differences that agile methodologies bring. What is meant by “working software” is up to the team to decide and define. In agile, this is called *definition of done*, and can be a set of predetermined requirements that a team decides upon to determine when a task is completed (Sutherland, 2013).

Frequent **customer collaboration** and feedback is crucial during the development process in agile, and essential to success. Customer involvement allows for changes of requirements and prioritizations during the development, which makes the agile team continuously work with what is most important to the customer. Finally, the last value suggests that **responding to change** is more important than sticking to a plan. The reason why this is one of the core values in agile is simply because teams must respond to change to be able to please the customer. Therefore, the initial plan is reviewed and updated during the development process. Agile teams plan to change and are prepared for it. Tools such as retrospectives are specifically designed to shift priorities, to ensure that they are aligned with that the customer currently want (Sutherland, 2013). The twelve corresponding principles in agile are meant to support teams when working with agility, and can be seen as an extension of the four values presented (Agile Alliance, 2015b).

2.3.1 Concepts and Tools

Since numerous books and articles have been written about the concept and tools of Agile, only the most relevant to this study will be brought up in this section, corresponding to the lean-agile philosophy.

Self-Organization

Self-organization is used in agile environments, and can be described as the process where a structure or pattern appears in a system without a central authority. (Appelo, 2011) In a self-organized team, the team itself chooses how to perform their work instead of letting predetermined roles or titles decide who does what. (Adkins, 2010) Self-organization is suggested in agile development since it is believed that the team itself, consisting of knowledge workers, understand their tasks and problems better than any central authority or manager can every do. (Appelo, 2011) It is the people closest to the problem who knows how to solve the problem best, and that is why self-organization is important in an agile environment. (Adkins, 2010)

T-shaped Competence

T-shaped people, or generalizing specialists, are people who have specialized skills in one area and have the interest and ability to develop skills in other connected areas. These types of people are valuable in agile teams since they have the ability to view things from different perspectives (Appelo, 2011). T-shaped behavior can be described as the behavior where every member of a team steps out of their role in order to get more tasks completed. A team’s ability to deliver results will be less restricted with multidisciplinary skills in the team and it

could also be a strong motivator for individuals since they will be more useful in their team when they can take on different types of tasks (Adkins, 2010).

Cross-functional teams

There are two main options to choose from when people in an organization are grouped into teams; group people by similar business or by similar function. Grouping people based on functions means that people in the same functional unit, for example testing, are put together in a team. Grouping people based on business means that people in different functional units, working to deliver the same business value, are put together. This is also called cross-functional teams (Appelo, 2011). In cross-functional teams, people with different and complementary skills are working together. Cross-functional teams are central in agile, and the benefits are faster delivery times, improved information sharing and rapid response to new requirements (Leybourn, 2013). According to Appelo (2011), cross-functional teams also comes with benefits in coordination and communication. When grouping people according to their function, it requires a lot of coordination and communication across teams to deliver any business value, due to the many dependencies between the different functions.

Backlog

A backlog can be defined as a list of all the tasks waiting to be done in a project (Agile Alliance, 2017). The backlog is continuously changed and reprioritized during projects, in order to adapt to changing requirements (Appelo, 2011). According to agile performance measures, delivering the product according to plan is never as important as delivering the business value to the customer (Adkins, 2010). Business value is achieved through close collaboration with the customer together with continuous reprioritization of the backlog. A functionality is more extensively explored and documented at first when it is selected for immediate implementation. This allows for a flexible approach where it is possible to change the functionalities with lower priority in the backlog later during the development (Appelo, 2011).

Sprints and Increments

A sprint is a set period of time during which a number of tasks should be completed. Usually, a sprint is 2-4 weeks long in a project (Rouse, 2015). A working version of the product is produced after each sprint, and functionality is added continuously. The highest-ranked tasks are prioritized first and broken down into smaller modules. The modules are valued based on how long time it takes to implement them and a clear “definition of done” is developed for each of the modules. The evaluation of the modules gives the team a clear picture of how many modules that will be implemented in the coming sprint (Rigby et al., 2016b). An increment is simply the sum of several sprints, usually 8-12 weeks long (ScaledAgile, 2016).

2.4 Lean

The original *house of lean* consists of the basic principles of lean and illustrates how these principles work together (Figure 2.2). The foundation of the house consists of *standardization*

and *stability*, which are two enablers for continuous improvement in lean (Liker & Meier, 2006). The two pillars of the house, *JIT* (Just-In-Time) and *Jidoka*, are two important tools in lean. JIT is about optimizing flow with the right part, the right amount, and the right time and place. Whereas, *Jidoka* is about to build in quality in the production system by stopping the machines and production when a problem occurs within the system. This will reduce productivity momentarily, but enhance it in the long run since the problem will be fixed permanently (Liker & Meier, 2006). The inside of the house, which consists of *involvement* includes both employee and supplier involvement. As an employee, it is important to understand the broader value stream of the company, and therefore it is needed that employees at all levels are involved in the development. Furthermore, Liker & Meier (2006) emphasizes the involvement of the supplier and supplier partnering, which is meant to improve the cooperation with the supplier and also improve quality, cost and delivery. This is done through e.g. interlocking structures, joint improvement activities and information sharing. Finally, the roof of the house consists of *customer focus*, which is the most important measure in lean. Achieving the highest level of customer satisfaction while maintaining the lowest possible cost is the number one goal (Liker & Meier, 2006).

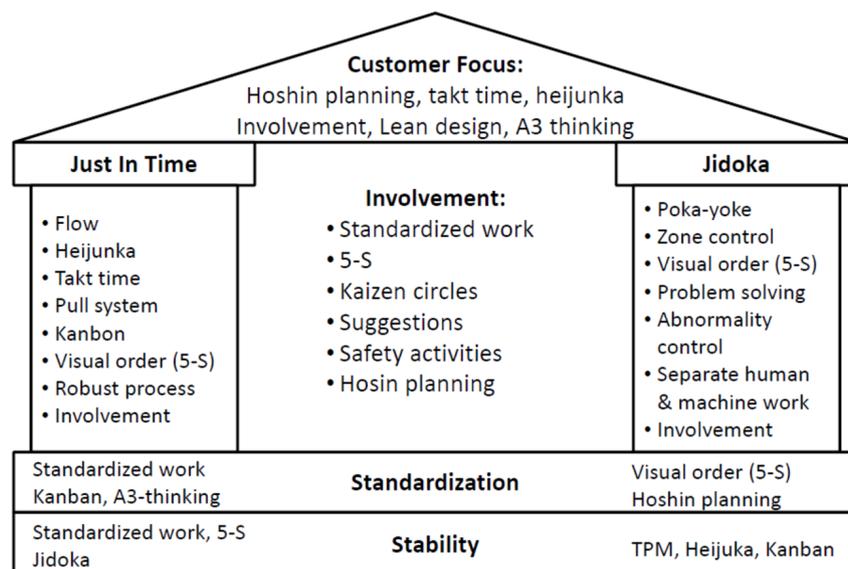


Figure 2.2, House of lean (Lean Six Sigma.com, 2016)

2.4.1 Concepts and Tools

Since numerous books and articles have been written about the concept and tools of lean, only the most relevant to this study will be brought up in this section, corresponding to the lean-agile philosophy.

Creation of flow

When implementing lean in organizations, many tend to focus on the flow of material and information within the organization. Mostly since these are easier to visualize, making necessary actions needed clear and direct for people within the organization. However,

improving these areas neglects the critical focus of smoothing organizational flow, which is stated to be the flow of people and processes (Ruffa, 2010). The author (ibid) explains that organizational flow is the means of optimally engaging the workforce, extending the workers insight into the organization across business areas so that workers can understand a broader spectrum of steps and work tasks to finally optimize the way of working (Ruffa, 2010). To understand flow one must understand the concept of *value streams*, which easiest is described as the linkage of tasks that ultimately delivers value to the customer. From an organizational perspective, this often means that value streams crosses functional silos and organizational boundaries. However, a value stream does not concern all the supporting activities to produce a product or service, only the value adding ones (Melton, 2005). Therefore, it is important to see an organization as a whole system consisting of resources, connected by different processes to produce a product or service. The main causes for the lack of flow is described to be different sorts of constraints in a system i.e. bottlenecks (Melton, 2005; Ruffa, 2010). In line with this, measures have been created to test and optimize the flow in the organization:

- *Throughput*: is defined as the rate of which the organization generates money from sales. An important differentiation here is that throughput is not the pace of which something is produced, since if it is not sold it will create waste in terms of inventory when the customer not “pull” for it.
- *Inventory*: can be defined as all the money which has been invested in different purchases the system intends to sell to a customer.
- *Operational expenses*: Is defined as the money which the system requires to turn inventory into throughput.
- *Bottlenecks*: Is defined as that one process or activity which determines the throughput of the whole system.

Therefore, efficiency improvements with a value stream perspective means working on the whole, not the ingoing parts of the system. In other words, the efficiency improvement must concern the whole supply chain not only one part of it, optimizing these four ingoing measurements together (Melton, 2005).

Kaizen, Continuous improvement

Continuous improvement, or Kaizen as it is expressed in Japanese, is a central concept of the lean philosophies, which when applied to the work place means continuous improvement for all human resources, workers and managers alike. However, since kaizen can be applied to several areas within the organization, numerous definitions of what it actually means is to be found (García-Alcaraz, 2017). Kaizen is also considered to be a management philosophy that generates small incremental changes or improvements in the work process. By doing so, the concept has its aim of reducing waste, improve work performance in terms of more efficient processes and enhanced innovation (Suárez-Barraza & Ramis-Pujol, 2010).

Gemba

Gemba is a Japanese word meaning “*a precious place to work*”. A “Gemba walk” is a walk

through the place where employees work with value-adding activities. This walk is simply a way for the manager to engage the workers in their environment, to learn their job and challenges in their daily environment (Gesinger, 2016). The most obvious benefit of Gemba walks comes from the fact that when information is transferred through the hierarchical levels of an organization, it gets filtered, which often distances the high-level managers from the current reality of the workers (Petruska, 2012).

2.5 Connection between Lean and Agile

The principles of lean are in many ways similar to the fundamentals of *agile* methodologies. Both methodologies are customer focused, flexible, encourage learning, value quality and people (Dogru, 2010). The core idea of agile is that we live in a world that is constantly changing, and we have to organize ourselves and our ways of working in ways that allow us to respond to these changes (Rigby et al., 2016b). Agile can be used in other industries than software, but works best when the conditions are similar to the ones found in software development. In software development projects, the problem to be solved is complex, the product requirements change during the project and close collaboration with the end user is feasible (Rigby et al., 2016a). When examining the lean principles, the core idea is to eliminate non-value-adding activities and maximize the process flow within the organization. Today, lean is a well-known mindset that is applied in many different industries, and not only in manufacturing (Lean Enterprise Institute, 2017).

Due to the many similarities of lean and agile, new frameworks have been created that combines these two methodologies. Examples of frameworks using both lean and agile principles are *Large Scaled Scrum* (LeSS) and *SAFe* (Scaled Agile Framework), which are frameworks used for scaling up lean-agile development. The frameworks are specially designed to manage complex development projects, and increase innovation and speed in large enterprises (Heusser, 2015).

2.6 Lean-Agile

As explained earlier, the development of a product is not characterized by stability. Therefore, the assumption of stability and standardization which is the foundation in the house of lean, must be challenged in this context (Snowden, 2003). This is recognized in the *SAFe House of Lean* (Figure 2.3), which is a framework that combines the concepts, tools and principles of both lean and agile. Instead of stability and standardization, *lean-agile leadership* is the foundation of the house. Leadership is the ultimate enabler for a team's success. To be able to implement lean-agile in an organization, leaders, managers and executives must exhibit the principles and behaviors of lean-agile leadership. Otherwise, the implementation will not be successful (Scaled Agile, 2015). Therefore, the ingoing parts of the house of lean-agile will be described below.

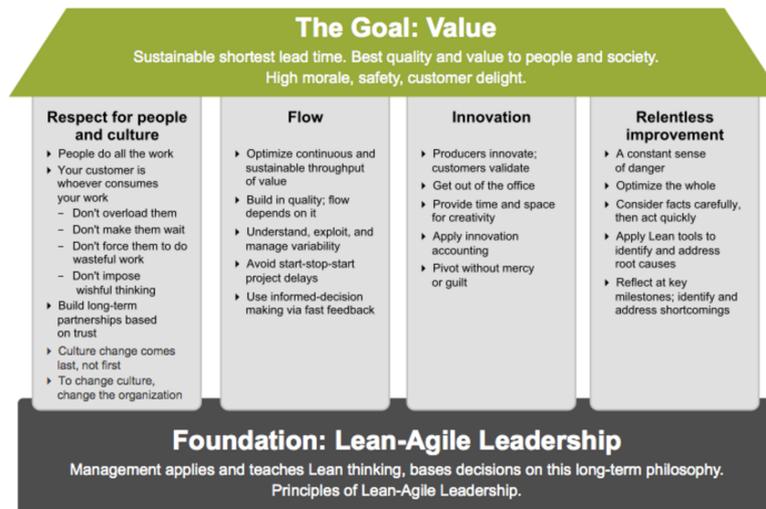


Figure 2.3, House of lean-agile (Scaled Agile, 2015)

2.6.1 Respect for people and culture

Both the principles of lean and agile does not perform any actual work, it is the people within the organization which performs and do all the work. Therefore, one of the most fundamental value of lean-agile is respect for people and culture. Due to the empowerment of knowledge workers, they will be able to evolve their way of working and improve processes etc. (Scaled agile framework, 2015). Management's role in this is mainly to challenge the knowledge workers in what way they may change, but also indicate areas of improvement. But the team's itself are the ones making the actual improvement or change, learning how to solve problems and reflect upon their way of working. For this behavior of continuous improvement and problem solving to be applied, a cultural change is often needed. The cultural aspect is handled in chapter 3.9, but what can be stated is that the cultural change will start with the leaders and the managers in the organization, and that both managers and the organization must change before the teams will start the cultural change (Scaled agile framework, 2015).

2.6.2 Flow

The fundamental goal of introducing lean-agile ways of working is to improve the value delivered to the customer. Therefore, “value” is placed on top of the lean-agile house, which can be compared to the house of lean which is similar with its “customer focus” on top of the house (Liker & Meier, 2006). The establishment of continuous work flow is critical to fast value delivery, continuous improvement and effective evidence based governance. From a manager's point of view this means, understanding the value stream in full, from innovation to finished products, limiting and visualizing the work in process, reducing batch-sizes of work and managing the queue lengths of different work tasks and initiatives (Scaled agile framework, 2015). Furthermore, the lean philosophies also have its primary focus on built-in-quality, fast feedback loops and constant reduction of non-value adding work and delays (Liker & Meier, 2006). Therefore, it is essential that the managers apply a holistic view of the production process and understand its ingoing parts to be able to optimize the outcome and

flow of the work performed (Scaled agile framework, 2015).

2.6.3 Innovation

Creation of optimal flow within an organization's work processes, is a key aspect of delivering value to the customer. However, without innovation of both the working processes and the product itself the value delivered to the customers will stagnate. From a leader perspective, this mostly relate to innovations in the work processes, and how they can be improved (Scaled agile framework, 2015). To enable the innovation in the working processes, it is important that leaders go out in the organization where value is created to see for themselves how the processes and production is working, which the lean-philosophies refers to as Gemba (Gesinger, 2016). Furthermore, since management often decides what the knowledge workers should spend their time on and prioritizing the work, it is important that managers provides the time and place for knowledge workers to be innovative. When a team is utilized 100 %, there will be no time for developing innovations, which can have a positive impact on the company's product. Concerning product innovations, it is also the manager's duty to validate the innovation with the customer to establish whether the innovation is of any value and if it can be improved in any way (Scaled agile framework, 2015).

2.6.4 Relentless Improvement

Another significant similarity with the lean philosophy is the mindset of always wanting to become better, which is explained in the lean philosophy as Kaizen or continuous improvement (Suárez-Barraza & Ramis-Pujol, 2010; García-Alcaraz, 2017). This is driven by the constant sense of competitive danger, and sense of urgency for following up and reflecting upon areas of improvement. Managers work together with their teams within this area by constantly optimizing the whole, not the parts, of both the development process and the organization, applying the tools of lean to find the root cause of inefficiencies and problems. Furthermore, to improve, managers and teams must reflect upon their performance and milestones achieved to be able to address the shortcomings of the process at all levels (Scaled agile framework, 2015).

2.7 Lean-Agile Leadership

Literature has been written about both lean leadership and agile leadership, but not much literature has been written about the combination of the two leadership styles. However, some theories have been written about lean-agile leadership in the framework SAFe. The concept lean-agile leadership is presented above as the foundation of the SAFe house of lean (Figure 3.3)

When trying to summarize agile leadership, the term *servant leader* is often used (Adkins, 2010). Servant leadership differs from project management leadership in the sense that the manager is serving the team, and not vice versa. A servant leader responds to any problem by listening first, and the core of servant leadership is developing others, giving space, and

offering acceptance (Adkins, 2010). According to Medinilla (2012), servant leadership applies to both agile and lean leadership. Both leadership styles stress that a manager should serve the team by removing impediments, providing the resources needed, and discussing boundaries and constraints (Medinilla, 2012).

Both Appelo (2011) and Adkins (2010) has written books that focuses on agile leadership, Medinilla (2012) has written mostly about agile leadership but also about lean leadership, and Liker & Meier (2006) has written theory about lean leadership. These sources, together with the lean-agile principles in SAFe (2015), are the main theories used when defining lean-agile leadership. Based on these theories, the main functions of a lean-agile leader are to:

1. *Unlock Intrinsic Motivation and Energize People*
2. *Empowerment of Teams*
3. *Aligning Constraints and Setting Boundaries*
4. *Develop Competencies*
5. *Grow Structure*
6. *Creation of Flow and Applying Systems Thinking*
7. *Encourage Innovation*

2.7.1 Unlock Intrinsic Motivation and Energize People

It is important to energize people as an agile manager, since people are the most important part of an organization in a complex environment (Appelo, 2011). As stated before, it is of high importance that knowledge workers are motivated and energized to be able to develop great products and solutions (Medinilla, 2012). To be able to energize employees, a couple of criteria must be met according to Appelo (2011). The author (ibid) states that managers should provide the employees with a creative environment to work in and highlights the importance of diversity in connectivity of people. The manager should focus on intrinsic motivation rather than extrinsic motivation, which comes with unwanted side effects. In addition, it is also important as a manager to highlight the personal values that exists in teams, so that people and teams can learn about themselves. Adkins (2010) concerns the subject of energizing people in connection to innovation. The author (ibid) states that it is important that managers identify a team's necessary and energizing ingredients for innovation, and that the team itself discover these ingredients. Medinilla (2012) states that an agile manager should be responsible and accountable for motivating the employees, to ensure that the employee's' maximum capacity is released.

2.7.2 Empowerment of Teams

Menon (1999) defines psychological empowerment as a cognitive state of perceived control, competence, and goal internalization. Empowerment is different from delegation in the sense that it includes more than only the delegation of a task or responsibility. Empowerment also includes support of risk taking, personal growth and cultural change (Appelo, 2011). Bowen and Lawler (2006) have found multiple benefits with empowerment of employees, e.g. that

productivity, profitability and competitiveness have improved due to empowerment initiatives. In many organizations, a cultural change is needed to achieve empowering leadership. According to Appelo (2011), empowerment is a necessity in self-organized systems, which agile teams are. This because a good mental model is needed to fully understand these types of systems. The members in a self-organized team must therefore aggregate their mental models to be able to together control the system. To make this work, the control of the team should be distributed and delegated to all team members instead of one manager, which can also be referred to as the term decentralized decision-making. By not escalating all decisions to higher levels of authority, the lead times can be shortened. This due to the lack of local context among higher managers when making decisions that concerns the daily work of knowledge workers (Scaled agile framework, 2015).

Both Appelo (2011) and Adkins (2010) expresses that it is important as an agile leader to let the team be accountable for their results, which is also a part of empowerment. Committing to a task or a project, and making the team accountable for it, creates peer pressure. It becomes visible to the team that one team members undone work become someone else's impediment (Adkins, 2010). According to Appelo (2011), it is equally important that the manager commit to tasks and keep that promise. Building trust is important when it comes to accountability and empowerment, and the manager can more easily get the teams to commit to tasks by showing good example.

2.7.3 Aligning Constraints and Setting Boundaries

Aligning constraints is a key task, both as a lean and agile manager. Appelo (2011) stresses the importance of a shared goal in a team. The goal could be assigned by the manager, but should be heavily influenced by the team and their autonomous goal. If the extrinsic purpose imposed by the manager is in conflict with the team's autonomous goal, it is highly important that the manager compromise to not oppose the team's will. To define a goal that is both in line with what the organization want and the team want, and then communicate it, is an important task as an agile manager (Appelo, 2011). Adkins (2010) mentions that a shared goal is beneficial for the team since it puts the team members "in each other's business", which makes them converse about the best ways to reach the goal. Liker and Meier (2006) expresses that, as a lean manager, one must communicate the vision and, even more importantly, get others to buy into it and actively help to achieve it. The leader must have a clear sense of direction and make employees understand the direction. Medinilla (2012) also highlights the importance of a long-term view as a lean manager, since that is a core principle in lean. The manager should focus on long perspective, while teams focuses on short-term deliveries (Medinilla, 2012).

Aligning constraints also involves setting boundaries and protecting the people in the team (Appelo, 2011). Giving the team clear boundaries of authority in different key decision areas guides them in their work and helps them avoid getting the blame for taking decisions that they were not authorized to take. It is the manager's responsibility to provide the team with

these boundaries, in order to protect the team and keep them motivated (Appelo, 2011). Since agile managers uphold an environment of experimentation and risk taking, the manager need to ensure that the environment is accepting and allowing failure. The teams need to be free to be creative and make mistakes, otherwise, it is impossible for brilliance to emerge (Adkins, 2010).

2.7.4 Develop Competencies

Another important ability that lean-agile manager should possess is the ability to teach (Liker & Meier, 2006; Appelo, 2011; Adkins, 2010). Liker & Meier (2006) explains that it is important to possess teaching abilities as a lean manager to be able to pass on skills and knowledge to others. No matter how knowledgeable a manager is, without teaching abilities, the knowledge will not be able to generate as much value for the organization. According to Appelo (2011), managers should teach their employees the working techniques, creative techniques, management techniques, and understanding the importance of communication. This to make employees and teams more empowered and independent. Adkins (2010) stresses that it is important to teach during the early phases in an agile team, when there exist insecurities about the way to work. However, it is important that the management style flows from teaching to coaching when the team is ready.

2.7.5 Grow Structure

Growing a suitable structure for a team, or the organization, is beneficial in several ways. Structure facilitates communication between employees, and it also increase efficiency (Appelo, 2011; Medinilla, 2012). A manager can structure the organization and teams in many different ways, no best practice solution exists, since structure in a complex environment depends on environment, product, size, and people (Appelo, 2011). However, some principles generally apply in agile. For example, projects are assigned to teams and never to individual employees, teams are cross-functional, and teams consists optimally of 5 people, which means that instead of creating bigger teams, more teams are created.

2.7.6 Creation of flow and Applying Systems Thinking

From the lean philosophies, it is stated that; when the value stream is understood, i.e. what are the things that brings value to the customer, the first step that managers has to take is to create stable processes which can meet customer demand. When flow is created within the stable processes and connected to other processes, the situation will force problems to surface within the system. Therefore, it will be the manager's responsibility together with the team to remove these problems and continuously improve the processes (Liker & Meier, 2006). Also in agile, it is agreed upon that the managers, together with the team, should work to remove the impediments of the process in order to create a better flow of the work processes (Moe et al., 2008; Cervone, 2011). Therefore, it is important that a lean-agile leader applies a facilitating and collaborative leadership style to both listen to the teams impediments, but also the rest of the management-organization to not sub-optimize the workflow and the value

stream (Moe et al., 2008). This implies that having a system thinking mindset is important for the manager to not change things which makes it better for the individual department, but worse for an interdependent department. Therefore, it is also the manager's responsibility to synchronize the teams. Synchronization causes multiple perspectives to be understood, but also resolved and integrated with other teams. Synchronization is therefore used to: put the different competencies of system together to assess the solution-level feasibility, align teams and business towards a common mission, but also to integrate the customer in the development process (Scaled agile framework, 2016)

2.7.7 Encourage Innovation

The last task of a lean-agile leader found in the studied literature is encouraging innovation. Enabling innovation in an organization is in the hands of the manager since management often decides what the knowledge workers should spend their time on, and what tasks that should be of highest priority. It is important that the manager both allow, but more importantly, encourage the workers to free up time for innovation. If 100 % of the time is utilized for value-adding activities, no time is left for innovation. The manager is also responsible for measuring innovation in the organization, and apply suitable metrics for it (Scaled agile framework, 2015). According to Adkins (2010), it is important that managers encourage team to work with innovation, however, *how* they choose to do it is up to the team. The manager should take a step back to let the team discover their own energizing ingredients in their pursuit of innovation together. Although, it is beneficial that the team collaborate, since it is the most direct way if innovation is needed in an organization. But as long as the team members collaborate and work together, the manager should let them find their own way to be creative and experimental (Adkins, 2010).

2.7.8 Summary - Lean-Agile Leadership

In table 2.2 below are the most important functions of a lean-agile manager summarized.

<i>Unlock Intrinsic Motivation and Energize People</i>	<i>To ensure the knowledge workers maximum capability, the lean-agile manager is responsible for the motivational level within the team. This includes providing an innovative environment, but also finding what intrinsically motivates the team members.</i>
<i>Empowerment of Teams</i>	<i>Empowering employees by distributing and delegating the control to the team is one of the most vital tasks as a lean-agile manager. In higher management, empowerment is achieved through decentralized decision-making in the whole organization. Empowerment also includes support of risk taking, personal growth and cultural change.</i>
<i>Aligning Constraints and Setting Boundaries</i>	<i>Aligning constraints and setting boundaries is important as a lean-agile leader. This can be done by creating an inspiring goal for the team, where the goal of the team is aligned with the organizational goal. Setting boundaries</i>

	<i>means that the manager should create visible boundaries of authority for the team to protect them.</i>
<i>Develop Competencies</i>	<i>To be able to develop competencies in a team, it is required that the manager possess teaching abilities, so that knowledge can be passed on to others. Some examples of what a lean-agile manager should teach are working techniques, creative techniques, and the importance of communication.</i>
<i>Grow Structure</i>	<i>Growing structure is a task of a lean-agile manager that can be done in many different ways. It is important that the manager creates a suitable structure for the team, so that communication and interaction can be facilitated.</i>
<i>Creation of flow and Applying Systems Thinking</i>	<i>To be able to create flow, the manager in lean-agile must together with the team remove impediments which are in the value of the value stream. Furthermore, it is the manager's responsibility to have systems thinking while synchronizing these activities to not suboptimize the flow.</i>
<i>Encourage Innovation</i>	<i>It is important as a lean-agile manager to encourage innovation and create the right conditions for it. However, the team should discover how to do it themselves, but it is beneficial if the team collaborate when working with innovation.</i>

Table 2.2, Summary Lean-agile Leadership

2.8 Lean-Agile and HR

Since both lean and agile is largely focused on the people working in the system, the human resource (HR) cannot be neglected in an agile transformation (Eyholzer & Leffingwell, (2016). Accenture states that the future role of HR will be, equally or more, involved in the creation of general work environment and fostering specific cultures. HR's responsibility might therefore include changing the extrinsic motivation to intrinsic, by redesigning the incentive system. Broaden the job descriptions from previously narrow responsibilities, to a more holistic responsibility (Silverstone et al., 2016). Furthermore, HR should establish training and competence requirements of the employees, which must change towards the T-shaped competence necessary in lean-agile. But also refocus the personal review process, due to the new demands of a team environment established in lean-agile (Eringa, 2014). As stated earlier it is often the line manager which operationalize many of the HR activities, but the underlying strategies, policies and processes are often created by the HR department (Whittaker & Marchington, 2003). Therefore, Eyholzer & Leffingwell, (2016) have developed five areas within lean-agile HR which are likely to change, when an organization transforms from a traditional setup to a lean-agile setup. These are described below:

2.8.1 Embrace the new talent contract

The main driving force behind the lean-agile organization is stated by Eyholzer & Leffingwell, (2016) to be the knowledge workers, which has earlier been described as one of the fastest growing workforce section in today's society (Davenport, 2013). In contrast to the industrial workers, the knowledge workers acquire specialized educations and therefore often appreciate autonomy in their work (Drucker, 1994). Knowledge workers therefore thrive on these kinds of environments with higher levels of responsibility, but they also seek purpose and meaning in their work in order to innovate and be involved. This inevitably, also changes the way in which HR interacts with both management and the workforce. The HR-policies can no longer be dictatorial, and must instead be shaped in collaboration with the knowledge workers who are affected by them. This indicates that the general HR-policies must be more flexible and adapt to changing circumstances (Eyholzer & Leffingwell, 2016).

2.8.2 Foster continuous engagement

To keep knowledge workers deeply engaged in the organization's purpose and products, have never been more important (Eyholzer & Leffingwell, 2016). This means tapping into the knowledge worker's intrinsic motivation. Ryan & Deci, (2000) explains that intrinsic motivation is when a person does an activity for its inherent satisfaction, rather than achieving external rewards such as salary. This is explained to increase engagement among the workers which in turn increases satisfaction within the workplace. Therefore, Eyholzer & Leffingwell, (2016) states that the best way to lower the turnover rate among employees is to invest in the people working in the organization. Actively developing people is stated to take away their need to switch job to a competing company. The development of people, and how this is executed within the organization, is often a policy created by the HR-function (Eyholzer & Leffingwell, 2016).

2.8.3 Hire for attitude and cultural fit

Technical experts are important in any technical environment. However, lean-agile is a team sport, working in fixed teams completing the daily assignments. Therefore, candidates with the right attitude and cultural fit must be considered when hiring new employees. This is evident, since the performance of the team depends on the team effort, not individual performance. In this case, attributes such as heroism and over specialization must be avoided when hiring the right people (Eyholzer & Leffingwell, 2016).

2.8.4 Move to iterative performance flow

Eyholzer & Leffingwell, (2016) states that performance management is by far the most criticized HR-process of today. These performance reviews often occur on a yearly basis, where the manager gives both positive and negative feedback to the employee. In most cases these performance reviews make the employee nervous, since it impacts both future compensation and promotion chances. Therefore, the authors suggest a few ways which performance management can be changed to better suit both lean-agile and the employee

perception of performance review. Firstly, it is suggested that performance cycles should be aligned with the iterations in lean-agile. Since the pace of today's technology change is increasingly speed, it is almost impossible to set goals on a yearly basis and keep them relevant in the end of the year. Secondly, the authors suggest a continuous inspect and adapt policy. Which is explained to take place during the retrospectives, in this case both the individuals and teams can receive feedback on performed work. However, since lean-agile is founded on teamwork the main emphasis should be on the team performance. This is also a good occasion to reward behaviors which are in line with the lean-agile values, again it is important to emphasize rewards given to the team not the individual (Eyholzer & Leffingwell, 2016)

2.8.5 Support impactful learning and growth.

Finally, Eyholzer & Leffingwell, (2016), explained that when markets increase the speed of development, it is important that the organization continues to evolve and learn. Therefore, a learning organization must be created, where people at all levels, managers and employees, continuously adapt and learn new things. In this scenario, relevant and useful mechanisms of creating knowledge must be in place. In addition, it is equally important to have ways of sharing already existing knowledge within the company, so that knowledge can be transferred between both managers and employees (Eyholzer & Leffingwell, 2016).

2.9 Culture

Culture can be defined as what a group learns during period of time to solve its problems, both internal in the group and to survive in the external environment that surrounds the group. Organizational culture is difficult to define since, for a culture to form, it is required that a set of people has had sufficient time and stability to allow it. Therefore, an organization with long history can be considered to have a strong culture, while no overall culture exists in an organization with no common history (Schein, 1990).

Various culture models have been developed during the years. One of them is Schneider's Culture Model, which is a tool for assessing culture in organizations. The model is especially developed for agile coaches to determine an organization's current culture (Lal Patary, 2015) and is described in Figure 2.4 below. Schneider (1994) defines culture as "*How we do things to succeed*". The model is particularly useful to create awareness for change in management and leadership style. Four cultural aspects are considered in the model, namely; *Control, Competence, Collaboration* and *Cultivation*.

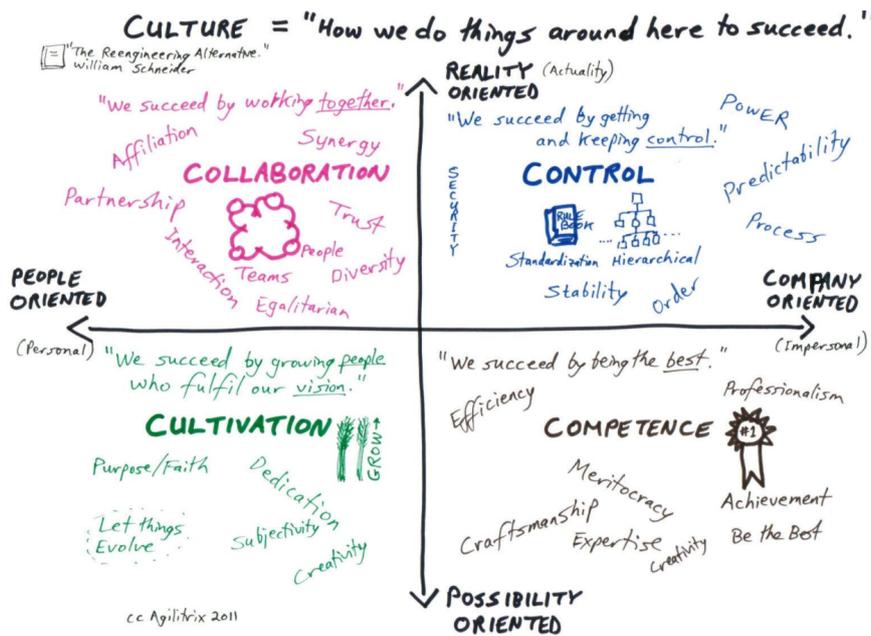


Figure 2.4, Organizational culture (Schneider, 1994)

Control - The control culture prize objectivity and predictability. Organizations succeed by keeping control and maintaining stability. A control culture is characterized by hierarchical structures, standardization, power, and processes. An organization with this type of culture are reality and company oriented (Schneider, 1994).

Competence - In an organization with a competence culture, one succeeds by doing better than others, and being the best. This type of culture is defined as company and possibility oriented, and is characterized by expertise, craftsmanship, professionalism, and achievement (Schneider, 1994).

Collaboration - An organization with a collaboration culture succeeds by working together. Therefore, this type of culture is created by putting a collection of people together, build this people into teams, and strengthen them by trusting them and creating synergies in the teams. The collaboration culture is characterized by partnership, diversity, trust, and teams. The culture is defined as people and reality oriented (Schneider, 1994).

Cultivation - The cultivation culture is characterized by creativity, dedication, purpose, and growth. In this type of culture, one succeeds by growing people who fulfills the organization's vision. The culture is people and possibility oriented, and is about learning and growing with a sense of purpose (Schneider, 1994).

Culture and values

When investigating organizational culture, researchers normally begins with a set of values, which are either consciously or unconsciously chosen and typically act as defining elements for which cultural activities revolve (O'Reilly et al., 1991). Since no unified values of lean-agile could be found outside the framework of SAFe, this research have chosen the values of

agile to further define the desired cultural state.

Individuals and interactions over processes and tools - To encourage interactions in a team, a collaborative culture is beneficial. Since people who work together with good communication and interactions operates at a higher level than when they only use their individual skills, an agile team should focus on increasing the collaboration levels, and this is best done in a collaborative environment (Cockburn & Highsmith, 2001).

Working software over comprehensive documentation - When creating working software, one has to consider what makes software work. At first glance this implies a high level of competence at each individual, but as soon as the software is not developed by one single individual, collaboration is needed between two or more parties, which finally makes the software work together. This value implies that both collaboration and competence culture is preferable. However, comprehensive documentation falls within the definition of the control culture with standardization, stability and order, as main characteristics, which therefore goes against this value statement (Schneider, 1994; Cockburn & Highsmith, 2001)

Customer collaboration over contract negotiation - In traditional organizations applying a project methodology, the project manager often focus on agreeing on a detailed contract with the customer. In this environment, the project teams are often given the ultimate accountability and responsibility of delivering the product, while project management are given the decision power, commanding the teams on what should be executed. In an agile environment, the manager will be focusing on setting up a collaborative structure and relationship with the customer, enabling continuous interactions in order to innovate and react to changes. Therefore, it is again supported by the agile values that a collaborative culture is preferable compared to the control culture, implying that a command-and-control leadership prevails in project structures (Cockburn & Highsmith, 2001).

Responding to change over following a plan - Agile development excels in a high-change and complex environment, and therefore, agile organizations and managers have to deal with a lot of uncertainties. Demanding certainty in the face of uncertainty is dysfunctional, which means that a command-and-control leadership style is not suitable in this environment. Instead, the organization should embrace leadership-collaboration, and a collaborative culture, to deal with the high-change markets (Cockburn & Highsmith, 2001).

3. Methodology

This chapter explains how the research was conducted. The research methods that are used to answer the research questions are motivated and explained below.

3.1 Research Strategy

Bryman & Bell., (2003) states that there are two main strategies for conducting a research

strategy, qualitative and quantitative research. Quantitative research emphasizes the quantification of data, both in collection and analysis. One of the main advantages with quantitative research is that it enables measurements of a phenomena, which enables the retrieved result to be compare with other results. Statistical analysis can also be used when a quantitative approach is used, which allows for faster interpretation of data. Qualitative data are pieces of information gathered in non-numeric form. The most common ways to collect qualitative data is through interviews, or observations (Easterby-Smith et. al., 2015). The advantages of qualitative research methods are that it generates a large amount of rich data, which allows the researcher to adjust the data collection based on the findings. It also provides the researcher with an in-depth understanding of what people are thinking and feeling. Therefore, qualitative research is suitable when the researcher wants to go deeper and understand the complexity of an issue (Bryman & Bell, 2003).

This master thesis focuses mainly on the qualitative approach, but quantitative research was also used. A qualitative approach was chosen to be able to collect rich data, to understand the complexity of lean-agile leadership, and how this can be created at GTT. The main method that was used to collect data was interviews. Qualitative interviews were chosen to clarify the uncertainties about the managers and their current situation at GTT, and the benchmark companies. The purpose of the interviews was to get an in-depth understanding of different managers' roles and activities, view of leadership, organizational structure, decision making process, and culture at GTT. The same areas were investigated at the benchmark companies, to be able to compare GTT with the benchmark companies. The quantitative method used was surveys, both to investigate the knowledge workers' view of the prevailing culture in the organization, but also to find out what the managers spend their working time on. Both a qualitative method and a quantitative method were chosen since multiple research methods can capture contradictions and complexity in the collected data (Bryman and Bell, 2003).

3.2 Research Approach

When performing a research, there exist three main approaches that can be used; abductive, deductive and inductive. The abductive approach begins with an incomplete set of observations and tries to find the best prediction for the set of observations. It is applicable when there exist uncertainties in the area of research. The deductive approach, unlike the abductive, begins with the assertion of a general rule and continues from there to a guaranteed specific conclusion. It is more applicable when there are less uncertainties and the approach is mostly used together with quantitative research. The inductive approach starts with observations and combine this with theory to draw generalized conclusions. Since inductive reasoning does not yield a certain conclusion, it can make predictions about the future (Bryman & Bell, 2003). The approach chosen for the thesis was an inductive approach. The approach was considered most appropriate since theory combined with real world observations helped to get an in-depth understanding of lean-agile leadership. It also contributed to a more exploratory approach, where the findings guided the continued direction of the study.

3.3 Research Process

The first research question, “*What are the barriers and the required change when transforming traditional leadership to lean-agile leadership?*”, was initially investigated with a literature review to get a better understanding of the concept of change related to lean-agile leadership. This to get an idea of what questions to ask the managers to be able to find out what possible barriers that existed at GTT and how to overcome them. Once the literature had been investigated, two expert interviews were held. This to go deeper into the area of leadership in a lean-agile environment. The unstructured interview method was chosen since the purpose with these interviews was to become inspired and gain great in-depth data in the focus area of the interview (Bryman & Bell, 2015). The first interview was held with an agile manager, who had experience of agile transformations, and covered mainly why a leadership change is needed when performing an agile transformation. The second interview, which was held with a consultant who worked with agile HR, focused mainly on the manager’s role related to HR policies and processes, and why it was important to take this into consideration while performing an agile transformation. Therefore, it was considered required to interview an HR representative, which was done later in the research process. The interview with the HR representative were semi-structured. Moreover, additional semi-structured interviews were held with managers at GTT, and the benchmark companies. The interviews with GTT managers provided insight into the current situation at GTT, and what barriers that existed in the organization to lean-agile leadership. The interviews with the managers in the benchmark companies provided insight into how a lean-agile leadership change should be performed, and what challenges that can possibly be encountered. Finally, an internet-based survey was performed to find out what the employees at GTT thought about the culture.

The second research question, “*How will the leader roles change, in terms of strategic and operational activities, when a traditional organization transforms into a lean-agile organization?*”, was also initiated with a literature review to gain a deeper understanding of the role of a leader, both in a traditional and lean-agile environment. The same interviews that were held to identify the required change to lean-agile leadership, also covered the change in the manager’s role and activities when transforming a traditional organization into a lean-agile organization. To complement the answers from the interviews about the manager’s activities, and how it differs in a traditional versus a lean-agile environment, an internet-based survey was performed at GTT and the benchmarking companies.

3.4 Data Collection Primary Data

This section consists of the primary data collected during the research. The primary data collected consists of interviews, benchmark studies, and surveys.

3.4.1 Interviews

The data collection performed in this research have mainly consisted of qualitative data collection in terms of performing interviews. Qualitative interviews is a flexible way of

seeking information from the recipient own point of view. When conducting a qualitative interview, it is important that the interviewee is allowed to go off topic, since this enables the interviewee to express what he or she consider to be important. This often leads to deeper understanding and knowledge of the research area investigated (Easterby-Smith et al., 2015). When performing qualitative interviews, there are mainly two different types of interviews to be found namely, unstructured and semi-structured interviews. The main concept used in this master-thesis is semi-structured, which means that the interview is held similar to a normal conversation. In a semi-structured interview, the researcher has prepared an interview guide which can be explained as a set of questions and topics which will guide the interview. When designing the interview guide it is important that the guide is flexible enough to allow room for the recipient to provide their point of view regarding the subject, but still focused enough to keep the recipient around the topic provided (Bryman & Bell, 2015). However, a few unstructured interviews were also performed. An unstructured interview is different since the researcher have not prepared an interview guide when performing the interview. In this case, it might just be a certain range of topics which the interviewer investigate, where the interviewee is allowed to respond freely. An unstructured interview is therefore very similar to a conversation.

When performing interviews, Bryman & Bell (2015) explains that it is beneficial to be at least two researchers conducting the interview. When being two interviewers, one of the interviewers can be focused on holding and conducting the interview while the other is focused on taking notes and analysing the answers. The passive interviewer is here also always allowed to interrupt and intervene when the discussion is not staying on topic. Furthermore, Bryman & Bell (2015) recommend that the interviews are transcribed, using a recording device. Transcription is important since it allows the researcher to capture details from the interview, but also to make sure that the answers are captured on the interviewees terms. If only notes are taken, it is also easy to fall behind and miss important matters stated by the interviewee (Bryman & Bell, 2015)

In this research, the semi-structured interview approach was chosen since this master thesis aims to investigate how the leadership will change in a lean-agile transformation at GTT. Therefore, the semi-structured approach helped to investigate different problems regarding leadership and correlating structures, when the interviewee freely could express their point of view, experiences and opinions regarding the existing leadership within the organization. The interviews in this research were the main source of data collection regarding primary data. The data collection was used to build a current state of the leadership at GTT and how different structures had an impact on the manager's daily work. When conducting the research, managers from all levels at the E&EE department were chosen to provide a holistic view of the situation and the corresponding problems. The interview guide for the interviews with the managers at GTT is presented in Appendix A. Also at the benchmark companies, the semi-structured approach was used since the researchers aimed to investigate the same areas and problems found at GTT, some structure was needed. Also for these interviews, interview guides were created to better suit the benchmark companies. This interview guide can be

found in Appendix B, which further describe the questions asked at these occasions. This data collection was primarily used to confirm and reject hypothesis made regarding problems and the function of a lean-agile leader. In addition, these interviews also provided insight about different solutions regarding lean-agile leadership and the corresponding structures. Finally, two unstructured expert interviews were held in the initial phase of the research. The unstructured interviews took place first of all to provide insight and inspiration about the topic, but also to learn about common problems and pitfalls. All interviews conducted were held with two interviewees, where one focused on the questions and one taking notes. In addition, all interviews were recording and transcribed to make sure no important details were missed or overlooked.

3.4.2 Sampling

GTT

The ten managers interviewed at the E&EE department were all chosen since they were involved in the lean-agile transformation at GTT. In addition, the managers were chosen based on their attitude towards lean-agile. To choose a representative sample, which reflects the larger entity of a group of people (Bryman & Bell, 2015), managers who were sympathetic towards the lean-agile transformation and managers who were not sympathetic towards the lean-agile transformation were chosen. Moreover, the managers interviewed were chosen from three connected hierarchical levels, to get insight into the organization and the managers' roles from different perspectives. In addition, to get insight into the HR policies and processes, an HR representative was interviewed. This person was considered to be the most suitable to interview regarding this subject according to the HR department at E&EE. Table 2.1 presents the number of interviews conducted at GTT.

Role	Nbr of interviewees
Group Managers (GM)	4
Global Technology Managers (GTM)	3
Vice Presidents (VP)	3
HR representative	1

Table 3.1: Interviews at GTT

Benchmark Companies

The benchmark companies that were chosen were Ericsson and Delaval. Ericsson had experience of an agile transformations, and Delaval had experience of a lean-agile transformation. Therefore, the two companies were considered suitable as benchmark companies in the research. Two representatives from each company were interested in participating in the research. The managers from the benchmark companies were spread over

different hierarchical levels, similar to the chosen managers at GTT. Table 2.2 presents the number of interviews conducted at Ericsson and Delaval.

Company	Role	Nbr of interviewees
Ericsson	Sector Manager	1
	Sector Manager	1
Delaval	Verification and Validation Manager	1
	Software Development Manager	1

Table 3.2: Interviews at benchmark companies

Expert Interviewees

The expert interviewees were chosen since they had experienced, or worked with, agile transformations, and therefore, had great knowledge in the area. The expert interviewees had different types of backgrounds regarding agile transformations, which were considered to generate a broader perspective of the subject. Table 3.3 presents the number of expert interviews that were conducted.

Role	Nbr of interviewees
Agile Manager	1
Agile HR Consultant	1

Table 3.3: Expert Interviews

3.4.3 Survey

Two surveys were conducted during the research. One to investigate what activities that manager spent time on at GTT and the benchmark companies, and one to investigate what the employees at GTT thought about the prevailing culture in the organization. The questions in the survey about the organizational culture was designed based on Schneider's (1994) culture model, and Schneider's template questions were used.

Both surveys were self-completion web-based surveys. The method was chosen since it is a cost-effective way to gather answers from many respondents (Easterby-Smith et. al., 2015). Since the culture survey was sent out to 50 employees at GTT, and the survey sent out to the managers about their working tasks only worked as a complement to the existing interviews, this method was considered to be suitable.

In total, 14 employees at GTT answered the organizational culture survey. In Schneider's (1994) template, all questions are closed with four alternatives to choose from. The survey that concerns the organizational culture is presented in Appendix D. The survey concerning the manager's activities were designed based on literature written by Luthans et al., (1988) about manager's activities. The template questions found in the literature were considered to be comprehensive and covered the areas that were perceived to be relevant to investigate. The questions in the template were closed with five alternatives, ranging from *never*, *once a year*, *once a month*, *once a week* and *once a day*. These ranges were later quantified accordingly, e.g. once a year was quantified as 1/365 and so on. The corresponding answers were later compared between the benchmark companies and the respondents at GTT, to find differences in what managers spend their time on in traditional and in lean-agile organizations. The number of respondents at GTT were 8 managers and 3 from the benchmark companies. The survey that concerns manager's activities is presented in Appendix E.

3.5 Data Collection Secondary Data

Bryman & Bell (2015) describes a literature review as a good way of learning from previously conducted research. A literature review is made to summarize the existing body of knowledge from experts and authors in the chosen field, to increase the learning and facilitate a faster research process. Concerning literature reviews, there are two main types to be found namely, systematic and traditional. The systematic review aims to investigate a specific research area, by a systematic a methodical approach. In contrast to the systematic review, the traditional approach does not have to follow a systematic and methodical approach since it only aims to provide an overview of the chosen field (Bryman & Bell, 2015).

In this research, a traditional literature review has been chosen since the research area was new to the researchers and a lot of uncertainties regarding the topic had to be investigated. Therefore, any systematic approach to investigate the research area could not be found. The literature review was executed in three phases, first of all to get an overview of the topic lean-agile leadership and what the subject regarded. Secondly, to choose areas to investigate for the interviews and creation of the interview guide. Finally, the literature review was used to support and understand findings from the interviews, when analyzing the answers. The information studied in the literature review contains books, websites and journals. These were collected from search engines such as Google Scholar and Mendeley, with key phrases such as *Lean*, *Agile*, *Traditional Leadership*, *Organizational culture*, *Servant leader*, *Waterfall*, *Project management*, *Line management*, *Complexity theories* Etc.

3.6 Data analysis

Grounded theory was used to analyze the interviews since it was considered suitable for this research. This method is the most commonly used method when analyzing qualitative data. Grounded theory can be defined as theory that has derived from data, which is systematically collected and analyzed through the research process (Bryman & Bell, 2015). When using

grounded theory, coding is one of the most central processes. In other words, coding can be described as the process of labeling, separation, compilation and organization of data.

All interviews were recorded, listened to once or twice, and summarized individually to ensure that the key points from the interviews were gathered. When performing the coding of the data collected, the data was first organized into different research areas, which was later labeled as *possible barrier* or *possible new activity*. The data was later separated to categories based on their characteristics, such as *related to HR*, or *related to organizational culture*. These categories, were used to get a deeper understanding of the area of research for the future steps in the research. Therefore, it can be stated that the promised output from grounded theory, explained by Bryman & Bell, (2015) to be categories and concepts, was achieved.

For the writing of the Analysis chapter, an Analysis model (Figure 3.4) was constructed. The analysis model aims to transfer the input of empirical data and theory to both barriers and required change, but also, the new activities for the manager.

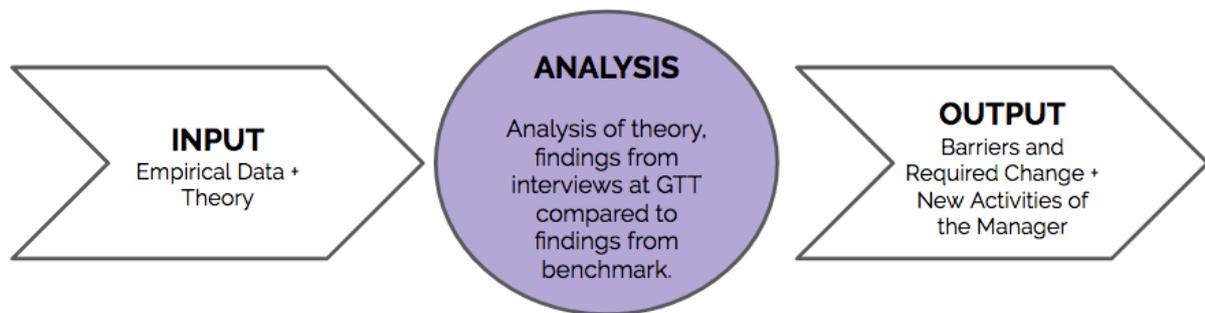


Figure 3.4, Analysis model

3.7 Research Quality

Reliability and validity of the data is important to consider in qualitative research, when assessing and establishing the quality of the data (Bryman & Bell, 2015). Since some researchers argue that reliability and validity are inappropriate in qualitative research, writers have changed the criteria to concepts that are more suitable for qualitative research. The writers suggest that trustworthiness should be in focus when it comes to qualitative research (Bryman & Bell, 2015). Trustworthiness consists of four criteria: credibility, transferability, dependability, and confirmability.

Credibility is supposed to answer how believable the findings are in a research. Two techniques can be used for ensuring credibility, namely: respondent validation, and triangulation (Bryman & Bell, 2015) In this research, respondent validation was established during the interviews by repeating the interviewees' answers during the interviews, to make sure that the answers were understood correctly. In addition, the interviews held with the benchmark companies were summarized in a document, and sent to the respondents, to give room for feedback and correction.

Triangulation entails that multiple methods or sources of data are used during a research (Bryman & Bell, 2015). For the whole thesis, multiple sources, in terms of different interviews, theory from the literature study, and internal documents were used. This to ensure credibility through triangulation.

Transferability is used to ensure that a research can contribute to surroundings other than the specific organization investigated (Bryman & Bell, 2015). Transferability was ensured in the research through benchmarking studies, which concerned agile, and lean-agile, transformations in larger organizations in general. Therefore, the research was not limited to the specific situation of GTT.

Dependability concerns the consistency of measuring a concept. To ensure dependability, researchers should adopt an auditing approach, which means that records are kept from all various phases of the research (Bryman & Bell, 2015). In this research, dependability has been ensured through kept records of all the phases in the research process. This includes problem formulation, interview transcripts and records, field notes, data analysis decisions, and selection of research participants.

Establishing **confirmability** is concerning the issue of acting in good faith as a researcher (Bryman & Bell, 2015). This has been ensured in the research by not letting personal values affect the research and the findings from it. Since none of the researchers had previous knowledge in lean-agile or the organizations involved, confirmability was ensured.

Authenticity

In addition to these four trustworthiness criteria, Bryman & Bell (2015) suggests that the criteria of authenticity are also considered. Authenticity is concerning the wider political impact of the research, and consists of the five criteria: fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity.

The first criteria fairness, concerns if the research data fairly presents the different viewpoints among members in the social setting investigated (Bryman & Bell, 2015). The interviews with the managers, both at GTT and the benchmark companies, were performed with managers from different hierarchical levels in the organization. At GTT, managers were interviewed from various departments at E&EE. Therefore, it can be concluded that the result of the research fairly represents the manager's viewpoints at E&EE, and the benchmark companies. Furthermore, ontological authenticity, which concerns if the research helps members in the investigated social setting to better understand their environment, has been ensured by explaining to respondents in both interviews in surveys what the purpose with the research is. Through this, managers and employees have been put in the right setting to enable more accurate results. Moreover, educative authenticity is concerning whether the research helps members to appreciate the perspectives of other members of their social setting better. This has been ensured in the research by presenting the different perspectives and

opinions of managers to other managers interviewed, however, the manager's names were kept anonymous. Catalytic authenticity concerns if the research has engaged the participants in the research to take action and change their circumstances (Bryman & Bell, 2015). This criterion was considered to be fulfilled since the result of the investigation were presented at GTT, and representatives from benchmark companies were also invited to take part of the results. Finally, the last criteria, tactical authenticity concerns if the research empowered members to take the steps necessary for engaging in action (Bryman & Bell, 2015). Since specific suggestions of improvements are included in the research and the presentation, it is considered that this criterion is also fulfilled.

3.8 Quality Secondary Data

Hox & Boeije, (2005) explains that the quality of the secondary data chosen, is highly dependent on whether the secondary data fits the research question or not. This since the data can be misinterpreted if the data is put in the wrong context. However, in general it is acceptable if the researcher provides some tests of hypothesis regarding the collected data, to see if the collected data is applicable or not. This is also supported by Bryman & Bell, (2015), which states that data have been collected for a different purpose when using secondary data, and must therefore be evaluated carefully. Hox & Boeije, (2005) states that in addition, data about the collected data must be provided to increase the reliability of the data collected. This data regards matter such as who, when and where, but also sampling criteria and known biases found in the data.

Regarding the quality of the data provided, the data collection has been focused on the most recognized authors in the field. This was accomplished by striving to choose the authors with the highest number of citations. This approach was chosen since the researchers wanted to provide a united picture of the data presented, in different fields. However, since the research within the field of lean-agile leadership is relatively limited compared to general management theories, different management theories such as lean and agile have been combined to provide the lean-agile perspective and through this fit the chosen research questions. Furthermore, the limitations within this research area required the researchers to investigate other sources such as consultancy reports and webpages, with lower credibility. Furthermore, all secondary data used in this research have been triangulated through interviews and surveys to check whether they are applicable to the research questions investigated.

3.9 Ethics

Bryman & Bell (2015), states that the ethical aspect of research like this must be considered carefully. The authors explain that there are four areas which must be considered, namely: harm to participants, lack of informed consent, invasion of privacy and deception. To consider these four areas and to avoid ethical violations during the interviews, every interview started with the purpose of the research, but also what the data provided during the interview would be used for. All interviewees were also informed that they would stay

anonymous during the publication of this research, and was therefore only mentioned as the *manager* or the *interviewee* throughout the report. After each benchmark interview, the collected data was sent to the company for approval and comments of the data collected. For the interviews performed at GTT, every manager was given the opportunity to decline the interview, but also to not be recorded. Furthermore, the research was sent to the master thesis supervisor for approval. However, no data was sent to the interviewees after the interviews, as in the case of the benchmark companies. This was not considered to be necessary since the empirical findings were meant to reflect the general management view at GTT in different subjects. Therefore, were opinions seldom used if they were not expressed by more than one manager, which speaks to the anonymity of the interviewee.

3.10 Outline

The remaining parts of the research will follow the outlined structure, described below in figure 3.5. The research starts with a presentation of the *Theoretical Framework*, which will provide insight into the topic of lean-agile leadership and why a leadership change is needed. Secondly, the *Empirical data* collected both at GTT and the benchmark companies are described. The Empirical data in combination with the theory are later analyzed in the chapter *Analysis*. Finally, the results to the research questions are described in *Results*. Additionally, not described in this model, the results will be discussed and analyzed objectively with a final recommendation to GTT.

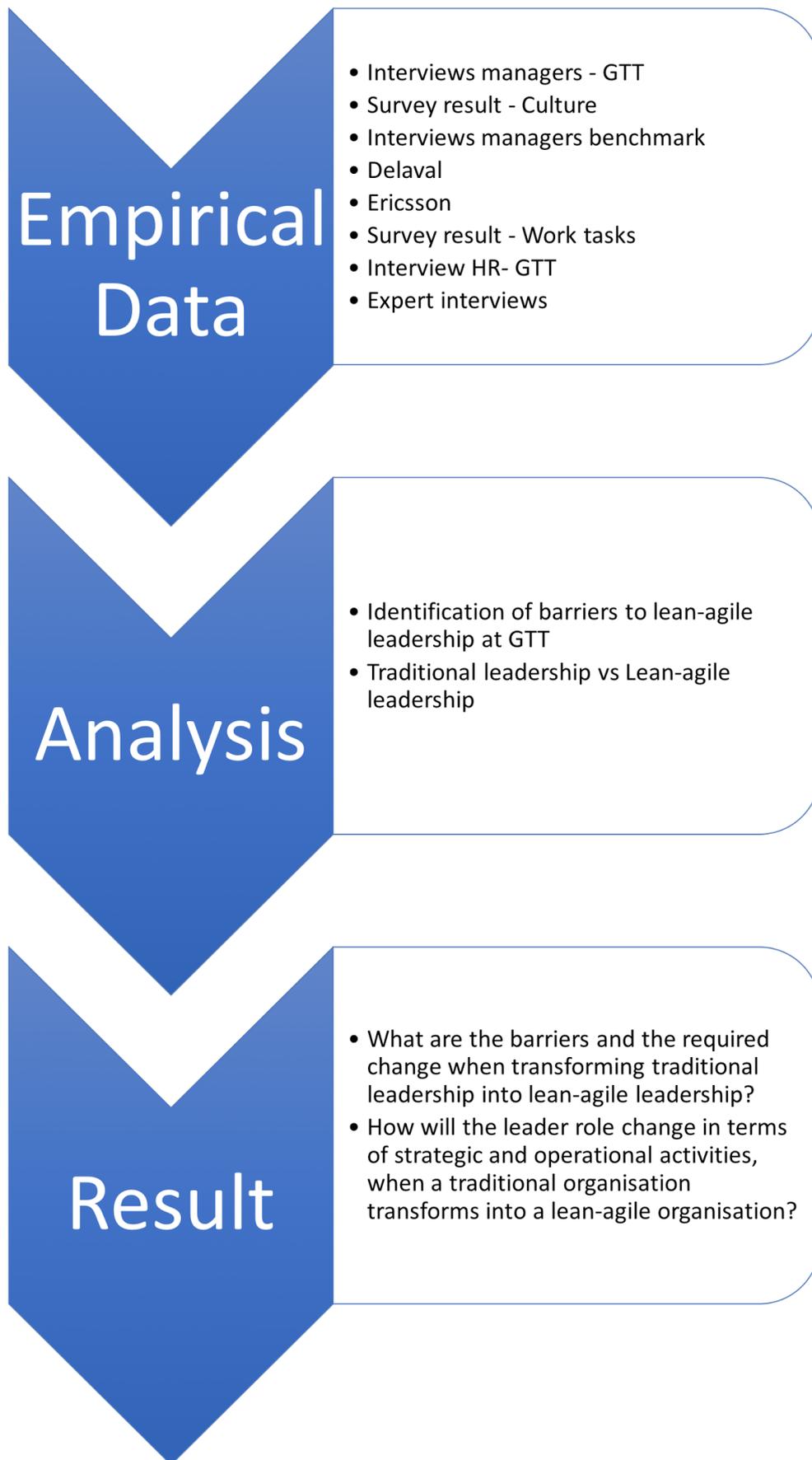


Figure 3.5, Description of the layout for the research

4. Empirical Data

In this chapter, the interviews that were performed are summarized. The chapter starts with the interviews at GTT, and continues with the benchmark companies Delaval and Ericsson. Finally, the expert and HR-interviews are summarized, together with the result of the work-task and organizational culture surveys.

4.1 Interviews Managers - GTT

The interviews at GTT were held with managers at three linked hierarchical levels; group managers, global technology managers and vice presidents. The interviews are addressing similar topics in general, but are partially adapted to each hierarchical level. The results of the interviews are summarized below in different categories.

4.1.1 What managers spend their time on

The managers at GTT were asked to list the number of work tasks they performed during a typical work week. They were also asked to estimate how much time they spent on operative work versus strategic work tasks. The results are summarized below, categorized in the three different leader roles.

Group Manager

A majority of the group managers spent more time on operational work and they wanted to be able to work more strategic work. It was perceived that the operational work, in terms of firefighting and solving urgent issues related to projects, prevented them from working more long term with strategic issues. However, some managers expressed that it was a matter of priorities. They felt that they had the freedom and support to work more strategic, but it was easy to be pulled towards the operational work if problems arose. One manager also expressed that it was important to be operational in the role as a group manager, as it meant that the manager understood the situation of the employees better.

Most of the group managers experienced that they spent much time on administrative work, consisting of budgeting, process work, monitoring and reporting. One of the managers tried to challenge the assumption that group managers needed to be occupied with an extensive amount of administrative work, which had resulted in more time for the employees. Many group managers also experienced that they spent a lot of time in different meetings, both tuning meetings and meetings were one discusses processes, decisions, obstacles and other important issues. Many of these meetings were perceived as ineffective by the group managers. The role as a group manager also involved HR responsibilities such as recruitment, setting goals, setting salaries, and developing the employees.

Global Technology Manager

At GTM-level, managers perceived that they spent most of their time in meetings with different management teams and steering committees. The meetings were focused on ongoing projects, which involved both project tracking, and also development of processes to continuously improve the work procedures. The meetings also involved technological strategy development. However, it was perceived by managers that there was not enough time for strategic work. This because managers had to spend much time on changing and updating the work processes, and also due to firefighting caused by urgent problems in projects. According to some of the managers, the role of a GTM were not meant to be as operational as it was, and they would like to see that some of the indirect operational work would reduce. Instead, managers would like to become more direct operational and interact with the teams, to get a sense of what was motivating and engaging them. It was believed that direct contact with the employees could serve as a good basis for the development of the vision. Shaping the vision according to the motivational forces of the employees was something that managers at GTM-level would like to spend more time on. The role as a GTM also involves administrative work, which includes budgeting, reporting, and HR responsibilities, however, most of the HR responsibility was delegated to the GMs.

Vice President

In line with the perception of the GTMs, the managers at VP-level experienced that they spent a lot of time in different types of meetings. The meetings were predominantly meetings of strategic nature with different management teams. The VPs were involved in strategic issues that concerned processes, people, projects and technology. Most of the strategic work concerned the three former areas, while strategy concerning technology was delegated to the GTMs. The role of a VP involved a greater responsibility in general in these areas, which meant that the managers at this level had to take the blame when problems arose in projects. When these types of problems arose or when a phase gate was closing up, the VPs became more operational in their work. Most of the managers at this level considered that it was important to be operational to some extent to keep updated on what was happening in the organization. However, the managers wanted to become more direct operational, and spend more time interacting with the employees, and spend less time on indirect operational work. In general, the VPs experienced that they spent more time on strategic work compared to operational work. However, the managers considered that the strategic work was not as long-term as they desired. The strategic planning was currently performed 6-12 months ahead, and not 3-5 years ahead, which was desirable by the managers.

4.1.2 View of leadership function

Closest to the product, the managers expressed that their most important function as a leader was to be responsible for both the physical and psychosocial work environment. Furthermore, these managers had the responsibility to hire knowledge workers and making sure that they had the right and necessary competence at hand. Further up in the organization, managers stated that it was important to make processes and structures work as efficient as possible for

the knowledge workers. Moreover, it was important to point out the direction, set goals and communicate vision to the organization. At the highest hierarchical level, leaders expressed that communication of how everything is linked together and how processes are connected was an important function in their role. But also, to support, encourage and coach the rest of the organization in the current way of working.

4.1.3 Decision making

When investigating the decision-making process at GTT, two main areas have been investigated: the overall perception of the *decision-making process* and how decisions and mandate are *delegated*.

Decision making process

All managers at all levels, perceived the decision-making process as slow. The GMs expressed that this was due to the excel sheets, power points and reports produced for higher management to make decisions. It was perceived by these managers that many decisions had to travel up in the organization before a decision could be made. In turn, this made many managers disappointed with the decisions, as they felt that higher management lacked understanding of the decisions. Moreover, some managers at this level expressed that higher management was not present for daily activities, and therefore, did not understand the problems that the GMs were dealing with. One manager expressed that the reason for the slow decision-making process was that no one dared to make decisions. Instead, managers and employees pointed towards a process instead of making the decision themselves.

At higher management level, GTM and VP-level, the decision-making process was also perceived as slow, but for different reasons. These levels of management pointed out that almost all decisions had to be made in consensus as group decision. In many cases managers from different organizational areas had to be involved and had veto in these decisions, even if the decision was not within their field. Other reasons for the decision-making process to be slow, was the numerous decision forums and the fact that decisions made, was not always accepted as final. For the numerous decision forums, many managers expressed that it was hard to separate who had the mandate to decide what, due to the matrix organization. The managers expressed that in many cases it was not clear whether the decision was a line or project decision, which created confusion and the need to make group decisions. In this area, the highest level of management clearly expressed a need for product ownership, which would make the decision-making process more structured, but also easier to evaluate who was actually affected by the decisions regarding the product. At the highest level of management, it was pointed out several times that many decisions were made too high up in the organization, and that people at the right places in the organization must dare to make decisions. One manager at the highest level, expressed that it was important within the matrix-organization to have someone to point at for responsibilities and decisions, which in turn created the control culture. The same manager also believed that this created an unwillingness to make decentralized decisions out in the organization, and decisions was

therefore pushed further up in the organization.

Delegation

All leaders interviewed stated that as many decisions as possible should be delegated downwards to avoid micromanagement. The general view was that all decisions on how a task or feature should be performed could be delegated, whereas what tasks or feature that should be performed was harder to delegate since strategic alignment between the tasks and features would be lost. Furthermore, managers stated that the HR-related responsibility could not be delegated since someone had to be responsible for the wellbeing of employees. Moreover, the formal decision making process did not allow for some decisions to be delegated since each managerial level could only spend a certain amount of money without clearance from higher management.

The GMs expressed that delegation of decisions and responsibilities depended on the individual. More experienced employees could handle more responsibility, whereas more junior employees needed some micro-management and less responsibility. Furthermore, the GMs expressed a high demand of prioritization between features and work tasks from higher management to be able to delegate responsibilities more efficient. When no clear prioritization between work tasks and features was given from higher management it was hard for GMs to explain it to the employees. The GMs explained that if more responsibility and work tasks could be delegated, this would free up time, which they could spend on strategic issues and people development in their part of the organization. At GTM and VP-level, the delegation of decisions was hindered by the lack of product ownership and the unclear decision-making process. One manager stated that the decision-power was determined by the distance to the CEO, and not the responsibility in terms of product delivery the manager had. For the decisions that could be delegated, higher management stated that they had experienced that not all people wanted to have more responsibility, which created problem in the delegation of responsibilities.

4.1.4 Internal Structures

This chapter will concern how the project methodology and the control level affected the leadership at GTT, and are further described below.

Project Methodology

It was perceived by many managers interviewed at GTT that the deeply rooted project methodology and project culture were affecting the managers negatively. Managers expressed that they spent a lot of time on project cost estimation, and they found that their estimates were expected to be accurate. However, according to many managers, this was frustrating since many projects consisted of new development, which were impossible to estimate accurately since no one had done a similar project before. This led to many poor project cost estimations. In addition, many managers experienced that specific project cost estimations were very ineffective in the way that it prevented platform development. One

manager expressed that it was unnecessary to spend a lot of time on estimating specific projects since it was already known what the whole department cost, and therefore it was considered that one should focus on what priorities that should be made instead of project cost estimations.

Control

Managers in all three levels agreed that the control level at GTT were too high. This included control related to budgeting, reporting, and decisions. Many managers felt that the high control level was a result of lack of trust and strict deadlines. Decisions were escalated in the organization, which meant that many decisions were taken by higher management. This implied that managers needed to get information about details, which contributed to control behaviors. According to some of the managers, the high level of control hampered innovation, and it was considered that less control could lead to better solutions. In order to solve the control issue, managers believed that it was required to decentralize decision-making to the level where the knowledge about the area existed. It was also considered that a coaching leadership style characterized by trust were required. However, one manager expressed that the level of control had decreased. An example of this was that the departments got the freedom to solve efficiency gains themselves, by deciding which costs to reduce. This was earlier decisions that were made higher up in the organization.

4.1.5 Measurements and KPIs

In this section, the existing *measurements and KPIs* at GTT will be presented, how they *impact* the work of the manager, and if they are considered to be *good and of value*.

Measurements and KPIs

At GM-level, some of the interviewees explained that they did not really know what they were measured on, in terms of when they and their employees had performed well or not. However, many GMs also mentioned that they measured many project related KPIs within the company and that their job was operational in terms of filling these out. Examples of this could be to estimate budget, deliver tech reports, making sure that products are delivered on time, and also being responsible for HR-related KPIs and attitude surveys. Additionally, at GTM and VP-level, most of the measurements were project-related in terms of project gates passed, cost of personnel, realizing software on time, lead-time to correct an error, and also HR-related KPIs and knowledge management.

Impact of measurements and KPIs

At GM-level, many of the managers expressed that the estimation of budget for the upcoming work took a lot of time. Furthermore, it was stated that it was tough to estimate the budget for the upcoming work, since the technical development was unpredictable. Some of the GMs stated that the project related KPIs were blunt and did not really impact their work that much, but could give some direction and guidance if something had to be changed. A reflection made from the GMs was that it seemed more important to the company that the requirements

for the project should be filled out, instead of measuring the value brought to the customer. At GTM and VP-level, the KPIs and measurements was expressed to give focus to the work, whether the managers liked it or not, which was both considered good and bad. Also, these levels of management had to report their KPIs to management above them, which was considered time consuming. The KPI of reporting consumed number of project hours was expressed by one VP to damage the morale in his workforce, since people got afraid to lose their job when constantly measured on their number of hours consumed.

Good and valuable measurements/KPIs

Most of the GMs stated that they did not think the right things were measured and explained that it would be better if the KPIs would motivate the employees more in their daily work. Other suggestions from the GMs was that individuals should not be measured, and that it was more important to measure the product and its value brought to the customer. At GTM-level it was explained that what should be measured was discussed a lot and that the KPIs were not meant to point at individuals, but to point out general improvement areas. At GTM-level it was also agreed that the KPIs were too focused on the original plan than the actual value brought to the customer. Sometimes it was more important to deliver a product or feature on time, than making sure it was generating customer value. At VP-level, the measurement system was also discussed a lot, and it was stated that to find a good way to measure the employees was hard. First of all since when a measurement was changed, important aspects from the previous KPI was missing, which led to an increased number of measurements instead. At VP-level one reflection was that the measurements should be more focused on product maturity, and how the product was perceived by the market.

4.1.6 Effectiveness and customer value

This chapter will concern how leaders work to enable their teams to be as *efficient* as possible. But also, enablers for effectiveness and customer value, such as *communication* within the company and *providing a holistic view of the problem* for the team to solve as a unit with less restrictions from management.

Efficiency work

At GM-level the structure of how a leader should work with efficiency was divided. One manager explained that removing hindrance and problems in advance for the team was the main way of working with efficiency. Another manager expressed that talking about values and stating clear goals and expectations had worked best as efficiency improvement. Thirdly, one manager stated that empowerment to the team was the most efficient way, since this enabled the team to make their own decisions and could therefore speed up the working process. At GTM-level, it was explained that weekly meetings were held to improve the existing processes within the technology segment. Improvement potentials from the knowledge workers was brought to these meetings and was evaluated and discussed by management. Furthermore, it was stated that impediments brought up by the GMs was discussed at these meetings. At VP-level it was stated that the economical perspective was

important, to produce more with the same budget. This resulted in initiatives such as automation of verification, investigations of lead times and customer visits to make sure that the organization was working with the right things. Furthermore, the VP-level management agreed that the project structure was a hindrance for working as efficient as possible, since the different projects was sub-optimizing the product development.

Providing a holistic view of the problem for the team

Also at this subject the GMs were divided in whether providing a more holistic view of the problem to the employees would be more efficient or not. The main critique in this area was that some teams may not be occupied at all times, and that it could be hard for the employees to learn the necessary skills to complete all tasks instead of just the tasks in their current silos. The positive criticism focused on the problem solving and that several mistakes could be avoided if the competence of each worker was increased and the silos was removed. It was also stated that when working in silos with different project members for each task, it was hard to reassemble the people who did the initial work when something had to be corrected. This increased lead time of problem solving and reduced efficiency. At higher management level, the main concern with this way of working was the synchronization between the teams, since teams were dependent on each other's outcome and a too free way of working would result in a dysfunctional end-product. Also at this level, it was agreed that this would increase motivation in the work, which would increase the productivity and efficiency in the long run.

Communication

Regarding the communication, the majority of the managers stated that GTT had a high level of transparency. Information was shared through several channels and information was seldom hidden or hard to get hold of if needed. However, regardless of this, management had experienced criticism for not being able to communicate effectively enough. The criticism mainly regarded why certain proposals, made from workers and lower management, was rejected and that managers were not present in the organization to see for themselves why the proposal was made from the start. Furthermore, it was stated that e-mails were used excessively to communicate information of this kind, which therefore often was neglected by the receiver. In this scenario, higher management often experienced that there was a lack of understanding from the organization why certain organizational changes were made.

4.1.7 Motivation

For the motivational view of the knowledge workers, the leaders were asked what they believed were the *motivational drivers* for the workers. But also, what they as leaders could do to *improve the motivation* among the knowledge workers.

Motivational drivers

The shared view of the interviewed leaders, was that the knowledge workers mostly was motivated by solving challenging technical problems. Other aspects mentioned was to be able to affect and have an impact on the work environment and the end-product. Furthermore, the

possibility for personal development and knowledge creation was mentioned as contributing factors for motivation. Most leaders perceived payment and salary, less important as a motivational driver, as long as the payment and salary was good enough. Many leaders also mentioned that the work environment could be a motivational driver, since many knowledge workers had stated that they liked the team and the colleagues that they were working with.

Improve motivation

Regarding what leaders could do to improve the motivation among the knowledge workers, it was mentioned several times that it was important for the leader to first of all understand what motivated each individual. This was perceived as a hard task by the leaders to solve, since what motivated each individual was often not the same between employees. Therefore, creation of common motivational targets was not as easy to find. The leaders also mentioned that it was important to challenge the knowledge workers with both new work tasks and new areas of improvement. Moreover, leaders stated that when presenting a more holistic view of the problems, many knowledge workers became more motivated since they understood the context of the problem.

4.1.8 Competence development and Innovation

This chapter will concern how leaders are working with competence development, and innovation for the knowledge workers to improve personal development.

Competence development

The leaders at GTT explained that the competence within the company was reviewed once per year, called a yearly education cycle. Based on this every manager was given an education budget which could be distributed on the knowledge workers. The courses and educations provided was both decided from what the workers wanted to learn more about, but also from what the managers thought was critical competencies. Educations and courses were both held to teach GTT's internal process to be able to execute the work at GTT, but also external educations. Many managers stated that they considered educations and courses an important aspect to be able to develop the knowledge workers, but stated that the education budget was often too narrow to meet the demand of knowledge. Except for these traditional ways of increasing competence development and learning, a few initiatives had been taken to use internal knowledge more efficiently. The first one was ***knowledge transfer***, which meant that permanent employees met to exchange experiences from previous educations and seminars. This was exemplified by knowledge workers having a presentation about the attended seminar or course for the rest of the team about the key insights. The second initiative, ***Communities of Practise (CoP)***, was weekly meetings where developers from the same competence area discussed problems regarding and development issues regarding e.g. software implementation and verification. Finally, a recently started initiative was ***Video conferences***, regarding software quality, which was bought from a distributor.

Innovation

From an innovation perspective, several managers described that innovation goals such as filling out one patent per year, had been measured. However, this initiative was not successful since the managers described that innovation was not something that happened on demand, and had therefore been removed. Several managers also stated that the command-and-control structures, which they claimed was currently in place, hindered innovation initiatives due to all the reporting of what was currently being executed. Furthermore, many managers stated that they would like to work more with innovations, but the insecurity of what the different innovation-initiatives would produce and how much it would cost were barriers against it. Moreover, one manager stated that innovation would be a contributing factor to increase motivation among the knowledge workers if worked more with.

4.1.9 Culture

The managers at GTT agreed that the culture in the organization was characterized by openness, engagement, respect for individuals, diversity, and globalism, which many managers considered to be a desirable culture. It was also perceived that the organization had a deeply rooted mechanic culture that influenced the working procedures and mindset.

Control - When the managers at GTT were introduced to the Schneider Model, the company culture were mainly identified in the ***control quadrant***, which were an undesirable state according to a majority of the managers. It was perceived that the control culture was a result of a long mechanical history, which was characterized by strict processes and best-practice solutions. It was mentioned by several managers that the culture easily turned into a control culture when it was perceived that things were not working. However, managers experienced that the amount of control had started to decrease, and that the organization were moving away from the control quadrant. Managers believed that this was due to the fact that software engineering had become increasingly important in the organization's development, and this required a different type of culture that was characterized by less control mechanisms.

Competence - There were different perceptions about the ***competence quadrant*** among managers at GTT. Some experienced that the organization were strong in this area, and that the culture were characterized by competence, while others thought that the organization were weaker in this area. It was believed by managers that competence would be important in the future, and therefore, managers wanted to move towards this kind of culture more.

Collaboration - The ***collaboration quadrant*** was mentioned by many managers, both as something that characterized the current organizational culture, but also as something that the organization were moving towards. Managers perceived that collaboration characterized the culture greatly when things worked well, however, as mentioned earlier, one tended to move towards control when problems arose and when things were not working. Collaboration was also experienced as difficult by the managers at GTT, since they worked in a global

organization where the physical distances between the employees made cooperation troublesome.

Cultivation - Almost all managers considered that the desirable culture at GTT lies between the *cultivation quadrant* and collaboration quadrant. Some of the managers expressed that the organizational culture was least characterized by cultivation currently. It was believed that KPIs and measurements, along with the current decisions process, inhibited this type of culture. Many managers expressed that they were passionate about cultivation, and they considered that this culture was required in the industry they worked in, especially after software had taken an even more significant role in the industry.

4.2 Survey Result - Culture

To investigate whether the organizational culture perceived by management was aligned with the perception of the knowledge workers, a culture-survey was sent out to the knowledge workers. The questions asked for the survey is based in the work of Schneider, (1994) and can be found in Appendix D. The results from the survey is described below in figure 4.1, which explains the percentage of *control culture*, *collaboration culture*, *cultivation culture* and *competence culture*, perceived by the knowledge workers.

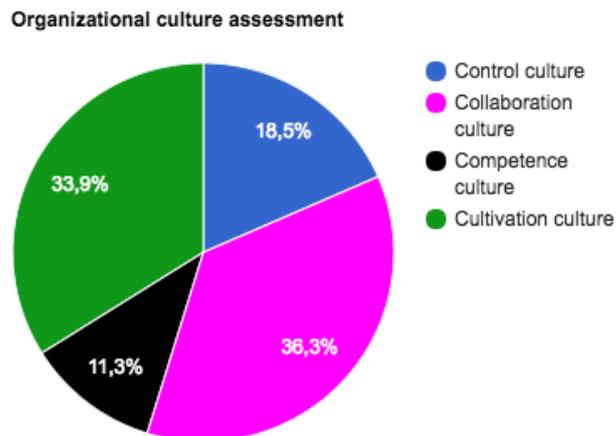


Figure 4.1: Organizational Culture Assessment

4.3 Interviews Managers Benchmark

The interviews with the managers at the benchmark companies treated the same subjects as the interviews with managers at GTT. In addition to this, the managers were also asked to share their thoughts about the lean-agile change processes that they had experienced and what steps that were needed in order to create lean-agile, and agile, leadership. Other issues raised dealt with the changes in the leader role, and the barriers that existed and how they managed

to overcome them.

4.4 Delaval

Two managers were interviewed at Delaval. One of the managers were a verification and validation manager and had responsibility of 22 test engineers at Delaval. The other manager were a software development manager and managed over 30 employees in Sweden, and 20 in Polen. Delaval started their lean-agile transformation in 2011 and used the framework SAFe. The lean-agile transformation was only implemented in software development at Delaval at the time, and not in hardware development. The interviews treated the same subjects as the interviews with the managers at Ericsson, and the results are summarized below.

4.4.1 What managers spend their time on

The managers at Delaval were asked to list the number of work tasks they performed during a typical work week. They were also asked to estimate how much time they spent on operative work versus strategic work tasks. The results are summarized below.

Current leader role

The verification and validation manager were a part of the program team at Delaval, in which several teams were included. The manager mentioned that a part of the role consisted of prioritizing different tasks so that the teams were synchronized, to make sure that they were working with the same functionality at the same time to increase efficiency and avoid bottlenecks. This together with more detailed planning and removing impediments concerning the teams, constituted the more operational work as a validation and verification manager. The manager also mentioned that time were spent on regular program team meetings and steering group meetings. The more strategic work consisted of competence assessments, visions concerning the working procedures, and cooperation with other projects.

The software development manager had a more strategic role, but were also a part of the program team, with the program managers, release managers, and verification and validation managers. About 30 % of the working hours during a regular week were spent in the program team, acting as a servant leader, which also constituted the manager's operational work. The rest of the time were spent on more strategic issues in different management groups, and prioritizing the work more long-term, according to the formulated strategies.

Changes after the Transformation

The validation and verification manager perceived that the most distinctive change in the leader role after the lean-agile transformation was the time perspective for the planning. Instead of looking two years ahead, one tried to define and break down what could be done during the next 10 weeks, which were perceived to be challenging according to the manager. The same manager mentioned that more time were spent on synchronizing teams in the program, and managing the backlog, while less time were spent on resource management.

Since they no longer estimated and managed the resources for every project, this type of operational work had been reduced and replaced by managing the backlog.

According to the software development manager, the manager's role had changed mostly in the sense that one managed teams instead of individuals. This meant that, as a manager, one had less individual contact, and the follow-up work was made on team level instead on individual level. The fact that a whole team were accountable for something was considered as a very positive thing by the manager. This contributed to aligned priorities in the team, and that the team also became less vulnerable if a team member was absent.

4.4.2 View of leadership function

The managers agreed that their most important function at Delaval were to serve the teams in different ways. According to one of the manager, servant leadership involved tasks such as listening to the teams to discover different issues and obstacles to tackle, but also to not exercise a command-and-control leadership style that could limit the teams in their work. It also included supporting the teams, making sure that the prioritizations were known, and give the teams a more holistic view of the different projects.

4.4.3 Decision making

When investigating the decision-making process at Delaval, two main areas have been investigated: the overall perception of the *decision-making process* and how decisions and mandate are *delegated*.

Decision making process

The managers interviewed stated that in lean-agile development, decisions had to be made more frequently compared to traditional development. This mainly concerned different prioritizations of work tasks, and determination of whether work tasks could be considered completed, or not. In traditional development, these decisions had to be made in collaboration with the project manager. However, by doing so, the decisions were made less often but instead held greater importance and was therefore often larger decisions. Another manager stated that the decision-making process was quite different now when the decisions made only concerned the current increment i.e. the current 10 weeks. It was explained that in traditional development the scope of the work tasks could change from day to day by the project manager, whereas in lean-agile, the backlog was locked and no changes could be made in the current increment. Furthermore, it was stated that the prioritization regarding the decision process had changed. Decisions concerning the teams that had direct impact on the product development lead time and speed of the teams were prioritized to make the teams more effective. However, decisions with planning characteristics that had higher strategical importance were still made in groups and consensus to achieve the best possible decision.

Delegation

Concerning delegation of decisions, one manager stated that it was important that all tasks

entered the backlog to improve the visibility of what tasks that needed to be done. From this, it was easier to delegate responsibility and have a dialogue about progress, problems and how the work was coming along. Both managers interviewed expressed that they had experienced problems with teams that did not want to take the responsibility necessary for the work. One of the interviewees explained that due to the increased visibility of the backlog, it was no longer possible to hide in the work process, which made some employees uncomfortable. This was stated as one reason for the employees not wanting to take responsibility. Moreover, the managers explained that they had tried to solve this problem by educating and talking about personal leadership with the employees, and what that meant in their context.

4.4.4 Internal Structures

One manager considered that the view of individual time planning, and how it used to be performed, were limiting in the new way of working. Before the lean-agile transformation, employees were used to fill 100 % of their time in the planning. However, in the lean-agile way of working, only 80 % were supposed to be filled, since employees were asked to save time for unforeseen events. Additionally, it was stated that the organizational planning procedures differed in the two methodologies. The manager explained that the backlog directs the work in agile, and must be the primary focus for all the developers during the 10 week increments. However, it was perceived by the manager that this was not completely understood by the project organization. When the project managers interfered and changed the backlog planning, it caused demotivation, and insecurities among the employees, since the lean-agile working procedures could not be followed.

4.4.5 Measurements and KPIs

In this section, the existing *measurements and KPIs* at Delaval will be presented, But also how they *impacted* the daily work of the manager.

Measurements and their impact

The managers at Delaval explained that their KPIs and measurements had changed when implementing the lean-agile ways of working. Before the transformation, the measurements were project related with measurements such as resource use and phase gates etc. However, Delaval had just implemented a new measurements called *definitions of done*, which meant that a check cheat must be filled out before the task could be considered done. This was a good way to not create work debt that had to be completed later when new tasks were started. Furthermore, Delaval measured how well they completed their increment goals, which meant that the actual delivery of features was measured against how many features they had planned to deliver that period. Delaval, did not currently measure lead time from an end-to-end perspective, but was currently discussing this matter and in what way it could best be measured in the feature.

An important reflection made from one of the managers at Delaval, was not to measure everything but, to collect data and act on the information provided. To create specific

organizational goals from these measurements were considered second priority, and not as important as the collection and acting on information. Furthermore, this manager stated that such measurements and goal setting could easily sub-optimize the organization. Therefore, it was more important for management to understand the organizational processes from the data, instead of setting specific measurement-goals.

4.4.6 Effectiveness and customer value

This chapter will concern how leaders work to enable their teams to be as *efficient* as possible. But also, enablers for effectiveness and customer value, such as *communication* within the company and *providing a holistic view of the problem* for the team to solve as a unit with less restrictions from management.

Efficiency work

Both managers interviewed stated that it was a clear difference between the traditional and the lean-agile way of working in terms of making the teams as efficient as possible. The managers stated that to work with dependencies between different teams and to create flow, was one of the main tasks in their line of work. If impediments could not be solved on team level, the different issues and dependencies were escalated to a meeting called “pulse-meeting”, which took place among higher management. Regarding the dependencies between teams, it was stated that one function of the manager was to enable efficient communication between different teams, and to make sure that if they had dependencies both teams should have synchronized plans that considered the dependency. One manager also stated that T-shaped competence was an important part to make the workflow more efficient, since it enabled team members to execute more than one work task within the team's responsibility. This also created an atmosphere where different team member helped each other out with different work tasks, to enable better team collaboration.

Providing a holistic view of the problem for the team

When providing a holistic view of the problem for the teams, Delaval executed this by having so called “big room planning”, where all the teams gathered and got information from the product owner. It was explained that these meetings should focus almost explicitly on why the product was needed, and as little as possible about how the feature or product should be developed. This approach of not talking about how the feature should be developed, was applied since it was considered to increase the motivation of the knowledge workers due to increased freedom of the work process. However, it was explained by one manager that Delaval had some problems in this phase since the requirements of the product were sometimes considered too vague for the teams to actually be able to produce customer value.

Communication

One of the aspects regarding communication that had significantly improved since the implementation of lean-agile, was the more frequent communication with the product owners. When working traditionally, it was explained that the time that passed before the

knowledge workers could present result regarding the project to the product owner, was significantly longer. This communication in turn also enabled the customer to get more information regarding the product and the current state of it. The managers also explained that the lean-agile transformation also meant that managers were more visible in the organization, which was a result from the more continuous delivery of software which management participated in. One manager explained that the teams at Delaval had demos, every tenth week, which showed both management and the customer what was achieved since the last increment. A good example of this was that one of the stakeholder to a product had expressed the statement: *“Before agile, I was really disappointed once every sixth month, today I am a little less disappointed more often”*.

4.4.7 Motivation

For the motivational view of the knowledge workers, the leaders were asked what they believed were the *motivational drivers* for the workers. But also, what they as leaders could do to *improve the motivation* among the knowledge workers.

Motivational drivers

Regarding the motivational level after the lean-agile transformation, the managers were divided in their opinion. One manager stated that it was most likely no difference in the motivational level among the employees, whereas the other manager stated that the motivational level had most likely changed to the better. This was especially true for teams which had good team members and a good team environment. If a team had persons which lowered the motivation for the rest of the team, the whole team was considered to suffer from this. Therefore, it was concluded that the motivational level for each individual was highly dependent on the team spirit. Another motivational driver compared to traditional development, was that team members perceived the more frequent completion of work tasks more motivating than before.

Improve motivation

When the managers were asked how they worked to improve motivation, it was stated that one action taken towards this was to explain how the feature or work task fitted in the bigger picture. As stated earlier the so called “big room planning” was an important part in this line of work. Furthermore, continuous employee talks with the knowledge workers to see how they liked their current work tasks were mentioned as a strategy to improve the motivational level. When an employee felt that they had been working with similar task for a longer time, the manager tried to make sure that the team tried a new line of work tasks instead of the old ones. Another strategy mentioned to improve motivation, was the re-movement of impediments for the team which in many cases could be perceived as frustrating when the teams could not proceed with their work as planned.

4.4.8 Competence development and innovation

This chapter will concern how leaders are working with competence development, and

innovation for the knowledge workers to improve personal development.

Competence development

From a competence development perspective, it was stated that most of the learning was created within the organization instead of offering different courses and seminars. This was exemplified by a model where employees spent a week together with someone from a different competence area to learn how they worked there. Another part stated for both organizational learning and individual learning, was the retrospectives performed after each sprint and increment. Furthermore, the lean-agile setup itself was stated to promote learning, since knowledge workers were continuously challenged with new work tasks within the team environment. When the team were made responsible for a work task, it was common that knowledge was transferred between different team members.

When discussing T-shaped competence, it was explained that a team worked most efficient when every team member's strengths were utilized. However, a broader competence must be encouraged for the team to perform as efficient as possible. One manager explained that the vision and goal of the T-shaped competence was that every team member should be able to pull something out of the backlog and start working on it. This situation would also enable that certain competences would not become too important in case of absence of a worker. Therefore, Delaval had promoted that teams together decided upon the work tasks that everyone should be able to complete, and that in each team it should be at least two workers who could perform each single task.

Innovation

Both managers interviewed, explained that Delaval had made room in the work process for innovation work. The managers explained that after every increment, one week was spent on planning the next increment but also time assigned for innovations. However, even though time was given to the knowledge workers to spend on any innovation they wanted, this process was perceived as slow and not as fruitful as expected. Management at Delaval perceived this situation as a challenge, and expressed that better ways to inspire and motivate the workers to use this time for innovations must be found. One reason for innovations not to take place to a greater extent, was that many teams instead spent this week to plan the upcoming increment or to work on the previous increment, if not all work had been completed.

4.4.9 Culture

The managers expressed that there existed two different cultures at Delaval, one culture in the software department, and one culture in the hardware organization. It was explained that the current culture in the hardware department was dominating the organization. However, the emerging software culture were growing, and gained more and more influence in the whole organization. It was perceived by the managers that a culture characterized by collaboration, togetherness, and teamwork was desired.

It was considered by both managers that the culture in the hardware department of the organization was characterized by **control**, and that this culture influenced the organization as a whole. However, it was explained that the lean-agile transformation had resulted in a culture characterized by less control in the software development department, and that this also affected the whole organizational culture. One manager expressed that the hardware department at Delaval, which worked according to a project structure, were not actually having as much control as they perceived. The manager explained that the extensive and long-term planning were creating a false sense of control and certainty, but that it was no actual reality and facts behind this sense of control.

The culture in the hardware department was still characterized by **competence**, according to the managers. However, it was perceived that this culture had decreased in the whole organization after the lean-agile transformation. It was perceived that specialist competencies were highly valued before, and that employees, who possessed this type of deep competence in one single area, were not encouraged and promoted to the same extent after the lean-agile transformation. Therefore, some of these experts decided to quit their jobs. One manager expressed that it was important to let these people go, to make room for the people who believed in the lean-agile way of working, and let them grow.

The managers perceived that the culture in the software department was characterized by **collaboration**. The culture in the whole organization had started to move towards a more collaborative culture. One manager expressed that the lean-agile methodologies were strengthened by this type of culture, and that it was important to encourage it. It was perceived by both managers that a collaborative culture was desirable. To succeed in growing this type of culture, one manager expressed that one should be as transparent as possible to create trust. If the people in the organization, who valued control, saw results and understood the lean-agile way of working, it was much easier to create a collaborative culture.

It was considered that a culture characterized by **cultivation** was desirable as well. One manager perceived that the culture at Delaval had a certain measure of cultivation in the culture, but that it was desired to become better in this area. To succeed with this, the manager thought that one should let employees with less experience contribute as much as the experienced employees, which would make everyone feel needed in the organization.

4.4.10 Changing the Leadership

This chapter concerns how Delaval changed the leadership to be more lean-agile. Firstly, the *conditions* that must be in place to lead according to lean-agile principles was asked for. Secondly, the *steps in the change process* when transforming the leadership was examined.

Conditions

Regarding the conditions needed to be able to lead in a lean-agile way, the managers at

Delaval mentioned that as a leader it was important to be good at collaboration, but also liking the collaborative way of working. Furthermore, since the lean-agile setup often increased the requirements of communication within the organization, it was stated that managers had to possess good communication skills to be able to point out the direction and to solve different impediments within the organization. Moreover, the managers explained that it was good to be educated in both the principles and the values of lean-agile, to be able to recognize when the leadership did not comply with the lean-agile philosophy.

Both managers interviewed, explained that higher management's understanding and support for the lean-agile principles were important conditions to be able to lead properly. One of the most significant conditions which had to be in place from an organizational perspective was the alignment of prioritization throughout the organization. Higher management and project management, had a tendency of not sticking to the original prioritization, made in the start of the increment. This made all parties involved in planning the upcoming increment less motivated since they knew the plan would change as soon as the project manager had changed his or her mind.

Change process

The managers at Delaval concluded that the most important part to relearn from a management perspective was the creation of teams and what that meant in the lean-agile setup. To be able to trust the team to perform their work could sometimes be difficult when for example the team made time estimations which were too optimistic, or when teams became too passive in their work. Both managers explained that when some manager fell back to the command-and-control leadership style it was important to remind the manager about the behavior in a nice and humorous way, since this was something which happened to almost all managers sometimes. Also regarding the change process, it was stated that different educations and courses were important elements to support the change of leadership. Another mechanism in place, was the so-called program team's meetings which Delaval performed three times per week. In these meetings managers often discussed management related behaviors and how to act in different situations, especially regarding if there were any significant benefits of applying command-and-control behavior or if this could be avoided. This was considered to be a good way of keeping a continuous improvement of the leadership development at Delaval.

4.4.11 Barriers and Enablers

This chapter describes the barriers that were identified at Delaval during the lean-agile transformation. It will also concern the enablers that helped to overcome these barriers.

Behaviors

To encourage the wanted behaviors at Delaval, managers tried to remind each other what it meant to be a lean-agile organization and what behaviors that were required to give the teams the best possible conditions to prosper. These behaviors were characterized by collaboration,

transparency and accountability. These type of desired behaviors could be rewarded with a small bonus at Delaval.

Teams, Not Individuals

In the software department, the project manager had a huge responsibility before the lean-agile transformation at Delaval. It was the project manager who delivered, and therefore, it was easy to push the project manager to unreasonable limits. This was a cultural barrier according to one of the managers, since the project manager were not delivering in the lean-agile organization, it was the team. To overcome this barrier, it was considered important by the manager to make sure that everyone in the organization understood that in software development, Delaval had teams and not individuals.

Planning Horizon

Something that were also considered a barrier, was the different ways of planning in the two parts of the organization. In the project structure, that the whole organization worked according to before, one made plans far ahead, and committed to these plans. However, this was not the way things worked in the lean-agile structures. The planning was short-term, and the detailed planning were performed 2 weeks ahead. The plans changed, and were re-prioritized if needed. Therefore, it was considered important to educate everyone involved in the lean-agile structures, and ways of performing planning, so that a mutual understanding between the organizations were created.

4.4.12 Higher Management

Both managers considered that it was important to have commitment from top management during a lean-agile transformation. One manager expressed that it was particularly important in budgeting, since budgeting in lean-agile structures were estimated for a product and not in projects. In addition, one manager expressed that higher management needs to understand what it means to have a lean-agile organization in a project organization, and make them work together. It was perceived that middle management, that act as a wrapper between these two organizations, gets the blame and has to take a lot of responsibility. This was because higher management did not have enough knowledge and understanding of lean-agile methodologies, and their meaning.

4.5 Ericsson

The two managers interviewed at Ericsson were both sector managers at the R&D department, which meant that their role were most similar to the role of a VP at Volvo. Both managers that were interviewed had worked according to the traditional waterfall model before. However, the introduction of lean-agile methodologies started at Ericsson in 2012, but different departments were at different stages in their lean-agile transformation. It was decided that one level of managers were going to be removed during the transformation. This resulted in four levels of managers in the BU (Business Unit), namely; section, sector, PDU

(Product Development Unit), and DU (Development Unit) managers, described below in Figure 4.2. The role as a sector manager at Ericsson differed from department to department. For one of the managers, the role involved a responsibility over 500 people, and for the other manager it meant a responsibility for 110 people. However, both of the managers had global responsibilities, and they had only one level of managers below them.

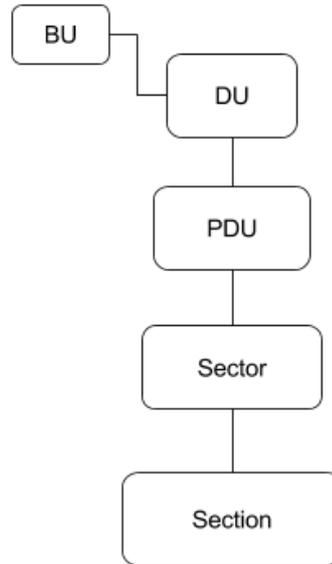


Figure 4.2: Typical Ericsson Management Levels (R&D)

4.5.1 What managers spend their time on

The managers at Ericsson were asked to list the number of work tasks they performed during a typical work week. They were also asked to estimate how much time they spent on operative work versus strategic work tasks. The results are summarized below.

Current leader role

The managers at Ericsson experienced that they spent most of their time in meetings concerning operational and strategical issues, at PDU level. They spent a majority of their time with strategic work, consisting of long-term planning of strategies. One of the managers expressed that it was important as a sector manager to anchor different issues with the teams before the strategies were formulated, in order to match the strategies with the team's needs. Therefore, operational meetings were focused on teams' impediments. In addition, one manager also expressed that it was prioritized to spend time with the different teams, and that this formed a basis for the formulation of the strategies. The managers also experienced that a lot of time were spent on optimizing the flow in the organization. To get a clear picture of the teams' different impediments and challenges were therefore crucial as a sector manager. The role as a sector manager also involved budgeting and resource planning. The fact that they worked in a program meant that this responsibility was broad, and more end-to-end.

Changes after the Transformation

The managers perceived that their roles had changed in many ways during the lean-agile

transformation. The most distinctive changes concerned the mindset. One manager expressed that it was important to have an lean-agile mindset higher up among managers, since behaviors were easily projected downwards in the organization. Even though a manager were not the one closest to the team, it was important to think in terms of flow, empowerment, and accountability. This was strengthened by the other manager, who stressed that the biggest change was thinking in terms of flow when making decisions, and developing strategies. Another change related to the mindset was the switch from thinking in terms of project to thinking in terms of program. The result of this were broader management roles and responsibilities, which required managers to apply a more holistic view than they had earlier.

The amount of strategic and operational work was perceived to be similar to their previous roles. However, one manager expressed that operational meetings were more focused on teams' impediments, and that the operational work was more direct than before. The manager was earlier more indirect operational through other managers, but this had changed and the operational work consisted more of direct contact with the teams. The same manager expressed that the department was more independent now than before, which resulted in more time for strategic work. Another change that were experienced were that the administrative work, in terms of reporting, had decreased. The mentality had changed concerning this, and it was now up to the leader to go and find the information, that was earlier reported in different forums. The managers also experienced that they had gotten closer to the customers after the lean-agile transformation, which meant that they now interacted more with the customers. This to become more open to possible changes related to the products.

4.5.2 View of leadership function

Enabling productivity and efficiency in the department through the processes used, the strategy formulated, and the leadership exercised, were considered the managers' most important function. Putting together the right teams, ensuring competence, and enabling continuous integration and feedback, were considered as important tasks. The leadership that was considered optimal was a servant type of leadership, where the leaders most important task were to strengthen the teams to become autonomous in their role. It was considered that the teams performed best when they were empowered, and therefore, the manager need to trust the team. The managers also mentioned the importance of flow, and that it was the manager's responsibility to enable this in the organization. Highlighting the team's impediments, and to think in terms of flow when taking decisions, and developing strategies, were therefore also considered as an important function of the manager.

4.5.3 Decision making

When investigating the decision-making process at Ericsson, two main areas have been investigated: the overall perception of the *decision-making process* and how decisions and mandate are *delegated*.

Decision making process

The interviewees explained that the decision-making process was somewhat faster after the lean-agile transformation, mostly due to the size of the deliveries. When smaller deliveries were made, the decisions themselves became smaller and could therefore be made faster than a larger decision. Furthermore, more decisions were now delegated to lower levels and could therefore, without further input from management, be made at lower levels which also speeded up the decision-making process. However, one manager explained that even though the decision-making process were a little bit faster than before, it was still too slow and something that Ericsson worked with continuously to improve. This manager explained that it was important that the decision-making process was fast, so that the process itself did not become a bottleneck which would slow down the speed of the teams and their work.

The managers explained that the biggest different in decision making, was on what background the decisions were made. In the lean-agile system, it was more important to always consider what the customer wanted, and how this would affect the decision-making process. Earlier, in the traditional organization the development of products was made according to standard procedures, which did not allow for as much customer feedback during the development process. Moreover, many of the decisions regarding the product were made in groups of managers consisting of 5-7 managers. When the group could not make the decision, or did not agree, the decision was escalated to the next management level above. A reflection made from one manager was that some decision, which most likely would affect many employees were harder to push down in the organization. These types of decisions were still considered slow, and especially if concerned what products that should be made etc, which had high strategical importance.

Delegation

Regarding delegation of decisions, it was stated by the managers that they were still trying to empower teams and make them both take more decisions and make them more accountable for their work. A significant key for this to happen was to create a “safe to fail environment”, where failures were not as prohibited and avoided. From a management point of view, the one interviewee explained that it was hard to not fall into balming mode as soon as something went wrong. The interviewees explained that trust had to be shown several times to the team to let them feel more secure about making decisions, taking own initiatives and be accountable for what they have produced. One manager stated that the main problem regarding delegation and empowerment, was management's mindset when things are not going according to plan for a team. How can a manager make sure that the team is on the right track and in line with the company's strategy, without interfering and taking away the empowerment and decision power assigned to the team? This subject was stated as one of the hardest from a management point of view, and was also something that the management team have had several discussions regarding.

4.5.4 Internal Structures

To enable continuous development and delivery, the project/line structure were changed to a program structure during the lean-agile transformation. The amount of reporting was also reduced to give the managers more freedom to distribute their time. It was realized that the amount of time spent on reporting could be reduced if managers started to seek information in the organization, instead of asking for it. One manager also mentioned that they still had problem with some internal structures after the transformation. The fact that the sector managers were needed to cooperate with product owners, who were in another structure and had a different view on lean-agile leadership, prevented empowerment. It was considered important that dependent parties had the same view on empowerment and delegation of decisions. Otherwise, managers could be hindered when trying to exert lean-agile leadership. It was believed that an alignment of the view on lean-agile leadership was required, to overcome this issue.

4.5.5 Measurements and KPIs

In this section, the existing *measurements and KPIs* at Ericsson will be presented, But also how they *impacted* the daily work of the manager.

Measurements and their impact

The managers interviewed, explained that the main differences in measurements between the lean-agile transformation and the traditional organization, was that many of the KPIs and measurements were project related, such as money spent in the project and deliveries assigned to phase gates. When the organization stopped working in projects, the measurements had to change as well. The interviewees stated that the main difference in the lean-agile way of working, was that lead time of production and development were measured to a greater extent than before. One manager explained that this type of measurement had changed his work tasks extensively, since in lean-agile development the flow of production and development had to be investigated extensively from an end-to-end perspective when doing changes. The same manager also explained that it was not as interesting to investigate how much faster a single process could be made, but instead how much faster can an idea be developed into a functioning product or feature. The manager explained that this type of mindset of always having the end-to-end flow in mind, was decided by higher management and was also one of the main contributing factors to reduce the lead time of product development.

Furthermore, it was stated that Ericsson also measured the predictability of the teams. This meaning that it was measured how much the team's estimated that they could produce, compared to how much they actually produced. The difference from the traditional organization was that in the lean-agile organization, the teams were responsible for the planning of how long it would take to perform a task or feature. This bottom-up solution of planning the delivery had forced the level of trust in the organization to increase, since the teams had to be trusted to know the best on how long a task would take to perform. However,

the manager also stated that sometimes there are cases where “hard-deadlines” existed and that the customer needed the product a specific day, which meant that nothing could be done about the team's own estimation.

A reflection made from one of the managers was that all the measurements and KPIs come from what types of questions the management level above asks. Therefore, it is important to have a dialogue with all management levels, since the measurements will impact behaviors in the organization. e.g. if the number of reports filled out is measured, the focus of the organization will be to fill out the reports, and a control behavior will be promoted.

4.5.6 Effectiveness and customer value

This chapter will concern how leaders work to enable their teams to be as *efficient* as possible. But also, enablers for effectiveness and customer value, such as *communication* within the company and *providing a holistic view of the problem* for the team to solve as a unit with less restrictions from management.

Efficiency work

Since the managers interviewed at Ericsson did not have direct connection to the teams, the efficiency work provided by this management level concerned to remove impediments on a higher level than the day-to-day work. Or impediments which could not be solved by the first-line manager. However, it should be stated that the re-movement of impediments and making the flow of work as smooth as possible, was mentioned several times during the interviews and was considered one of the most important parts for the managers. It was stated that it was important to approach the efficiency work from a holistic view, to not sub-optimize the performance of a certain sector or product development unit. Therefore, Ericsson had taken an initiative for improvements which concerned several parts of the company, these were escalated into a backlog for higher management to improve more holistic problems.

One manager stated that one of the most important parts of the efficiency work, was that the organization had started to measure lead time from an end-to-end perspective. Since the implementation of this measurement, the lead time had improved with 15-20 % from idea to customer receipt of a feature. The manager explained that this measurement was a good way of showing the organization that the improvement work actually worked, and that they had become more efficient. This was especially important to show for workers which doubted that they were more efficient now, when working with several tasks in T-shaped competence teams, than before when they were working in silos only performing one type of task. According to this manager, the improvement potential in the organization came from several parts of improvement, but one significant contribution came from the reduced number of handovers between employees, since each individual was more involved in all work-tasks and performed the task from an end-to-end perspective.

Providing a holistic view of the problem for the team

When examining the process of how the team was presented to a problem, our interviewee explained that it was a significant difference between the lean-agile way of working and from when Ericsson had a traditional project setup. The old process, was explained as having several more handovers between different employees, since one person should write the specifications, the next person should interpret the specifications and in many cases, re-write them and try to code it. The next handover was made to someone who tested the software on a low level, which later should be tested and integrated on a higher level with the next person.

The lean-agile process, had a different set-up: the first step was a technical analysis of the problem made by the system department. The next phase was called a “continuous analysis”, where the system department integrated the execution team in the process. The team together with the system department decided on what features to implement but also how the features should be implemented and integrated in the final product. In the same process, a customer representative was in place to describe the customer value, to make sure that this was not lost during the development. Thereafter, the team made their assessment of how the product should be implemented and how it should be designed to fulfill the requirements, but also, how this type of development affected the final product. Thereafter, the team made their own work-breakdown structure to estimate how much time it would take to develop the feature.

Communication

Regarding communication related to lean-agile and how it had changed, our interviewees mentioned that the communication had changed within three areas namely, transparency, knowledge sharing and direct communication. The first area mentioned was that Ericsson had a managerial role, called technical coordinator, which tried to improve the transparency within the organization by presenting the next quarters upcoming features to the teams. This was made to increase the understanding among the knowledge workers to see the bigger picture and how the different features were linked together, but also to explain the customer benefit and value to put the features in a customer experience context. In connection to this, all teams had retrospectives and sharing sessions every second week to display what demos of their performed work. This both increased transparency of what everyone was doing, but also the cross functional communication between teams and knowledge sharing among the employees. One manager explained that this occurred before the lean agile transformation as well, but now there was an official policy and arena for this to take place which had increased the knowledge sharing between the knowledge workers. Finally, the managers experienced that the direct communication towards the teams had increased. In the lean-agile environment, the communication was no longer performed through line-management, but instead came directly from product management.

4.5.7 Motivation

For the motivational view of the knowledge workers, the leaders were asked what they believed were the *motivational drivers* for the workers. But also, what they as leaders could

do to *improve the motivation* among the knowledge workers.

Motivational drivers

Both managers agreed that the lean-agile way of working increased the motivation among employees at Ericsson in some aspects, however, it was difficult to say whether the motivation had increased generally. This because of the fact that team members had to broaden their competencies, and become more T-shaped, in the lean-agile way of working, which meant that team members were required work with tasks that they were not comfortable with. This especially concerned the specialists, who saw a lot of pride in their deep competence and role. One of the managers explained that the power of empowerment and self-organized teams, should not be underestimated. It was perceived by the manager that team members took more initiatives, became more passionate about their work, and agreed on a shared goal, to a greater extent in the lean-agile environment. In addition, one manager expressed that one motivational factor with lean-agile methodologies were that teams got an overall perspective and a clear picture of the final goal. Working end-to-end were perceived as motivational by the manager, and it also improved the result if the team members got a more holistic perspective. The same manager also mentioned that the motivation increased to a greater extent among mature teams, where empowerment was appreciated. Mature teams could easily take on greater responsibility and become more independent, and according to the manager, empowerment to mature teams only showed positive effects.

Improve motivation

It was expressed by the managers that Ericsson worked actively with motivation among employees. One of the managers explained that to raise the motivation among employees that were uncomfortable with a broader set of work tasks, it was important to explain that the whole team's performance increased when all team members became more T-shaped. Even though a team member felt that this was an ineffective way of working from an individual perspective, it became much more ineffective in a broader sense. It was also considered important to make sure that the employees had stimulating, and challenging work tasks, and that employees worked with different techniques and in different areas. A varied and challenging work environment was considered a key motivational driver. In addition, one manager expressed that informal events with managers and employees contributed positively to the motivation. The informal events did not only create a positive atmosphere in the workplace, it also became an arena for employees to discuss problems and issues related to their work, which proved to be very successful at Ericsson.

4.5.8 Competence development and innovation

This chapter will concern how leaders are working with competence development, and innovation for the knowledge workers to improve personal development.

Competence development

At Ericsson, they had a learning tool where information and contact persons for different

areas were gathered. For example, areas such as system documentation or customer documentation existed in this tool, and the employees who had competence in the area were listed. They also had something called *Product guardians* at Ericsson, which were also supposed to facilitate learning. Their most important task was to describe how a product worked to the employees that were unfamiliar with it. The managers considered that it was the responsibility of first line management to help the employees to find the information they searched for in the company, and find out who to turn to. According to one manager, sending employees to different courses happened quite rarely. It occurred only when they wanted to increase the knowledge in a general area within the organization.

Innovation

Fostering innovation in the organization was considered important by the managers at Ericsson. Product innovations, but also innovations related to the working processes, were encouraged in the organization. Retrospectives were used to identify different areas of improvement concerning the working methods. The suggestions were listed in an improvement backlog to make them visible and encourage employees to take action and work with the ideas. Employees at Ericsson had the opportunity to go to *Ericsson Garage* to explore and develop innovative ideas. Ericsson Garage served as a meeting place for this kind of purpose. One managers also mentioned that hackathons were arranged once a quarter at the company to foster innovation, which were appreciated by the employees.

4.5.9 Culture

One of the managers expressed that Ericsson's stated values matched the culture in the organization. The values emphasized professionalism, humanity, and endurance, which were something that the manager thought reflected the organization and the way they worked. The other manager mentioned that Ericsson had been characterized by a centralized culture, but that this had begun to disappear in the organization. It was also stated that Ericsson had a culture characterized openness and pride, but not as much innovation as desired

Both managers mentioned that the company culture were characterized by ***control***. It was expressed that control was required to some extent in such a large organization like Ericsson. However, it was considered important to increase the trust in the organization, in order to work according to the lean-agile principles and methodologies. Therefore, a culture with less control were desired. One manager expressed that ***competence*** had become more relevant during the lean-agile transformation, and that this characterized the current organizational culture. Looking at the ***collaborative*** quadrant, both managers considered that collaboration was a desired culture. A collaborative culture existed in the organization, but it had strengthened during the lean-agile transformation. It was perceived that a collaborative culture was crucial in an lean-agile environment, in order to create strong teams. When it comes to ***cultivation***, one of the managers mentioned that it was desired to move towards cultivation during the lean-agile transformation. A more people oriented cultured were desired, which had been formulated in the strategy and communicated out in the organization.

4.5.10 Changing the Leadership

This chapter concerns how Ericsson changed the leadership to be more lean-agile. Firstly, the *conditions* that must be in place to lead according to the lean-agile principles was asked for. Secondly, the *steps in the change process* when transforming the leadership was investigated.

Conditions

The managers explained that the way of leading was determined by their boss and the company culture, meaning that if the interviewees boss started to act in a non-lean-agile way this would be reflected on the interviewee and the management roles below as well. Another important condition was that top management had decided that the most important persons in the organization are the ones producing value to the customer. This resulted in a different style of leadership from all parties, since it was no longer possible to push ways-of-working through the organization to get things done, but instead motivate the knowledge workers to do the job in their own way. This was connected to the fact that management wanted to create an alignment in how they acted and tackled different problem, throughout the organization.

Furthermore, it was pointed out that it was important to have clear mandates and responsibilities within the management team, so that when disagreements occurred it was clear who had the responsibility for the delivery. Furthermore, Ericsson had taken away one level of management, which had several consequences for management. Since there was no middle management level between the interviewees and the section managers, the interviewees had to apply a more direct operational approach in their leadership style. The consequence of this was that they could no longer push things through the organization and lead through others, but instead had to go and collect answers to questions by themselves. Secondly, since the middle management role was taken away, both managers interviewed and the section managers had to take more responsibility. One of the managers explained that when you have more staff-responsibility, it is harder to keep the existing control mechanisms in place, which forces management style to be less control-oriented.

Change process

First of all, it was stated that Ericsson had hired external agile coaches, which had educated them in lean-agile leadership and the difference between traditional and lean-agile leadership. Another initiative was to have lean-agile leadership coaches in-house, which could be asked questions more frequently. The interviewees also explained that they had several workshops and discussions in the management team on what “servant leadership” meant to them and their organization. Both interviewees stated that this was an important part in the transformation of leadership, since all managers came from a project oriented background, all managers started at the same level, which made the management team take the necessary steps together. It was concluded from these workshops, that it was both necessary and important that the lean-agile transformation not only concerned the employees, but all management levels as well. The main reflection was that the organization would never become lean-agile if the management team did not lead in a lean-agile way. The lean-agile

way of working started with the conditions: structures and leadership style, that management reflected on the rest of the organization.

4.5.11 Barriers and Enablers

This chapter describes the barriers that were identified at Ericsson during the lean-agile transformation. It will also concern the enablers that helped to overcome these barriers.

Culture

One of the managers experienced that people easily settled when the lean-agile tools were in place, which were seen as one of the most difficult challenges during the transformation. However, the biggest challenge during the transformation was not to implement the tools, it was to achieve the cultural change needed and embrace the new behaviors. Therefore, it was considered highly important to start with the organizational culture and the lean-agile values, to be able to use this knowledge during the transformation. The keys to cultural change at Ericsson were to discuss the incentives with the change, and what benefits it could bring. Managers acted as cultural bearers of the lean-agile culture to get the teams to follow. It was also pointed out that one needed to remind each other when falling back into old behaviors.

Command-and-Control Leadership

Another barrier for lean-agile leadership was the command-and-control leadership style. According to one manager, a leader in a lean-agile environment had more responsibility and less authority, which were perceived as challenging for the typical command-and-control leader. Although, it was considered possible to turn this type of leaders around. This manager was earlier the typical command-and-control leader but had managed to rethink the view on leadership. It was realized that when teams got more freedom, they created better solutions and products, which made the manager realize the power of a good work environment. Seeing results, and realizing the power of satisfied employees, were seen as crucial factors when achieving lean-agile leadership as a former command-and-control leader.

Teams, not Individuals

Since Ericsson had worked traditionally for many years, talking about teams as the smallest entity, were considered to be unfamiliar in the start. Nevertheless, this was considered one of the most important changes made in the lean-agile transformation. According to one of the managers, this was due to the fact that the team was strengthened if they were evaluated together which created a sense of accountability. At Ericsson, the managers worked with this in several ways. e.g. creation of goals for teams instead of individuals, acknowledged teams instead of individuals, and most importantly, a whole team got the blame if something went wrong, not an individual.

4.5.12 Higher Management

Commitment from higher management were present and considered important at Ericsson, according to the managers. This because it contributed to understanding among higher

managers in what could be expected from the teams, and what decisions that should be made to support them. It was perceived that higher managers had communicated a clear direction concerning the lean-agile change, and genuinely encouraged the lean-agile way of working. However, it was desired that lean-agile leadership at higher management level would improve and become even better to get the most out of the change. One manager mentioned that all the managers in the company should become more service-oriented, and think in terms of empowerment and accountability when leading. It was considered that as few as possible should set demands on the team to make them feel empowered and accountable, and therefore, it was considered important that higher managers did not interfere with the teams.

4.6 Areas Covered in Interviews with GTT, Ericsson and Delaval

The areas covered in the interviews with the managers are summarized in the table 4.1 below. Nine areas were brought up with all companies, and three additional areas concerning the lean-agile change were brought up only with the benchmark companies.

<i>All companies</i>	What managers spend their time on View of leadership function Decision-making Internal Structures Measurements and KPIs Effectiveness and Customer Value Motivation Competence Development and Innovation Culture
<i>Benchmark companies (not GTT)</i>	Changing the Leadership Barriers and Enablers Higher Management

Table 4.1, areas covered in empirical interviews

4.7 Survey Result - Work tasks

To investigate what managers in a traditional environment spend their time on compared to what lean-agile managers spend their time on, a survey was performed. The survey investigates broader topics such as: *Planning/ Coordination, Training/ Developing, Decision, Making/ Problem Solving, Processing Paperwork, exchanging routine Information, Monitoring/ Controlling Performance and Motivation/ Reinforcing*. These questions are further described in Appendix E. The questions in the template were closed with five alternatives, ranging from *never, once a year, once a month, once a week* and *once a day*. These ranges were later quantified accordingly, e.g. once a year was quantified as 1/365, once a month quantified as 12/365 and so on. Each estimated answer contributed to the average percentage of how much the general leader spent time on a certain activity. However, since the managers only estimated how much time they spent on each activity, the numbers

presented should only be considered as indicators if the Benchmark companies or GTT performed the specific task more or less compared to each other. The result of the survey is described below in Table 4.2, with the quantified number for GTT and the quantified number for the benchmark companies are presented. For example the area of exchanging routine information is done more at GTT in general than at the Benchmark companies, since almost all numbers are higher in this area at GTT.

1. Planning/Coordination	Goals	Defining tasks	Scheduling	Assigning	Coordinating	Organizing
	Q 1.a	Q 1.b	Q 1.c	Q 1.d	Q 1.e	Q 1.f
GTT	0,04	0,07	0,02	0,03	0,24	0,10
Benchmark	0,03	0,11	0,01	0,01	0,07	0,02
2. Training/Developing	Arranging for training	Clarifying roles	Coaching	Development plans		
	Q 2.a	Q 2.b	Q 2.c	Q 2.d		
GTT	0,05	0,04	0,34	0,04		
Benchmark	0,03	0,03	0,39	0,01		
3. Decision making/Problem solving	Defining problems	Choosing	day-to-day crisis	Weighting trade-offs	Deciding what to do	Increase efficiency
	Q 3.a	Q 3.b	Q 3.c	Q 3.d	Q 3.e	Q 3.f
GTT	0,13	0,09	0,22	0,09	0,44	0,04
Benchmark	0,14	0,14	0,11	0,07	0,38	0,06
4. Processing paperwork	Process e-mail	Reading reports	Writing reports	Routine financial rep	General desk-work	
	Q 4.a	Q 4.b	Q 4.c	Q 4.d	Q 4.e	
GTT	0,88	0,53	0,43	0,06	0,56	
Benchmark	1,00	0,67	0,07	0,11	0,38	
5. Exchanging routine information	Answ.Routine questions	Receive/distribute	result of meetings	Over the phone	Staff meetings	
	Q 5.a	Q 5.b	Q 5.c	Q 5.d	Q 5.e	
GTT	0,65	0,54	0,51	0,27	0,10	
Benchmark	0,07	0,11	0,14	0,03	0,11	
6. Monitoring/Controlling Performance	Inspecting work	Touring	Performance data	Preventive maintenance	Demanding reports	
	Q 6.a	Q 6.b	Q 6.c	Q 6.d	Q 6.e	
GTT	0,07	0,31	0,19	0,06	0,05	
Benchmark	0,06	0,11	0,03	0,03	0,00	

Table 4.2, Results of Manager's Activities Survey

4.8 Interview HR - GTT

Since many of the interviewed managers have been delegated HR-responsibility from the HR-organization, the central HR-policies affect the manager's daily work and routines. Therefore, an interview with an HR representative to clarify HRs views and opinions regarding both leadership in general, but also lean-agile principles.

4.8.1 HR measurements and KPIs for leaders

The HR-representative explained that there were only a few universal KPIs and measurements across GTT. These were sickness related days, employee turnover and use of educational budget for learning and personal development. One tool used for personal development was the *Personal Business Plan* (PBP), which was the evaluation of both leaders and knowledge workers performance over the year. The PBP should contain 3-5 measurable goals that should both be based on the individual's wants and needs, but also facilitate the organizational demands. Concerning the managers' PBP, the demands within the PBP changed depending on how high up in the organization the manager was operating. This was exemplified by the competence required by leaders who was leading people and a different skillset needed for leader who were leading leaders. The PBP was mainly used for personal development, but was also the basis for promotions and salary determination. The interviewee stated that this was a good way to determine salary as long as the performance evaluation was kept objective by managers.

4.8.2 Competence

The HR-representative stated that it was currently a problem that employees got too important, meaning that when their competence disappeared, from leaving or taking other jobs, it was hard to replace the competence. This often resulted in a loss of knowledge and competence for the organization, which could have severe consequences if the employee held a strategic position. However, the HR-representative explained that to design the job descriptions broader than today, might be possible from a competence perspective, but the different positions within the company had different levels of prestige which was concluded as a barrier towards this. The interviewee explained that GTT's policy regarding specialists, was to have experts in certain fields which were considered important to the organization.

4.8.3 Motivation and feedback

The HR-representative explained GTT did not have the intention of being a payroll-leader within the industry, instead other areas was promoted be the source of motivation, such as being a global company and having several internal career possibilities within the company. The interviewee explained that to inform the employees about the different career possibilities within the company was an important aspect to both retain skilled workers and to motivate them to take the next step as an employee. The interviewee also stated that the achievement of personal development could be an important motivational factor, and that feedback regarding daily work activities could help in this matter. However, it was stated that

managers were encouraged to give frequent feedback to the employees but this was often neglected due to the constant firefighting. It was also explained that feedback was mostly performed when something went wrong and did not go according to plan. Therefore, the interviewee argued that that feedback should be given on a more iterative basis.

4.9 Expert Interviews

To gain more insight into agile transformations and what is needed during a lean-agile change, two experts were interviewed. One of the experts had experienced an agile transformation before and possessed theoretical and practical knowledge in the area. The other expert worked with agile HR and helped other companies with agile transformations that focused on HR. The main findings of the interviews are summarized below.

4.9.1 Expert Interview 1 - Adaptive Leadership

The main conclusion of the first expert interview was that agile development requires a different type of leadership. According to our expert interviewee, this was explained by two frameworks, the Cynefin framework and Schneider's culture model. By combining these two frameworks it was considered possible to understand what was needed to achieve agile leadership, or adaptive leadership, as the expert interviewee also called it. How these different frameworks can be applied to agile leadership is explained below.

Cynefin Framework

The cynefin framework is described earlier as a framework mainly used for decision-making. The expert interviewee expressed, in line with the Cynefin framework, that adaptive leadership was important due to the fact that decisions and problems are different in nature, and therefore, they need to be tackled in different ways. The expert interviewee questioned whether managers today approached decisions in the right way. According to the expert interviewee, managers were generally oversimplifying problems. However, many problems were considered to be complex in nature, and oversimplifying these type of problems, and assuming that they were simple, could lead to poor decision-making and management, according to the expert interviewee. Different approaches were considered needed when dealing with decision-making. The expert mentioned that sometimes one had to apply trial-and-error techniques, especially when dealing with complex decisions where cause-effect relationships were not repeatable. According to the expert interviewee, managers were generally considering that losing control over a situation was equal to failure. However, the expert interviewee mentioned that one should not control every situation.

Schneider Model

The second framework, Schneider's culture model was also important to consider when it comes to agile leadership. In agile development, it was considered important to develop a culture that enables flexibility and speed, and therefore, the expert interviewee considered that a culture that focuses on collaboration and cultivation were required to get the best possible performance from a team. The expert considered that to achieve this, the culture

must move towards the left side of the Schneider framework, which corresponds to a higher people focus. According to the expert interviewee:

“The right leadership and the right environment can enable as much as 4000 times better performance of a team.”

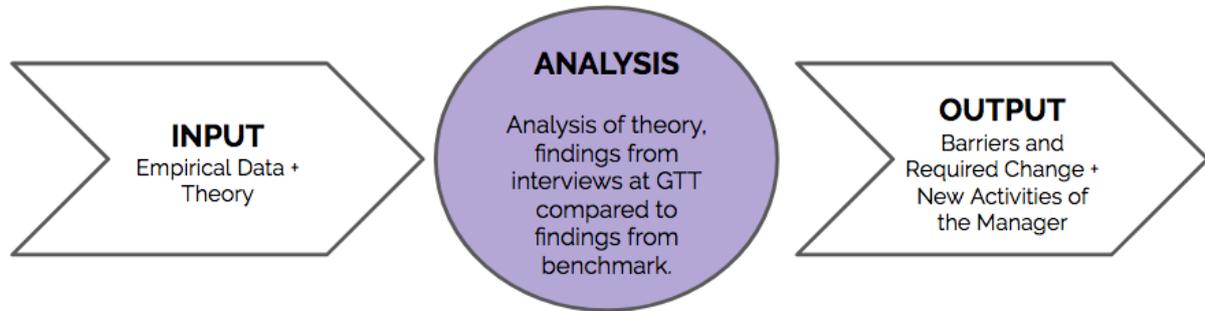
Therefore, leadership and culture were perceived to be important aspects to consider when dealing with agile development.

4.9.2 Expert Interview 2 - Agile HR

The findings of the second expert interview, with the expert that worked with agile HR, focused on HR processes and policies and how these structures affected employees in an organization. The expert considered that it was important to analyze how the HR structures were designed in an organization. If the HR processes and policies worked against agile principles in the organization, it would be difficult to create agile leadership. The expert expressed that agile was based on theory Y, and to encourage agile leadership, this view had to permeate the HR structures in the organization as well. Since theory Y assumed that individuals were internally motivated and found their work enjoyable, the salary system, bonus system, and individual and organizational objectives had to be designed on the basis of this view. In other words, this meant that the organization were required to remove individual bonuses and ratings and try to disconnect salary from performance. Moving the focus from the individual to the team was important according to the expert. Therefore, one should reward a team instead of an individual and set objectives for teams, rather than individual objectives. The expert interviewee also mentioned that it was important to consider why an individual wanted to become a manager in the first place. Studies had shown that leaders who considered power and control in the organization as less important, were more open to agile. According to the expert, agile leadership was more about support, and creating the right conditions for the team so they could self-organize.

5. Analysis

The analysis is a result of the reflections based on the theoretical framework and the empirical data. In the analysis, the results achieved from the interviews at GTT was compared to theory and data retrieved from benchmark companies, to further support the findings. This process is further described in picture 5.1 below.



5.1, Analysis model

5.1 Identification of barriers and required change

When implementing a change in an organization, such as a lean-agile transformation, a goal is required to get people moving (Appelo, 2012). Knowing what to change for and what is going to be achieved is crucial when it comes to change initiatives. However, when the final goal is set, it is important to not focus too much on the final outcome, and instead focus on the vital behaviors, which stands in the way for the final outcome. Often, these few vital behaviors can make all difference (Appelo, 2012). Therefore, an analysis was made to identify the different barriers to lean-agile leadership at GTT.

5.1.1 Project and Lean-Agile Structures

From the interviews at GTT, it was explained by several managers that the project structure in many cases created barriers for software development in a lean-agile structure. The main basis for the problem was explained as the project focus instead of product focus, which made project managers optimize the project process instead of the software product. For project managers to optimize their process they often needed assessments from the E&EE department about resource consumption and different budget estimations regarding the project. From a line management perspective, this often meant that estimations on future development were based on previous projects performed, even though the future development differed in many ways. This often resulted in low accuracy of assessments regarding the budget of the project, but also the time estimations on how much time each phase in the project would require. It was perceived by several line managers at GTT that the project organization did not understand these problems, both regarding estimations and the low accuracy of the plans made. Furthermore, it was explained that many of the KPIs and measurements used in today's development were project related, which was both consider to

sub-optimize the organization and to require substantial time to report.

When examining the benchmark company Delaval, the managers also expressed the same issues of having a project organization besides the lean-agile structure. However, the managers expressed that top-management's commitment towards the lean-agile way of working had been important for operating in this way. Top management's commitment is also supported by Kotter (1995) and considered highly important when realizing the change needed. In the case of the benchmark company, it was here clearly stated that the software department should be allowed to operate their organization according to the principles of lean-agile, and that the project organization had to adapt their projects to these principles. A good example of this was that the project managers acted as customer towards the software department, ordering software features every increment. The project managers were therefore responsible of prioritizing the backlog for all software needed the upcoming ten weeks. In this context, it was possible for the project organization to keep their project related performance measurements, and project based planning structure, at the same time as the software department, operating lean-agile, developed KPIs and planning structures adjusted to them. Based on this analysis, the first identified barrier to lean-agile leadership at GTT is:

1. The Combination of Project and Lean-Agile Structures

The required changed related to the barrier includes an adaption from the project organization side, when working towards the lean-agile organization. This concerns the processes used, but also that the project organization accepts the KPIs and measurements used in the lean-agile organization. For this to happen, a commitment from top-management is required to both support the lean-agile ways of working but also to realize the change and support it through different obstacles that the change will face.

5.1.2 Decision-Making at GTT

The managers at GTT expressed that the decision-making process were slow, which was mainly due to escalation of many decisions, and decision-making by consensus. The tendency to escalate decisions was a result of a control culture, which came from the need to have someone to point at for responsibility of the outcome. This created an unwillingness to decentralize decision-making. For higher management to make decisions, substrates from lower level of management were required, which were both time consuming and resulted in poor decision-making due to lack of local context and knowledge concerning the decision.

In lean-agile, empowerment through decentralized decision-making is listed as one of the core principles (ScaledAgile, 2016). Decentralized decision-making has earlier been explained to increase decision making speed, increase innovation, and improve product development flow. In addition, due to the lack of knowledge and local context, escalation of decisions can lead to lower fidelity decisions (ScaledAgile, 2016). However, some decision is of strategic nature and have economies of scale benefits, which should preferably be taken as

group-decisions in consensus. From the benchmark interview with Delaval, it was stated that all strategic decisions regarding what product to make in the future were made as group decisions. However, all decisions that impacted the speed of the team were either decentralized or prioritized by management, to not reduce the speed of the teams. To clarify what decisions that should be made by management, and what decisions that should be made by teams, a boundary list of authorities related to different kinds of decisions could be used (Appelo, 2011). This leads to the second identified barrier at GTT, namely:

2. The Decision-Making Process

Therefore, the required change in the decision-making process is for management to decide what decisions that can be made by the teams, and what decisions that has to be made by management. Furthermore, it is of essence that decisions that concern the team are either prioritized if they are made by management or delegated to the team. However, decisions with high strategic importance can still be made in consensus and do not have to change significantly as long as the decision is made before the team has to operationalize it.

5.1.3 Existing HR-Policies

It was explained that the HR-organization was responsible for setting up the HR policies and structures, whereas the line-managers had the operational responsibility of executing these. The HR-policies at GTT were mainly designed from an individual perspective, with personal business plans (PBP), and role descriptions designed for individuals to clearly state what responsibility each employee had. But also, personal development discussions to investigate individual well-being of the employee, their motivational level and competence development within the company. Furthermore, at E&EE, it was common that several consultants were hired throughout the department. These were seldom included in all HR-activities executed by line-management, such as creation of PBP and personal development discussions etc.

The findings from the agile HR expert interview, showed that the HR-policies can have a significant impact on leadership. It was explained that the HR-policies must be aligned with agile principles in the organization, to enable agile leadership. One such principle that should be in place after a lean-agile transformation is the higher focus on teams instead of individuals. This means that the HR-policies regarding competence, well-being, responsibility and goal setting, must be designed to fit teams instead of individuals. However, it is important to not forget individual needs and motivational drivers within the workforce. In addition, it was also expressed by the expert interviewee that goal setting should be adapted to the iterative way of working in agile. This means that the review process of the goals should take place more often to not become obsolete. This is also supported by Eyholzer & Leffingwell (2016), which states that the agile principles must be considered in HR-policies. Firstly, by designing review processes to teams instead of individual, but also to have the review process more often due to the difficulties of setting relevant yearly goals. Moreover, the high number of consultants will result in difficulties of having fixed teams

within the lean-agile setup, since consultants will have a higher employee turnover than regular employees. Concerning individual role descriptions, it was explained by both Silverstone et al., (2016) and the agile HR expert that this encouraged silo-thinking and an unnecessary limitation of what tasks an employee should perform. It also reduced the willingness to help the team members with tasks that were outside the individual role description. Furthermore, this contributed to an unwillingness to develop T-shaped competence, and broaden the area of competence. Therefore, the third identified barrier is:

3. The HR Policies

The required change regarding the HR-policies constitutes of several aspects. First of all, the HR-policies must be adapted to the lean-agile principles, which means shorter review cycles of performance and goal settings, preferably adapted to the increments within lean-agile. In addition, the focus on the HR-principles must be based on teams, without forgetting the individual. Moreover, the consultancy policy must be reviewed since higher turnover of employees opposes the agile principle of fixed teams. Finally, role descriptions within employment must be changed since these encourage silo-thinking and handovers between different roles. In addition, role descriptions also hinders the development of T-shaped competence, since employees can state that a specific competence lies outside the boundaries of the role description. This required change will consequently help the manager to lead according to the lean-agile principles, since the structures now supports, instead of work against, the lean-agile way of working.

5.1.5 Existing Culture

The result of the investigation of the organizational culture at GTT and E&EE showed that the managers' perception of the current culture was mainly identified in the control quadrant in the Schneider's (1994) culture model, and the organizational culture was least characterized by cultivation. According to the managers, the collaborative culture was dominating when things worked well, but it quickly turned into a control culture when things did not go according to plan. Many managers agreed that the desired culture was characterized by collaboration and cultivation, but this did not describe the prevailing culture at GTT. The investigation of the organizational culture among the knowledge workers at E&EE, which were done in the form of a survey, showed a completely different result. According to the knowledge workers, the prevailing culture in the organization was mainly characterized by cultivation and collaboration. The contradictory result indicated that there existed one leadership culture that differed from the culture perceived by the knowledge workers. However, since the research investigates lean-agile leadership, the cultural perception provided by managers is the main focus in the analysis.

The culture required in a lean-agile environment can be found by investigating the core values of lean-agile. Since no universal values of lean-agile could be found, outside the framework of SAFe, the values of the agile manifesto will be used as basis for analysis

regarding the desired company culture. The values in the agile manifesto and how these fit into the Schneider culture model are described in chapter 2.9.

The fact that the required culture in an agile environment is characterized by less control and more collaboration was strengthened by one of the expert interviewees, and also by the interviewees from the benchmark companies. According to the expert interviewee, the right leadership and the right environment could enable as much as 4000 times better performance of a team. It was expressed by the expert interviewee that the organizational culture required were characterized by collaboration and cultivation, and less control. This to embrace the advantages of an effective team, and to enable flexibility, speed, and innovation. This were supported by the managers at the benchmark companies, who also valued and placed themselves as having a collaborative and cultivation culture, since it encouraged teamwork and effective teams. One of the managers at Delaval considered that cultivation culture could be strengthened by letting less experienced employees contribute as much as the experienced employees, so that everyone saw their contribution to the organization more clearly. To decrease the control in the organization, the manager expressed that transparency were key. By showing the other managers, who valued control, the results and the progression of the agile way of working, it was much easier to create a collaborative culture.

According to studies performed by VersionOne (2017), the leading cause of failed agile projects was “*Company philosophy or culture at odds with core agile values*”. Therefore, embracing a culture at GTT and E&EE that is aligned with the lean-agile values is a crucial step when performing a lean-agile transformation. However, this is a difficult barrier to deal with. It was also stated in the studies performed by VersionOne (2017) that the most common barrier to future agile adoption was “*Ability to change organizational culture*”. As stated by Schein (1990), for a culture to form, it requires sufficient time and stability. A cultural change in an organization like GTT is therefore not something that can be done quickly. However, this change is possible, as seen by the benchmark companies, which have succeeded in creating a culture characterized by less control, and more collaboration. Based on this analysis, the fourth identified barrier to lean-agile leadership at GTT was:

4. The Organizational Culture

Therefore, the required change within organizational culture is to reduce the level of control culture and increase the level of collaboration and cultivation culture. This will support the agile principles and values, and will therefore make the transition to lean-agile easier both for the development teams and the managers. Therefore, it is important for managers at GTT to analyze what behaviours that characterizes the collaboration and cultivation culture, and how these behaviours should be promoted and encouraged.

5.1.6 Business Environment

According to several managers at GTT, the development focus has for a long time been to

provide the best mechanical solutions for the truck. This was also something the organization considered themselves being good at, and had through the years of experience been able to develop standardizations and best-practice solutions for project development. The managers at the E&EE department therefore concluded that the software development connected to the truck often had been considered second priority by the organization. However, since the truck industry is listed as a potential disruptive industry due to the many technological developments, the role of software is expected to increase within the industry (Manyika et al., 2013). From a leadership mindset point of view, the contextual change of entering a complex software environment instead of applying best-practice solutions, must be considered. It was perceived by E&EE managers that project management always expected good predictability and high accuracy in estimations, which were considered impossible to accomplish. As stated by Cockburn & Highsmith (2001), demanding certainty in the face of uncertainty is dysfunctional, which is something that true agile organizations and managers understands.

When managing contexts that are not considered standardizable and linear, the same management principles can no longer be applied. Snowden (2007) explains that managers in general tend to oversimplify organizational contexts, which means that the context have not been assessed properly. In addition, when treating problems as simpler than they actually are, new perspectives may be hindered by past successful projects and work. In context with higher level of unpredictability, problems have unrepeatable cause-and-effect relationships. This implies that the right solution to the problem cannot be seeked out in advance, and therefore, the planning cannot be as accurately predicted as in simple contexts. Furthermore, due to the volatility in the truck market, characterized by a large number of interacting elements, a wider diversity of elements, and an unanticipated variability in the marketplace, the development of software can be described in a context that Kurtz & Snowden (2003) calls complex in the Cynefin framework (Figure 5.2).

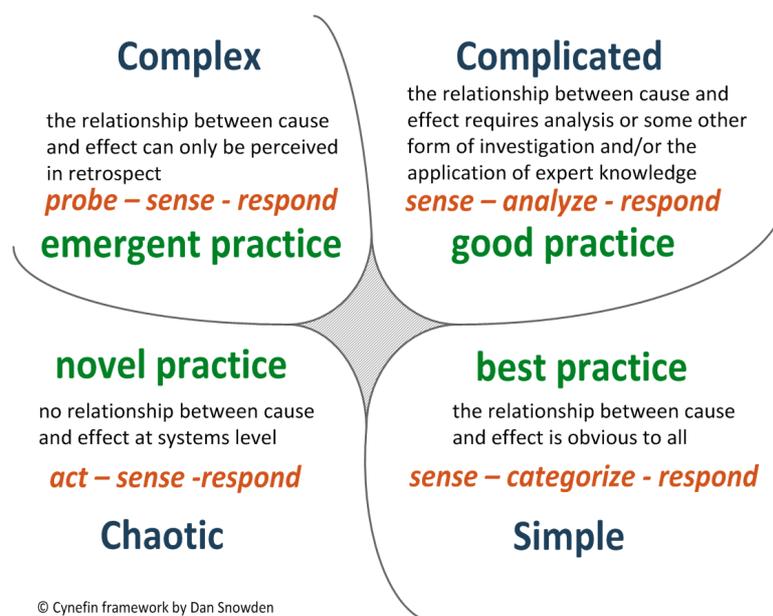


Figure 5.2, The Cynefin Framework (Kumar, 2015)

This analysis was also supported by one of the expert interviewees, concluding that oversimplification of problems can lead to poor decision-making and management since cause-and-effect relationships are not repeatable in a complex environment, and therefore, best-practise solutions are insufficient. The expert interviewee expressed that managers need to adapt their leadership to the environment that they are in. Having both Schneider's culture model and the Cynefin framework in mind when leading an agile organization or agile teams was, according to this manager, the way to succeed with agile leadership. Based on the previous analysis, the last barrier identified to lean-agile leadership at GTT is:

5. The Leadership Mindset

The required change regarding leadership mindset, is first of all the acceptance of a complex market environment and that cause-and-effect relations cannot always be found. When acceptance is in place, leaders must manage their organization with respect to the complex environment. This implies a probe-sense-respond leadership style, with high levels of experiments and low level of control, which is in line with both the Cynefin framework and the Schneider framework. However, all situations in an organization can not be considered complex, and therefore, the manager need to apply an adaptive leadership style that is dependent on the context.

5.2 Traditional Leadership vs. Lean-Agile Leadership

The structural change that occur during a lean-agile transformation can be met by resistance and misunderstandings by managers (Parker et al., 2015). The misunderstandings are often rooted in the fact that management no longer know what they should and should not do when teams self-organize. In order to overcome the resistance and misunderstandings, it is important that managers get educated about lean-agile leadership to raise the understanding, so that resistance can be broken (Moravec, 1999). Through this, managers will get a better picture of what the lean-agile concept means in their own context, and what is meant by lean-agile leadership. Therefore, the following analysis will examine the existing function of GTTs leaders, which will be compared to the theory and benchmark data to finally arrive at the expected strategical and operational activities that the lean-agile leader will take on.

5.2.1 Function of the Manager

The main tasks of a manager in a lean-agile environment are described in the chapter about lean-agile leadership. The seven tasks constitute the main function of a lean-agile manager. How this function differs from traditional management are analyzed, based on the seven key tasks, below.

Unlock Intrinsic Motivation and Energize People

As a lean-agile manager, one of the most important parts is to energize people and being

responsible for the team's motivation. This will help the team to develop better products but also increase the innovation at product level (Appelo, 2011; Medinilla, 2012). Therefore, it is important that lean-agile managers apply a theory Y mindset towards the knowledge workers, unlocking the intrinsic motivation of the employees. As soon as a manager apply a theory X perspective instead, many of the lean-agile structures will be lost, such as trust and empowerment of teams. Consequently, this will encourage command-and-control leadership behaviors, since workers will be seen as lazy and incompetent (McGregor, 1960).

Managers at GTT, and the benchmark companies, highlighted the importance of keeping their employees motivated, and they worked actively to do so. According to the managers at the benchmark companies, motivating employees became increasingly important in the lean-agile environment. This since the teams were required to increase the level of initiatives, and take own action to finish tasks in the backlog. One manager expressed that the teams tended to take on a passive role if the motivation were lost. This behavior caused reduced efficiency, which highlights the importance of energizing people in the lean-agile environment.

It was also stated by several managers at the benchmark companies that the lean-agile structures increased the motivational level. Examples of this was the increased communication of vision and goals to the teams, a higher level of decision power on how the work should be executed and re-movement of impediments for the teams. One important difference between the benchmark companies and GTT, when improving the motivational level, was that in a lean-agile environment, one mainly focused on increasing the motivation for teams, not individuals. The benchmark managers stated that it was important that individual needs were not forgotten, but the team's overall motivational level were the main priority. Moreover, one way to increase the motivational level expressed by both GTT and the benchmark companies, was to make sure that the employees had stimulating work tasks. At GTT this was operationalized by changing work tasks for an individual, whereas at the benchmark companies, it was a team decision.

Empowerment of Teams

When transforming to lean-agile, one of the main new concepts that is introduced is self-organized teams, which is considered to be a necessity for operating lean-agile (Parker et al., 2015). The reason behind self-organized teams is connected to the complex environment that the teams are operating in. This implies that the manager must let go of the decision-making power and instead apply decentralized decision-making (Appelo, 2011; ScaledAgile, 2016). A part of empowerment is also accountability, and as a manager, letting the team be accountable for their results. This is important since committing to a task as a team creates peer pressure, and it becomes visible to the team that one team members undone work will affect the whole team (Adkins, 2010).

Empowerment is different from delegation in the sense that it involves delegation of a task or responsibility, but also support of risk taking, personal growth and cultural change (Appelo, 2011). This was recognized by the managers at the benchmark companies. According to one

manager, to succeed with empowerment, it was required to create a “safe to fail” environment, which can be seen as a cultural change and would increase personal growth. This connects back to the decision-making process at GTT, mentioned earlier in the analysis. Having someone to point at, sometimes created a fear of making decisions at GTT. If a safe-to-fail environment was in place, decentralized decision-making would be possible and would speed up the decision-making process. Creating a safe-to-fail environment is a task of the manager that is considered to be a difference to the existing leadership at GTT. Regarding delegation of decisions, both managers at GTT and the benchmark companies clearly expressed that it was important that as many decisions as possible should be delegated downwards to avoid micromanagement. The general view was that:

“All decisions on how a task or feature should be performed could be delegated, whereas what tasks or feature that should be performed was harder to delegate since strategic alignment between the tasks and features would be lost.”

When analysing the theory regarding empowerment, this statement is in line with the theory and should be built on further for the lean-agile leader transformation to be successful.

Aligning Constraints and Setting Boundaries

Aligning constraints in a team through a shared goal is a key task of a lean-agile manager (Appelo, 2011; Liker & Meier, 2006). It is of high importance that the shared goal is both in line with the extrinsic purpose of the organization, but also with the team’s own autonomous intrinsic goal. To define this goal and communicate it to the team is an important task of the agile manager (Appelo, 2011). This was something that the managers wanted to spend more time on at GTT. It was considered important by the managers that employees saw their meaning in the big delivery, and that the managers were aware of what motivated their employees, to be able to design the vision based on this. The managers at GTT tried to work with this when the opportunity was given. Therefore, no significant difference could be found in the future role as a lean-agile manager in this area. However, one manager at the benchmark companies expressed that it was important to give the teams information about the different ongoing projects in the organization. This to provide the teams with a more holistic view of their work. It was not experienced that this was the case at GTT, since several managers mentioned that working in silos prevented a holistic view of their work.

Protecting the employees in a team is also an important task as an agile manager (Appelo, 2011). This was supported by managers at the benchmark companies, who considered that this was especially important when dealing with a combination of a project and lean-agile structures. This because the strength of the lean-agile way of working could easily be lost if the core of the methodology were not exercised fully. This could be the case if managers in the project structure, who lacked understanding of the lean-agile way of working, began to interfere with what tasks that should have the highest priority. This contributed to reduced efficiency and lower motivation for initial planning in the lean-agile structure. According to the managers, this could harm the lean-agile structures.

When it comes to setting boundaries, it is up to the manager to give the team clear boundaries of authority in different key decision areas. This guide them in their work and helps them avoid getting the blame for taking decisions that they were not authorized to take. It is the manager's responsibility to provide the team with these boundaries, in order to protect the team and keep them motivated (Appelo, 2011). This connects back to the safe-to-fail environment mentioned earlier. According to many managers at GTT, there existed uncertainties among employees about what decisions they were entitled to take. This resulted in employees avoiding making certain decisions, and instead asked the manager for advice. Managers at the benchmark companies mentioned that delegation of decisions have to be transparent and visible. By clearly stating what decisions the teams were authorized to take, they could be much more independent.

Based on this analysis, differences can be found in the future role of the managers at GTT. To start with, the manager must protect their team, especially in an environment that combines lean-agile and project structures. It is also important that the lean-agile manager give the team a holistic view of what the organization is doing, which further implies that the goal of the team must be aligned with the organizational goals. Moreover, the manager should also communicate the boundaries of authority to guide employees in decision-making.

Develop Competencies

Another important ability that lean-agile manager should possess is the ability to teach (Liker & Meier, 2006; Appelo, 2011; Adkins, 2010). In a lean-agile context this means that the manager must be able to pass on skills and knowledge regarding techniques on how to be creative, different working techniques but also the importance of communicating efficiently and where to retrieve information from (Appelo, 2011). This is mostly considered to be an important aspect in the early phases of an agile team, whereas when the team is ready, the management style must change to be more coaching again (Adkins, 2010).

Regarding the teaching abilities investigated in this study, none of the managers interviewed at either GTT or the benchmark companies expressed themselves to be a main source of knowledge for the employees. However, when analysing the empirical findings it was clear that most managers taught their skills and knowledge to the ones needing it, and no significant difference between GTT and the benchmark companies could be found. Regarding competence development, the main difference between GTT and the benchmark companies, was that GTT strived to use courses as the main way of competence development. The leaders at the benchmark companies was more focused on having competence development opportunities within the company. This was both exemplified by challenging the teams with new tasks and using retrospectives after the sprints, but also to connect different people in the organization physically to share knowledge. Furthermore, one of the benchmark companies explained that they had a digital way of showing who in the organization had a specific competence. All to better facilitate the development of T-shaped competence among the knowledge workers, and therefore reduce handover time between different tasks. Therefore,

creating ways of sharing competence within the company is a task of the manager that is considered to be a difference to the existing leadership at GTT.

Grow Structure

One of the lean-agile manager's tasks explained by (Appelo, 2011) is to create structures to facilitate communication between employees and increase efficiency. In lean-agile this often means that projects are assigned to teams and never to individual employees, teams are created cross-functional, and teams consists optimally of 5 people, which means that instead of creating bigger teams, more teams are created. Several managers interviewed at GTT expressed that the existing project structures were limiting from an efficiency perspective. Especially when something went wrong with the product or when the product had to be changed, the project structure were considered to be inefficient. A supporting argument of this was stated by one of the managers explaining that:

“When working in silos with different project members for each task, it is hard to reassemble the people who have done the initial work, when something needs to be corrected.”

Therefore, it was important that the knowledge workers operated their daily activities in fixed teams, where the team did not need to be assembled again when an issue had to be solved. This structural change of operating the organization in fixed teams was also supported by one of the benchmark companies as being one of the most important changes in the lean-agile setup. One of the managers at this benchmark company stated that:

“One of the most important parts to relearn from a management perspective was the creation of teams and what that meant in the lean-agile setup.”

A main difference between GTT and the benchmark companies, was that almost all managers at the benchmark companies pointed out that it was important to treat the team as the smallest entity within the company. For example, this meant that all strategies and work tasks assignments should concern teams not individuals, feedback should be given to teams and so on. Consequently, treating teams as the smallest entity within the company is a task of the manager that is considered to be a difference to the existing leadership at GTT.

Creation of Flow and Applying Systems Thinking

The essential goal of introducing lean-agile ways of working is to improve the customer value. Therefore, the establishment of continuous work-flow is critical to fast value delivery and continuous improvement of processes (Scaled agile framework, 2015). For managers, this means understanding the value stream in full, from innovation to finished products, limiting and visualizing the work in process, reducing batch-sizes of work and managing queue lengths of work tasks (Liker & Meier, 2006; Scaled agile framework, 2015). Therefore, managers should apply a holistic view of the work-process and understand its ingoing parts to optimize the outcome and flow. This is accomplished by applying a collaborative leadership style, based on removing impediments for teams in collaboration

with other managers to not sub-optimize the value stream (Moe et al., 2008; Scaled agile framework, 2015).

When investigating how the managers at GTT worked with optimizing the work processes and making the teams as efficient as possible, the answers differed between managers. Ways to optimize the work processes were described as: removing hindrances for the teams, talking about values and setting clear goals, and empowering teams to make decisions. Higher up in the organization, the managers focused on improving the existing work-processes within the technical area. Where improvement potentials within the processes was brought up by knowledge workers at weekly meetings. At the highest management level, the managers focused on producing as much as possible for the same budget. Concerning the value creation for the customer, to enable an efficient value stream, it was stated by one manager that:

“The project managers had the main contact with the end customer, which made the distance from the customer longer, and therefore resulted in a higher level of assumptions of what the customer wanted.”

When investigating the area of flow-improvements at the benchmark companies, this area differed the most compared to GTTs ways of working. At both benchmark companies, all managers had aligned ways of working with efficiency for the teams, which mainly regarded: Removing impediments for the teams, managing dependencies between teams, synchronize teams, and developing T-shaped competence for teams to reduce handover time between different tasks. Even though some managers interviewed did not have direct contact with the teams, the managers still considered the re-movement of impediments to be one of their main tasks. To develop increased efficiency of the working process, three areas were mentioned, which differed from traditional ways of working, namely: Transparency, knowledge sharing, and direct communication. Transparency was seen as a key aspect since it increased the understanding of the product from a holistic view, which made it easier for the teams to make rational decentralized decisions. In connection to this, the direct communication towards the teams had to increase to understand the actual impediments. This meant that the *Gemba*-culture was a significant difference between management in a traditional environment and the lean-agile. Consequently, the understanding of the value-stream and creation of flow by mitigating impediments will be considered a difference to the existing leadership at GTT.

Encourage Innovation

Without innovation of the working processes and the product itself, the value delivered to the customers will stagnate (Scaled agile framework, 2015). To enable innovation in the working processes, it is important that managers go out in the organization where value is created to see for themselves how the processes and production is working (Gesinger, 2016). Concerning product innovations, it is also the manager's duty to validate the innovation with the customer to establish whether the innovation is of any value. It is also important that managers provide the time and place for knowledge workers to be creative and innovative. When a team is utilized 100 %, there will be no time for development of innovations, which

can have a positive impact on the company's product (Scaled agile framework, 2015).

The managers at GTT stated that innovation would be a contributing factor to increase motivation among employees, and it was also mentioned that this was something that the managers would like to work more with. However, innovation initiatives had not been successful at GTT so far, and had therefore been removed. Some managers believed that the command-and-control structures hindered innovation due to all the reporting that were currently executed. It also existed uncertainties among managers of what different innovation initiatives would generate and how much it would cost. Therefore, it was considered risky to spend much time on innovation. The command-and-control structures together with this mindset constituted the barriers to innovation at GTT. When talking about innovation, the benchmark companies differentiated between innovations in the working processes, and innovations in the product itself. Also in the benchmark companies, innovation in the product was perceived to be difficult. At one of the benchmark companies it was stated that:

“Even though time was given to the employees to spend on innovation, this process is slow and not as fruitful as expected. We must find better ways to inspire and motivate the workers to use this time for innovation.”

On the other hand, both benchmark companies, and GTT, had been improving their working processes with smaller innovations. At one of the benchmark companies, all the suggestions of improvements of the working methods were collected in an improvement backlog, to encourage the teams to take action and continue working on the different suggestions. Since it was challenging for both benchmark companies to become more innovative, in terms of product innovation, the managers had to motivate their team to become more creative, and set aside time for innovation. It was also perceived that managers were the ones that should grow the structures, and give the teams the best possible conditions to be creative. This approach was not found among the managers at GTT, even though there was interest in working more with innovation. Therefore, it is considered that a difference in the function of the managers at GTT will be to actively encourage innovation and growing the required structures for it.

5.2.2 Strategic and Operational Activities

Strategic activities concern analysis and direction, and focus on *what* to do rather than *how* to do it (Burnstein, 1994). The time perspective for strategic plans are considered to be one to five years (Grant et al, 2013). Examples of strategic activities are formation of a strategic vision, converting the vision into measurable objectives, and crafting a strategy to achieve the desired results. Operational activities on the other hand, concerns modification and control, and focuses on *how* to do things (Burstein, 1994). The time perspective regarding operational activities are significantly shorter and concern plans up to a year, with monthly detail level. Operational work is more about sustaining the business, and maintain status quo, through various activities such as running daily production, dealing with unexpected employee issues, and coordinating activities (Grant et al, 2013). When investigating the operational and

strategical work at GTT compared to the benchmark companies, it was found that the change of function for the manager led to new leadership activities.

When analysing where the time for new activities came from, it was perceived by the managers at the benchmark companies that the self-organized and accountable teams contributed to less involvement of the general manager. Several managers at the benchmark companies stated that the agile structures had changed the type of operational work. When teams became accountable for their work, and the T-shaped competence were further developed, the crisis from not having the right person present decreased. Since the team was responsible for executing the task at hand and had the competence to do so even if an employee was absent. This made the manager spend less time on solving situations related to employee absence. Furthermore, when transforming into the lean-agile setup the resource allocations between different project will no longer be executed. The resource allocation and estimation was explained by several managers at GTT to be time consuming, and is therefore considered to free up a significant amount of time. Finally, when analysing the survey sent out to all interviewees, the main difference regarding what managers spend their time on could be found within two main areas, namely: *Writing reports* and *Exchanging routine information* (Table 4.1). Both these areas are considered to free up time for the manager, mostly due to less reporting but also from the change to direct communication instead of leading through others. Therefore, the function of the leader in the lean-agile setup was considered to be the main contributing factor of what managers spent their time on. The activities related to the new function of the leader is described in table 5.1 below.

Areas of the lean-agile leader	New activities for leaders at GTT
<i>Unlock Intrinsic Motivation and Energize People</i>	<i>Improving the motivational level for teams.</i>
<i>Empowerment of Teams</i>	<i>Creation of a safe-to-fail environment.</i>
<i>Aligning Constraints and Setting Boundaries</i>	<i>Align the autonomous goal of the team with the organizational objectives, protect the team, provide a holistic view of what the organization is doing, communicate the boundaries of authority.</i>
<i>Develop Competencies</i>	<i>Creating ways of sharing competence.</i>
<i>Grow Structure</i>	<i>Create the most suitable structure for the team. Treat the teams as the smallest entity.</i>
<i>Creation of Flow and Applying Systems Thinking</i>	<i>Understanding the value-stream and create flow by mitigating impediments.</i>
<i>Encourage Innovation</i>	<i>Encourage innovation and create the required structures for it.</i>

Table 5.1, New Activities for Managers at GTT

The activities listed above can be considered to have both strategical and operational nature, based of the definition above. E.g. creation of a safe-to-fail environment must first be analyzed and defined, which will set the direction of how it will be executed. Secondly, managers across the organization must operationalize the safe-to-fail environment in the daily work. Since all activities includes both analysis and direction, but also, modification and control, they are both classified as strategic and operational activities (Burstein, 1994).

In addition, managers from the benchmark companies also mentioned that the lean-agile setup resulted in two additional activities. These concerned management of the backlog, and seeking for information through direct communication with the teams. Managing the backlog was simply a result of change in the planning structures and can be considered to be only operational. The direct communication with teams originates from less exchange of routine information, which require that managers search for the information in the organization instead of reading a report, which also only concerns operational work.

To some extent, it can be considered that the amount of operational work decreases after a lean-agile transformation. This since the operational activities have been replaced by a mix of strategical and operational activities, as a result of the new function of the lean-agile manager. However, when investigating this matter with the benchmark companies, the opinions regarding if the amount of strategical work had increased after the lean-agile transformation or not, differed between the interviewees. In addition, since the new function of the lean-agile manager results in activities that are of a mixed nature, which depends on the purpose with the activity, it is difficult to find out exactly how much more strategic the role of a lean-agile manager is.

6. Results

What are the barriers and the required change when transforming traditional leadership to lean-agile leadership?

The barriers for lean-agile leadership found were: *Combination of Project and Lean-Agile Structures, Decision-Making Process, HR Policies, Organizational Culture, and Leadership Mindset.*

The *Combination of Project and Lean-Agile Structures* requires support and commitment from higher management outside the lean-agile structure. This to be able to operate the lean-agile processes in the proper way. The project organization must adapt their projects so that the two structures can coexist, without disturbing the lean-agile principles. Therefore, it is important that the project organization accept the lean-agile planning structures and KPIs, without interfering. Otherwise, the command-and-control leadership may be projected to the lean-agile organization.

Regarding the *Decision-Making Process*, managers must evaluate what decisions that needs to be escalated further up in the organization and what decisions lower management and teams can make. Decisions that directly impacts the teams and their work process speed, must be prioritized or decentralized by higher management. If the strategic issue must be handled by higher management, it has to be prioritized, otherwise, it should be decentralized to teams. By doing so, lean-agile leadership will be projected to all management levels, enabling lean-agile leadership in the organization. However, decisions that are not urgent and has high strategic importance can still be made in consensus, since these will not have a negative impact on the lean-agile way of working. In addition, this will enable a shared view on long-term strategic decisions among lean-agile managers in the organization.

The required change related to the *HR Policies* mostly concern the adaption of the policies to teams instead of individuals. This includes designing the HR policies related to competence, responsibility, well-being, and goal setting, with main focus on teams. If the HR policies at GTT are changed, this will allow leaders to treat teams as the smallest entity, which is aligned with the lean-agile principles. Furthermore, since T-shaped competence is essential when leading a self-organized team, individual role descriptions prevent this type of competence development. In addition, it is also required that consultants are included in the HR policies and processes, so that managers can organize fixed teams, which will enable better conditions for self-organization and lean-agile leadership.

Concerning the *Organizational Culture* at GTT and the E&EE department, it is essential that the existing corporate culture is reviewed. To enable lean-agile leadership, many of the existing control mechanisms, which are currently in place, must be replaced by a more people-focused orientation. Since many of the lean-agile principles relies on team-work and collaboration, it is suggested that a more collaborative organizational culture is sought after.

From a leadership point of view, the control mechanisms prevent empowerment of the teams and reduces motivation among team members. The control behavior is also something that is easily projected downwards in the organization, which is why it is important that managers at all levels agree to encourage a culture characterized by less control.

Finally, one large barrier towards lean-agile leadership is the the *Leadership Mindset* and how the business situations should be managed. Therefore, the context of software development and the constantly changing market development must be reviewed. The managerial mindset concerning what type of environment GTT is operating in is oversimplified. Both the business and work environment at GTT speaks for a complex context, which must be managed differently compared to environments characterized as simple. In complex environments, a probe-sense-respond approach is suitable, since no clear cause-and-effect relationship exists. Therefore, the last required change concerns a change of the leadership mindset to an adaptive leadership style. At the E&EE department, this implies that a leadership style characterized by high levels of experiments and low level of control should be applied, in line with both the Cynefin framework and Schneider's culture model.

How will the leader roles change, in terms of strategic and operational activities, when a traditional organization transforms into a lean-agile organization?

Based on the analysis about the function and the activities performed by a lean-agile leader, it can be concluded that the new activities originate from the new function of the leader. The new function has been concluded to free up time for the manager in several areas, namely:

- *Estimate resources for specific projects*
- *Writing reports*
- *Exchanging routine information*
- *Firefighting related to absence of employees.*

Since time is freed up from several operational activities when leading in a lean-agile environment, the manager will have more time to spend on other activities. Since the activities presented in the function of a lean-agile manager constitutes of both strategic and operational activities, it is difficult to determine if the manager will spend most of their time on operational or strategic activities. This was also supported by the benchmark companies, which were divided in their opinion whether the amount of strategic work had increased after the lean-agile transformation. Therefore, no significant difference in the amount of strategic activities for a lean-agile manager could be found regarding this matter.

The function of a lean-agile manager consists of seven main areas, and results in seven new activities. These activities are considered to be both of strategic and operational nature. In addition, two activities were found that did not directly concern the defined function of the manager. These were *managing the backlog* and *direct communication with the employees*, which are considered to be only operational. The activities are summarized in table 6.1 below.

Function	New Strategic Activities	New Operational Activities
<i>Unlock Intrinsic Motivation and Energize People</i>	<i>Setting up the strategy on how motivation should be improved for the teams.</i>	<i>Improving the motivational level for teams.</i>
<i>Empowerment of Teams</i>	<i>Defining and analyzing a “safe to fail” environment. Set the direction of how it will be executed</i>	<i>Creation of a “safe to fail” environment in the organization.</i>
<i>Aligning Constraints and Setting Boundaries</i>	<i>Analyze how the autonomous goal of the team can be aligned with the organizational objectives. Define the possible interfering structures that may harm the lean-agile structures. Analyze what information and authority the teams will need to develop a better product.</i>	<i>Align the autonomous goal of the team with the organizational objectives, protect the team, provide a holistic view of what the organization is doing, communicate the boundaries of authority.</i>
<i>Develop Competencies</i>	<i>Assess possibilities of sharing knowledge within the company.</i>	<i>Creating ways of sharing competence within the company.</i>
<i>Grow Structure</i>	<i>Analyze what structure that is best suitable for the team. Setting up processes designed for teams instead of individuals.</i>	<i>Create the most suitable structure for the team. Treat the teams as the smallest entity within the company.</i>
<i>Creation of Flow and Applying Systems Thinking</i>	<i>Identification of the value-streams and customer value. Setting up structures which optimize the workflow.</i>	<i>Understanding the value-stream and create flow by mitigating impediments.</i>
<i>Encourage Innovation</i>	<i>Creating strategies for which innovation will thrive and surface to management level.</i>	<i>Actively encourage innovation and create the required structures for it.</i>
	<i>(Only operational)</i>	<i>Managing backlog</i>
	<i>(Only operational)</i>	<i>Direct communication with teams.</i>

Table 6.1: Manager’s New Activities

7. Recommendation

After the results of the investigation were finalized, a number of recommendations regarding lean-agile leadership were considered. The recommendations for the research questions are presented below.

Research Question 1

Regarding the first research question, which deals with the *required change*, these are the suggested recommendations:

The Combination of Project and Lean-Agile Structures

For the first barrier mentioned it is recommended that project management is included in the change to lean-agile. A higher visibility regarding how lean-agile works and what the change to lean-agile means is required for project management to understand the complications that line management at E&EE is currently facing. One good way of including project management is to make the *project managers the backlog owner*. This means that the project manager is still responsible for the planning of the holistic backlog for the project, but is instead working as a customer to the E&EE department.

The Decision-Making Process

For the lean-agile transformation to achieve its goal of shorter product development lead-times, one essential part is to speed up the decision-making process. However, since decisions are a sensitive part in many companies with severe consequences if the wrong decision is made, it is important that the right decision is made by the right people. This works in both ends, since managers who have a strategical responsibility should make strategic decisions. But also, that experts within the field of technology, i.e. knowledge workers, should make decisions regarding the product. Therefore, it is suggested that GTT *develop a delegation board*, defining what characterizes the decisions made by managers and the decisions made by the teams. Consequently, this will make it easier to set the boundary of what decisions management should make and what decisions the team should make. The delegation board will also make it clear what decisions that affect the teams and their work-process, which will enable management to prioritize these decisions.

The HR Policies

Since the HR department and E&EE are two separate departments, it is first of all important that management at E&EE informs the HR department about the lean-agile change and what this means for the HR organization. It is also important that the HR department understands the lean-agile principles and values to be able to shape the HR-policies according to these in the future. For HR policies to align with the lean-agile transformation, it is required that concepts such as T-shaped competence, fixed self-organized teams, and intrinsic motivation is understood by this department as well. Therefore, it is recommended that both *managers from the E&EE department and HR, construct the future HR-policies together* so that the

lean-agile principles are not abandoned.

The Organizational Culture

Organizational culture has been described as one of the key success factors for a lean-agile transformation to occur. But this is also considered as one of the hardest parts to change due to the intangibility of organizational culture. Therefore, it is recommended that E&EE as a first step ***conducts a workshop***, with as many managers as possible present, to decide on the desired culture state. The second step in this process, is naturally to ***discuss what the desired culture mean*** to the department and its operations. For example, if the control culture is abandoned, all reporting and control mechanisms must be evaluated to conclude whether they are necessary or not. The final step in this process, is to ***stick with the culture chosen***. In this case this means that if the control culture is abandoned, the new culture must prevail even if a crisis within a project occur.

The Leadership Mindset

When it comes to the leadership mindset, it is considered required that the managers become aware of the various environments that they operate in. This is considered to be difficult since a manager face a large number of different context and decisions every day. However, by ***educating the managers at GTT*** and raise their understanding of the different contexts that exists and what management approach to use, it is more likely that managers will be able to use this knowledge when leading. One such approach is probe-sense-respond, which is considered to be the foundation of servant leadership and lean-agile principles. Therefore, it is recommended that GTT follows the guidelines provided in this report.

Research Question 2

Regarding the second research question, which deals with ***how the leader role change***, it should first of all be stated that creation of lean-agile leadership is difficult in many ways. Especially when it comes to changing rooted behaviors and getting used to a new leader role. Therefore, it is considered really important that the managers at GTT discuss *why* the lean-agile change is needed, and what is meant by lean-agile leadership. This should be clearly and visibly documented, so that managers continuously can be reminded of *how* to be a lean-agile manager, and *why* the lean-agile change is needed. This was something that Ericsson considered to be very useful, since it helped to continuously motivate the managers to adapt their leadership style to the lean-agile methodology. It also worked as a tool for managers to remind each other when falling back into old behaviors. Therefore, the first recommendation to GTT regarding the leader role is that as many managers as possible, together should set the direction on how the leader role should be changed. Naturally, this includes discussions regarding the new activities and how these should be solved and executed. In line with this, it is recommended that GTT ***conducts a workshop***, where the managers discusses lean-agile leadership, what it means to them, and why the lean-agile change is needed. Therefore, the recommendation will provide possible topics which managers should discuss regarding lean-agile leadership.

As stated above, it is important that managers at GTT agree on their view on lean-agile leadership. However, some core areas for discussion related to the new leader role is brought up below in figure 7.1. Below the picture, are correlating questions and suggestions for how to solve the issues explained. But it is highly important that GTT themselves agree on how these situations should be solved in GTT's specific context and current organizational environment. Therefore, the suggestions made should only be considered as inspiration and alternative solutions to the issues.

Lean-Agile Leadership Workshop

Improving the **motivational level** for teams.

Creation of a “**safe to fail**” environment in the organization.

Align the autonomous **goal of the team** with the organizational objectives, **protect** the team, provide a **holistic view** of what the organization is doing, and communicate the **boundaries of authority**.

Creating ways of **sharing competence** within the company.

Create the most suitable structure for the team. Treat the **teams** as the smallest entity within the company.

Understanding the value-stream and **create flow** by mitigating impediments.

Actively **encourage innovation** and create the required structures for it.

Prioritizing and **managing the backlog**.

Having **direct communication** with the teams.



Figure 7.1: Lean-Agile Leadership Workshop

Improving the motivational level for teams.

- How can the motivational level be improved? What triggers the intrinsic motivation among knowledge workers?
- *Suggestion: Reduce the amount of non value-adding activities such as reporting, but also learning and innovation activities are considered to increase motivation.*

Creation of a “safe-to-fail” environment in the organization.

- How can a safe-to-fail environment be created? What is the definition of failure? How can the organization be encouraged to try new things and take more decisions?
- *Suggestion: When someone has taken a decision that led to an undesired outcome, it*

is important to focus on what went wrong and why, instead of blaming the person who made the “wrong” decision. The fact that the decision was made should be encouraged since the decision-process most likely became faster. Therefore, it is important to consider what behaviours that are encouraged.

Align the autonomous goal of the team with the organizational objectives, protect the team, provide a holistic view of what the organization is doing, communicate the boundaries of authority.

- How can the shared goal of the team be aligned with the organizational objectives? What possible interferences exists that may be hindering the team? How can managers increase the transparency and improve the holistic view of ongoing projects? What boundaries of authority are appropriate to set up?
- *Suggestion: Give the team responsibility for setting up a mutual goal that goes in line with their intrinsic goals and the organizational objectives. Decide together with project management that the lean-agile way of working should not be interrupted, and protect the teams from interruptions. Have monthly big room presentations and demos of what features that are currently being developed. Construct a delegation board, as mentioned before.*

Creating ways of sharing competence within the company.

- How can knowledge be shared easily within the company? What mechanisms can be set up by management to provide faster knowledge creation?
- *Suggestion: Implement community of practise (CoP) on a larger scale according to SAFe, provide an internal youtube channel where knowledge workers can easily get in contact with other competencies within the company.*

Create the most suitable structure for the team. Treat the teams as the smallest entity within the company.

- What structures are best suited for the self-organized teams? How do we create efficient and accountable teams? How can we make each individual productive, while still treating the teams as the smallest entity?
- *Suggestion: Let the team handle as much issues related to their work environment as possible. E.g. Let the team be involved in the recruitment of new team members, and decide upon how the work is structured etc.*

Understanding the value-stream and create flow by mitigating impediments.

- How can we make sure that improvement initiatives does not sub-optimize the whole? What are the main constraints for a better flow in the work-process today? How can leaders work to make the flow better?
- *Suggestion: Measure lead time from an end-to-end perspective, i.e. from idea to customer delivery. Integrate reviews of impediments in the daily work.*

Actively encourage innovation and create the required structures for it.

- How can we work to improve innovation? What mechanisms will make it easier for knowledge workers to innovate?
- *Suggestion: Name new initiatives “experiments”, in this context it is harder to say that the initiative have failed since it is only an experiment. Increase the visibility of what experiments the organization is currently taking on. Set aside time for innovation e.g google days, where one day is set aside to work on something else than the normal work tasks.*

Prioritizing and managing the backlog

- How do we make sure that the features that the customer actually wants, are in the backlog? How can we further use backlogs?
- *Suggestion: Increased integration of customer further to confirm the value proposal. Use a backlog for higher level impediments, to enable communication and understanding between different sections in the organization.*

Having direct communication with teams

- How should we observe the teams without making them feel supervised? In what setting can we enable and facilitate as much valuable communication as possible?
- *Suggestion: Arrange informal events where both managers and teams can interact and share their daily work, so that managers become involved in the teams’ issues. If there exists a special purpose with the Gemba walk, communicate that purpose to the team so that the team can give you, as a manager, insight in the related issues.*

However, since these are several, somewhat tricky subjects, these topics might need several workshops from management. Several workshops are also a good way of keeping the lean-agile mindset fresh in mind and apply continuous improvement in this area among managers. One additional recommendation to both shape the desired culture and behaviour among leaders and teams, is to apply small rewards for desired behaviours according to the lean-agile principles.

8. Discussion

This thesis included interviews at different management levels at GTT. However, the investigation treated the subject of lean-agile leadership as general, and not adapted to the specific management levels. This since it was considered that there existed many general attributes of a lean-agile manager that concerned all management levels. Therefore, it was considered unnecessary to differentiate the different management levels, due to the limitation of time. Regarding the objectivity of the study, the thesis can be considered subjective since many of the barriers and findings are adapted to the specific context of GTT. Therefore, the findings can only be considered applicable to companies similar to GTT. One area of criticism found, is the limitation of time, which constrained the researchers to only investigate two benchmark companies. A larger sample may further reject or strengthen the findings. However, many of the findings in the benchmark interviews were strengthened through theory, which therefore implies that the findings are reliable.

Two main reflections were made from this thesis. First of all, different managers perceived different parts of the lean-agile leader role to be the most important. This was also a common discussion among the researchers, which after analysis concluded that many of the parts are interdependent and one can not be applied without the other. The second reflection, was that a change of leadership is no easy task. Several aspects will impact the ability to lead in a lean-agile way, which both concern the mindset among leaders and structural settings within the organization. To change the rooted behaviours among managers at GTT, is not something that happens overnight. Therefore, as mentioned earlier it is required by GTT to continuously work with the change in leadership and to be a learning organization also among leaders.

Therefore, suggestions for further research are:

- *How does the lean-agile leadership differ at different management levels?*
- *What is the time frame for a larger enterprise to change the leadership throughout the whole organization?*
- *What happens if not all parts of the lean-agile principles are implemented?*

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Appendix A: Interview Template - Managers GTT

Arbetsuppgifter

1. Hur skulle du beskriva din roll på GTT?
2. Vad skulle du säga att du lägger största delen av din tid på?
 - a. Vad innebär möten, dvs vad gör ni på era möten
3. Vad i ditt arbete skulle du klassa som operativt och strategiskt?
4. Vad innefattar ditt personalansvar ur ett HR perspektiv?
 - a. dvs feedback, utvecklingsplaner osv?
5. Finns det något som du som ledare idag skulle vilja hinna med men får bortprioritera idag pga att du inte har tid?

Hur ser individen på ledarskap

6. Vad krävs enligt dig för att lyckas som ledare i GTTs kontext?
 - a. Kompetens, bakgrund och personliga egenskaper
7. Vad skulle du säga är din absolut viktigaste funktion som ledare på GTT?

Delegering av beslut

8. Vad anser du om dagens beslutsprocess? (snabb? långsam?)
9. Enligt dig, vilka faktorer avgör om en uppgift eller ansvar kan delegeras eller inte?
10. Vad tror du kommer hända med din roll om fler beslut och uppgifter delegeras nedåt i organisationen?
11. Vad skulle en större bestämmanderätt innebära för dig och ditt team?
12. Upplever du att du behöver detaljstyra? Vilka delar styr du i detalj? Vilka delar har du en mer övergripande koll på?

Lärande, utveckling och innovation

13. Hur arbetar du och din grupp med lärande och utveckling av kompetens? (Kompetensutveckling, feedback/reflektion, innovation)
 - a. Hur fungerar det om en person behöver lära sig något snabbt? Har man alltid möjlighet att gå en utbildning?
14. Hur arbetar ni med innovation på GTT?

Motivation

15. Vad tror du är den största motivationsfaktorn för de som arbetar på GTT? (Lön, intressen, gemenskap etc)
16. Hur arbetar du som ledare för att höja motivationen hos medarbetare?

Inspirera och minimera hinder

17. Hur arbetar du som ledare för att få de personer du leder att vara så effektiva som möjligt?
 - a. Konkreta exempel?

18. Vad tror du effekten skulle bli av att medarbetare inte får en tydlig spec utan snarare får kundens problem presenterat för sig och friare tyglar att lösa det?
19. Hur uppfattar du kommunikationen på GTT, vad görs bra och vad skulle kunna göras bättre?

POLICIES - Definition av framgång på GTT

20. Vilka resultat mäts du och din grupp efter?
21. Hur påverkar de resultat du mäts efter ditt arbete?
22. Hur arbetar man med målsättning på GTT?
 - a. Är medarbetare med och påverkar sina mål själva?

GOVERNANCE - Strukturer på GTT

23. Finns det några regler/ramar/restriktioner idag, som du behöver förhålla dig till på GTT, som hindrar dig från att utöva det ledarskapet du vill?
24. Anser du som ledare att det är viktigt att ha mycket kontroll?
 - a. Vilka delar är viktiga att ha kontroll över? Vilka inte?
25. Vad anser du är de största orsakerna till att olika kontrollmekanismer finns på GTT?

CULTURE

26. Vad skulle du säga kännetecknar er företagskultur på GTT?
27. Är det något i företagskulturen som behöver utvecklas för att vara en framgångsrik organisation?

Appendix B: Interview Template - Managers Benchmark

Arbetsuppgifter

1. Hur skulle du beskriva din roll på xx?
2. Vanlig arbetsvecka - Vad skulle du säga att du lägger största delen av din tid på som agil ledare?
3. Hur har din roll förändrats i form av aktiviteter sen den agila transformationen?
4. Vad i ditt arbete skulle du klassa som operativt och strategiskt?
 - a. Har andelen operativ och strategisk arbete förändrats något sedan implementationen av agila arbetssätt?
5. Vilka är de största fördelarna respektive nackdelarna med att arbeta agilt ur ledarskapssynpunkt?
6. Har din ledarroll förändrats ur ett HR-perspektiv sedan agil transformation? Dvs mer eller mindre HR ansvar? Har andel ökat eller minskat? (utvecklingsplaner etc)
7. Skulle du säga att du har fått mer eller mindre tid till att utföra ditt arbete som ledare efter de agila arbetssätten?

Förändra ledarskapet

8. Vilka förutsättningar behöver man för att kunna leda agilt?
9. Vilka steg behövde ni ta i förändringsprocessen för att förändra ledarskapet?

Barriärer

10. Vad var de största organisationella barriärerna/strukturerna som behövde ändras för att få ett agilt ledarskap? (org struktur, rapportering, lönemodeller)
11. Vilka var det svåraste utmaningarna i transformationen ur ledarskapssynpunkt?
12. Vad var de största motsättningarna från ledarnas sida innan ni implementerade agila arbetssätt?
 - a. Hur hanterade ni dessa motsättningar?
13. Hur hanterade ni personer som inte trodde på det nya arbetssättet?
 - a. Var dessa ett problem för organisationen?

Implementera

14. Vilka aspekter har varit svårast att "lära om" i det nya ledarskapet?
 - a. Hur gjorde ni konkret för att försöka lära om ledarskapsstilen hos era ledare?

Förändra ledningen

15. Har något förändrats i högre ledningsroller under transformationen?
 - a. Vad skulle du säga att arbetsuppgifterna för högre ledning har ändrats till? om de har ändrats?
 - b. Hur fungerar rapportering till dem?
 - c. Vad blir deras uppgift när kontrollen minskar?

16. Vad har top management commitment betytt för den agila transformationen?

POLICIES - Definition av framgång

17. Vilka resultat mäts du och din grupp efter?
- a. Har detta förändrats genom implementation av agila arbetssätt?
 - b. Har mängden result som rapporterats förändrats?
18. Arbetar ni med olika belöningssystem (bonusar)?
- a. Hur fungerar dessa? vad belönas?
19. Hur arbetar man med målsättning på XX?
- a. Är medarbetare med och påverkar sina mål själva?

CULTURE - Beteenden, tankesätt och arbetssätt

20. Vad skulle du säga kännetecknar er företagskultur?
21. Vad skulle du säga är viktiga faktorer för att förändra kulturen på ett företag?

Hur ser individen på ledarskap

22. Vad skulle du säga är din absolut viktigaste funktion som ledare på XX?

Delegering av beslut

23. Hur anser du att beslutsprocessen har förändrats?
- a. Hur uppfattar du att många beslut tas i grupp och i konsensus

Effektivisera team

24. Hur arbetar du som ledare för att få de personer du leder att vara så effektiva som möjligt? Konkreta exempel?
25. Hur går det till i första fasen när ett team blir presenterade för ett nytt projekt? Får man en detaljerad spec eller mer en bild av helheten och kundens värde?
26. Hur har kommunikationen förändrats sedan implementationen av agila arbetssätt? (bättre/sämre) På vilka sätt har den förändrats?

Lärande och utveckling

27. Är det något som har förändrats gällande lärande och utveckling sen ni gjorde en agil transformation?
- a. Bättre strategi och process för lärande och utveckling efter den agila implementationen än före?

Motivation

28. Har motivationsnivån förändrats sedan ni implementerade de agila arbetssätten?
29. Hur arbetar du som ledare för att höja motivationen hos medarbetare?

Innovation

30. Hur arbetar du som ledare för att främja innovation?

Appendix C: Interview Template - HR GTT

1. Beskriv din roll och dina ansvarsområden

- a. Beskriv din roll.

2. Involverade i HR-processer

- a. Utan att gå in på HR-processerna. Vilka är involverade och beslutar om HR-processerna som finns? Vilka arbetar du med gällande HR-frågor?

3. Mätningar/KPIer

- a. Hur mäts man i organisationen? Beskriv vilka KPIer som finns.
 - i. Vem bestämmer vad som ska mätas?
- b. Hur mäts individers, grupper och ledares prestation på GTT?
 - i. Mäter man både individer och team?
 - ii. Vad mäts individer på?
 - iii. Vad mäts team på?
 - iv. Vad mäts ledare på?
- c. Med vilket syfte görs dessa mätningar?
- d. Vad görs det för HR relaterade mätningar på GTT?
 - i. Vi har hört om V-GAS.. - kan vi få ta del av den?

4. Mål och prestation

- a. **Organisationsmål:**
 - i. Hur fungerar det när organisationsmål sätts? Hur bryts de ner? Beskriv processen.
 - ii. Vem beslutar om detta och vilka är involverade?
- b. **Individmål:**
 - i. Hur ofta sätts mål för individen? Vilka är involverade i processen?
 - ii. Blir individen bedömd utifrån sina mål?
 1. Vad tror du att detta ger för effekter?
 - iii. Beskriv PBP-processen
 1. Är den lönesättande?
 2. Hur ofta följs målen upp?

5. Lön, bonus och belöningar

- a. Vilka faktorer baseras lönen på?
- b. Vad finns det för olika typer av belöning-/bonussystem?
 - i. Vad baseras det på?

6. Strukturer

- a. Vilka strukturer sätts i dagsläget upp av er (HR) som ledare måste följa och rapportera inom?

7. Lärande och Kompetens

- a. Hur arbetar ni med lärande och kompetensutveckling av medarbetare?
 - i. Har man någon form av databas som används för lärande?
- b. Upplever du att individer blir "för viktiga" för organisationen? Dvs. det är ingen som kan det de kan?
- c. Är experter på ett område något ni strävar efter? Varför?
- d. Hur ställer ni er på HR till att en medarbetare ska utföra mer än bara en

huvuduppgift och bredda sin kunskap? Tex testning?

8. Feedback

- a. Hur arbetar ni med reflektion och feedback av medarbetares och ledares prestationer?
- b. Enligt dig, vilken feedback bör ges till medarbetaren och varför?
- c. Utförs feedback tillräckligt ofta?

9. Motivation

- a. Hur arbetar man för att höja motivationen hos medarbetare?

10. Ledare

- a. Vilken typ av HR-ansvar delegeras ut till chefer?
- b. Vad tar man hänsyn till när det gäller rekrytering av ledare?
 - i. Vilka egenskaper är det som premieras?

11. Kultur

- a. Vilken ledarskapskultur vill ni skapa och varför?
 - i. Show Schneider

12. HRs roll i framtiden

- a. Hur ser du HRs roll i framtiden generellt sätt?

13. Agila Arbetssätt

- a. Vad vet du om den agila transformationen på GTT? Hur mycket är du involverad?
- b. Hur ser du på agila arbetssätt? Beskriv din bild.
- c. Hur tror du att de agila kommer påverka HR-processer? Skulle de kunna ändras, finns det förutsättningar för det på GTT?
- d. Har ni någon uppfattning om vad ledarna tycker om det agila arbetssättet?

Appendix D: Organizational Culture Survey

W.E. Schneider - The reengineering alternative (1994)

1. When all is said and done, the way we accomplish success in the organization is to:

- a. *Get and keep control.*
- b. *Put a collection of people together, build them into a team, and charge them with fully utilizing one another's resources.*
- c. *Create an organization that has the highest possible level of competence and capitalize on that competence.*
- d. *Provide the conditions whereby the people within the organization can develop and make valuable accomplishments.*

2. The people with the most power and influence in the organization:

- a. *Are charismatic, can inspire others, and are good at motivating others to develop their potential.*
- b. *Have the title and position that gives them the right and the authority to exercise power and influence.*
- c. *Are both contributors and team players, who are an essential part of the team. People like working with them.*
- d. *Are experts or specialists, who have the most knowledge about something important.*

3. In our organization, "success" means:

- a. *Synergy. By teaming up with one another and our customers, we accomplish what we are after.*
- b. *Growth. Success means helping others more fully realize their potential.*
- c. *Dominance. Success means having more control than anyone else. Complete success would be for the organization to be the only game in town.*
- d. *Superiority. Success means that the organization is the best, offering superior value. The organization is "state of the art" in all that it does.*

4. In our organization, leadership means:

- a. *Authority. Leaders are regulators and call the shots. They are commanding, firm, and definitive. What they say goes.*
- b. *Setting standards and working hard to get people to achieve more. Leaders are intense taskmasters, who always challenge workers to do better.*
- c. *Being a catalyst. Leaders cultivate people. They create conditions in which people are inspired to fulfil their own and others' potential. At the same time, leaders build commitment to the organization.*
- d. *Building a team that will work well together. Leaders are coaches. They behave as first-among-equals. They strive to represent the people in the organization.*

5. The essential role of the individual employee in our organization is to:

- a. *Collaborate. To be a team player.*
- b. *Be an expert. To be the best in your specialty or area of technical expertise.*
- c. *Perform according to policy and procedure. To meet the requirements of the job as outlined.*
- d. *Be all you can be. To change, develop, and grow. To be committed to the organization and its purposes.*

6. What counts most in the organization is:

- a. *Winning. Being recognized as the best competitor around.*
- b. *Not losing. Keeping what we've got.*
- c. *Evolving. Realizing greater potential. Fulfilling commitments.*
- d. *Accomplishing it together. Being able to say "we did it together."*

7. Which of the following best describes how you feel about working in your organization:

- a. *This is a caring and "spirited" place. I feel supported.*
- b. *People are able to count on one another.*
- c. *Things are no nonsense and restrained.*
- d. *Things are rather intense. I feel like I have to be on my toes all the time.*

8. In general, our attitude toward mistake is:

- a. *We tend to minimize the impact of mistakes and do not worry much about them. People who make mistakes should be given another chance.*
- b. *Mistakes are inevitable, but we manage by picking up the pieces and making the necessary corrections before they grow into bigger problems.*
- c. *Mistakes are nearly taboo. We don't like them. A person who make mistakes is looked down upon.*
- d. *We pay attention to the kind of mistake. If the mistake can be quickly fixed , we go ahead and fix it. If the mistake causes a function to get in trouble or could cause the organization to become vulnerable, we marshal all our resources to fix it as quickly as possible. Mistakes that affect the organization as a whole could get someone in trouble.*

9. Concerning control, which of the following is most emphasized?

- a. *Concepts and ideas. We control everything that is critical toward achieving or preserving our superiority in the marketplace.*
- b. *Everything critical to keeping us working together in the organization and retaining close ties with our customers.*
- c. *Just about everything. Getting and keeping control is central to what the organization is and does.*
- d. *As little as possible. We are put off by the notion of control. We prefer to leave things up to the commitment and goodwill of our people.*

10. The essential nature of work in the organization emphasizes:

- a. *Functionalists. Individuals stay within their function. Specialties are subordinate to the service of functions.*
- b. *Specialists. Individuals stay in their technical or other specialty. Functions are channelled into the service of specialties.*
- c. *Generalists. Individuals move in and out of numerous functions and specialties.*
- d. *All of the above. Individuals do all three.*

11. The people who primarily get promoted in the organization are:

- a. *Generalists. They must also be capable people who are easy to work with.*
- b. *Those who have performed consistently well in their function for many years and have demonstrated that they can seize authority and get things done.*
- c. *Those who know the most about their area of expertise and have demonstrated their competence.*
- d. *People who can handle responsibility and who want it. We don't use the word "promotion."*

12. The compensations system in the organization is most similar to which of the following?

- a. *We emphasize fair and equitable pay for all. We also emphasize the long-term perspective. We plow a lot of money back into the organization to ensure continued growth and success, so personal financial compensation tends to be secondary to other more important matters.*
- b. *Our compensation system is highly individual and incentive-oriented. Uniquely capable people who are recognized experts can make a lot of money.*
- c. *Our compensation system is highly structured. The larger your role and function in the organization, the more money you make.*
- d. *Our compensation is tied primarily to team effort. If the whole organization does well, we all share in the wealth. If the whole organization does poorly, we all sacrifice.*

Appendix E: Manager's Activities Survey

by Luthans et al. - Real Managers (1988)

Alternatives for every task:

- a. *Never*
- b. *Every Year*
- c. *Every Month*
- d. *Every Week*
- e. *Every Day*

1. Planning/Coordination

- a. *Setting goals and objectives*
- b. *Defining tasks needed to accomplish goals*
- c. *Scheduling employees time tables*
- d. *Assigning tasks and providing routine instructions*
- e. *Coordinating activities of different substitutes to keep work running smoothly*
- f. *Organizing the work*

2. Training/Developing

- a. *Orienting employees arranging for training seminars etc*
- b. *Clarifying roles, duties, job descriptions*
- c. *Coaching, acting as a mentor, "walking" subordinates through tasks*
- d. *Helping subordinates with personal development plans*

3. Decision making/Problem solving

- a. *Defining problems*
- b. *Choosing between two or more alternatives or strategies*
- c. *Handling day-to-day operational crises as they arise*
- d. *Weighting trade-offs, making costs/benefit analysis*
- e. *Deciding what to do*
- f. *Developing new procedures to increase efficiency*

4. Processing paperwork

- a. *Processing mail*
- b. *Reading reports, emptying the inbox*
- c. *Writing reports, memos, letters etc*
- d. *Routine financial reporting and book-keeping*
- e. *General desk work*

5. Exchanging routine information

- a. *Answering routine procedural questions*

- b. Receiving and distributing requested information*
- c. Conveying the results of meetings*
- d. Giving or receiving routine information over the phone*
- e. Attending staff meetings of informational nature (status update, new company policies etc)*

6. Monitoring/Controlling Performance

- a. Inspecting work*
- b. Walking around and checking things out, touring*
- c. Monitoring performance data (computer printouts, production, financial report etc)*
- d. Preventive maintenance*
- e. Demanding reports from employees*

7. Motivating/Reinforcing

- a. Allocating formal and organizational rewards*
- b. Asking for input, participation*
- c. Conveying appreciation, complements*
- d. Giving credit upon delivery*
- e. Listening to suggestions*
- f. Giving feedback on positive performance*
- g. Increasing job challenges*
- h. Delegating responsibility and authority*
- i. Letting subordinates determine how to do their work*
- j. Sticking up for the group through superiors and others, backing a subordinate*